

BEYOND MODERNIST HIGHER EDUCATION: TOWARDS THE UNIVERSITY FOR THE FUTURE

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Working Paper ❖ No. 1 ❖ Version 27 ❖ 14 May 2017

Abstract

In this Working Paper, we compare two institutional types of universities in a systemic way along thirteen dimensions and 141 characteristics:

- 1) The first type is the **multiversity**, because multiple arts and sciences are co-existing next to each other without overarching integration. The multiversity is an institutional type reflecting the currently prevailing paradigm in higher education, which we call *Modernist Higher Education*.
- 2) The second type of university can be called **transversity**, because it is transformative, transdisciplinary, transparadigmatic, transcultural, transgenerational, transsectoral and translocal. The transversity is an institutional type reflecting the emerging paradigm of *Transformative Higher Education*.

There are many possible variants of transversities. In this paper, we focus on a specific transversity: the *University for the Future (U4F)*. The U4F is a new multi-local university that is currently under development. The U4F is one among other contributions to the formation of the emerging paradigm of Transformative Higher Education. The U4F represents a whole system (re)design of higher education. The contention is that reinventing higher education for the 21st century requires transformative changes in all dimensions in ways that are aligned with each other.

The comparison therefore emphasizes the systemic, multidimensional view of the changes that are needed in and beyond higher education to grow out of the contemporary Grand Challenges into a dignified next stage of human civilisation. The comparison is based on long-standing professional experience of the authors in multiversities and in educational innovation initiatives. For the sake of readability, literature is not included in the comparison tables.

¹ The *nextRenaissance Initiative* is an international network designing, prototyping, and spreading the University for the Future and other institutions of a new type.

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Introduction

The Coming Paradigm Shift

The most widespread contemporary higher education institution is the “multiversity”, i.e. the multidisciplinary university, in which a range of disciplines co-exist as relatively self-contained and little interacting domains and departments. It is the disciplines and associated interdisciplinary fields that are structuring teaching, research, administration, funding, and careers. As any institution, the multiversity is based on a set of assumptions that crystallise in its core structures and processes. We call this set of assumptions the paradigm of *Modernist Higher Education*, as it was rising with and strongly contributing to modernisation. Today, there are many different variants of higher education institutions, smaller or larger, teaching or research oriented, regionally focused or international, broad or specialised, campus-based or online, public or private. Any of these variants is likely to represent the same basic paradigm of Modernist Higher Education. There are very few higher education institutions yet built on a different paradigm.

It can be observed, accordingly, that many if not most higher education institutions today have similar mission statements, educational programmes, organisational structures, academic cultures, etc. There is a global higher education system operating on the basis of Modernist Higher Education, a paradigm that has been shaped and spread globally over the past two centuries. It has been reformed in converging ways over the past two decades, without altering basic assumptions, in particular through the Bologna process and the creation of the European Higher Education and Research Area, which was supposed to harmonise the higher education systems of almost 50 countries and which is influencing the developments of many more worldwide.

In the 20th century, Modernist Higher Education has contributed to the cognitive and digital revolutions, to widening educational opportunities and international exchange, to breakthrough inventions and economic development, among many other influences. The number of multiversities increased steeply after the Second World War, along with the number of graduates, scholars, academic journals, research projects, etc. Cities with universities tend to develop better, in conventional socioeconomic terms, than cities without. For these and many other reasons, the multiversity looks like a historical success story and many people believe that Modernist Higher Education should be expanded even further throughout the 21st century to increase these perceived benefits.

While we recognise the historical success and contribution of multiversities, we are also aware of the paradoxes, problems and limitations of this institutional type and its underlying paradigm. A long-term historical perspective reveals that institutions cannot be understood independently from the major challenges of the historical era and cultural context in which they have been created and in which they flourish. Multiversities evolved as elite institutions based on print media in the context of the industrial revolution and the constitution of Western-style culturally homogenising nation-states. Colonisation was a major conduit for implementing multiversities beyond their cultural and geographical birthplace, delegitimising indigenous knowledge traditions and related institutions in many places.

Most multiversities have been turned into mass institutions in the past decades to widen access and reach new target groups. However, the build-up of the multiversity and the underlying paradigm have barely been questioned, nor have they been adapted to the Grand Challenges of the 21st century or to resonate with the values held by expanding sections of the population like the cultural creatives. We are now far already into the digital, nano and other technological revolutions, into climate change, resource depletion and biodiversity loss, into globalisation, mass migration and social superdiversity. These and other strong if not irreversible trends contribute to a historically unprecedented situation of accelerated and non-linear change impacting all domains of life, including geology - hence the increasingly popular notion of the anthropocene to point out that we have been entering a new historical era.

In this situation, we can no longer avoid facing the *academic anomaly*: Never in human history there have been more graduates, more scientific research, more new knowledge produced every year, more ease in accessing and spreading information worldwide, better educated populations, and accordingly a more intense dynamic of innovation. At the same time, for half a century already, and with no end in sight, our modern civilisation has become ever more unsustainable, while simultaneously increasing social inequality and intergenerational injustice. Beyond a certain threshold of economic development, average well-being is no longer increasing in most countries. There are now many countries in the world (including European countries), in which a substantial proportion of the

younger generation has little chance to find a place in the globalised socioeconomic system, and this often despite higher education degrees. How can all this happen, if most politicians, CEOs and leaders of influential civil society organisations are highly educated and attended a multiversity or, a business school, if not also an advanced leadership training?

Modernist Higher Education, despite its internal diversity and certain countervailing practices, despite research-based insights e.g. regarding climate change, social inequality or cultural traditions, and despite its practices of reflection and critique, did not prevent the large-scale overstretching of vital planetary boundaries, nor the undermining of the dignity and potential of many sentient beings. Rather, it is largely passive or even complicit in unsustainable and inhuman developments that are eroding the fundamentals of human civilisation.

The paradigm of Modernist Higher Education comes from another historical era in which the belief in societal progress was fuelled by successes in analytical problem-solving and ensuing techno-optimism. Analytical problem-solving is based on slicing reality up in ever more tiny bits. The resulting fragmentation of knowledge became enshrined in the structures and processes of most contemporary higher education institutions. As a result, universities have become increasingly disconnected from the concerns of ordinary citizens and at the same time from Grand Challenges coming as wicked problems crossing all kinds of boundaries and involving the often opposing views of all kinds of stakeholders.

Only very few universities transform themselves substantially enough inside-out to become a catalytic force for addressing the Grand Challenges of the 21st century in a sustained and targeted manner. Only very few of them speak to the next wave of consciousness and values widespread if not majoritary in younger generations. Most higher education institutions and systems in the world rather reproduce or reform themselves according to the old paradigm; most of them resist paradigmatic changes or admit them only as so-called innovations at the margins, but not as transformative redesigns of their core philosophy, structures and operations. This does not come as a surprise. There is plenty of historical evidence that institutional systems tend to reproduce themselves along path dependencies set early in their history. Ultimately, they tend to outlive the conditions that were responsible for their creation. From being part of the solution for a set of societal challenges they become part of the problem.

The contemporary societal challenges and opportunities are markedly different from those that characterized the era in which the multiversity came up as a new institutional type. It should not be forgotten that the multiversity, in particular in form of the modern research university, has been itself a new type of higher education institution that replaced the formerly dominant type. The former type in Europe was the medieval scholastic university based on a universal curriculum. In the assumptions crystallised into the structures and processes of the scholastic university there was no institutional space for the disciplines and methodologies arising from the scientific revolution. Medieval scholastic universities resisted a revision of their paradigm at the dawn of modernity, in the same way as multiversities today are struggling against a revision of their paradigm at the threshold of transmodernity.

Scholastic universities did not transform themselves into modern multiversities because of the scientific revolution and the rise of modern nation-states. Rather, there was a longer phase of co-existence of well-established medieval universities and arising modern multiversities. However, the new institutional type ultimately replaced the older one, as it was better aligned with the worldview and the societal conditions of the modern era. Our contention is that a similar process is likely to unfold in the coming decades as the societal and educational challenges of the 21st century are fundamentally different from those of the 19th and 20th century, in which Modernist Higher Education became the prevalent paradigm, and even more from the challenges of the Middle Ages when the European university came into being as self-governed institutions in the first place.

We are no longer living in an era of information scarcity, which was one of the foundational conditions for the creation of the European university as an “ivory tower”. An ivory tower type of institution attracting, pooling and protecting the few literate persons and the few books that existed, made great sense in the times of the first universities. The contemporary digital era, in contrast, is characterised by such an abundance of information that it leads to permanent information overload. Almost any information (and disinformation) is available anytime at the fingertips of any user of a digital device connected to the Internet, and there are now billions of these devices in daily use. Regarding information access, the conditions are now at the opposite extreme to those in which the original university arose. It therefore makes little sense to continue centring education primarily on placing a subject matter expert in a room with presumed novices for the purpose of conveying specialised information from the former to the latter. Other educational approaches need to be brought to the fore. Especially so as

education has become one of the major global industries to which huge resources are allocated (or misallocated). Information scarcity vs. overload is just one of the conditions that have changed substantially.

The current level of self-containment, specialisation and standardisation in academia does not look like the most promising response to the cross-cutting, mutually interdependent, and dynamically evolving Grand Challenges in society. These challenges question hitherto cherished ideals and approaches of professional and socioeconomic development in epochal ways. The large-scale contemporary challenges can be turned into opportunities, but only through a profound paradigm shift that is going beyond reforms, as reforms refine or modify the concrete expression of a paradigm, but not the deep assumptions ingrained in the paradigm. New kinds of being, knowing and acting are required, new curriculum and research designs, new ways of organising and governing educational and research institutions, and new ways of managing their boundaries and of becoming involved with diverse societal stakeholders. New approaches to resourcing higher education are also needed. Accordingly, a new institutional type in higher education is called for that some started to name the transmodern transversity, following the modern multiversity and the medieval university.

Transversities are transformative universities that are transdisciplinary and transparadigmatic, transcultural and transgenerational, transectoral and translocal. This is not to say that as long as an institution or system fulfils all “trans-“criteria, it is automatically superior. The nature and quality, the detailed shaping — and even more the interrelations — of all features across all dimensions that make up higher education matter greatly. Furthermore, not all features can be applied equally in all circumstances. There may be certain global solutions as well as universally valid aspects of life-enhancing learning and inquiry, but there are also localized, contextual aspects based on the fact that most regions and nations stand on their own specific languages, cultures and wisdom traditions.

Overall, we believe that there is a need and a place for new types of higher education institutions based on different sets of assumptions than Modernist Higher Education. The following items could be considered as part of a set of possible new assumptions. The key mission of higher education in the 21st century is to take the lead in developing socio-cultural, political and economic visions, practices and showcases for sustainable and dignified futures. Higher education shall care for consciousness development and capacity building for intervening in targeted, value-based ways in the dystopian trends of our century and turn them into opportunities in service of the common good. Higher education shall have the goal to catalyse change towards individual and collective thriving within the planetary boundaries; a thriving that serves as a foundation for the thriving of future generations. Higher education shall focus on the dignity of life in terms of individual, social, cultural and spiritual well-being, locally and worldwide. Higher education shall stick to a long-term view, independently from media soundbites, management fads, election cycles and project-based funding manias. It shall go beyond generating innovations in terms of technologies. It shall care at least as strongly for social innovations as for technological innovations. The main focus shall be on contributing to life-enhancing system innovations and system transitions in ways that balance and connect inner and outer transitions.

If this is the normative horizon of a 21st century higher education, an ivory tower approach is unsuitable, an observer role insufficient, and a focus on the material world misleading. The above agenda can only be pursued through active participation in ongoing transitions, in “real world laboratories”. For this purpose, new and unlikely partnerships with supportive forces from all other sectors of society need to be established. The ties with civil society need strengthening, in particular. There are public and private higher education institutions. We also need civic universities. Most of all, we need workable approaches for stakeholder involvement across cultures, generations, and sectors. We need the capability to interweave people and organisations in constructive co-creation processes that connect different timeframes, ideals, habits, constraints, and resources.

Transversities can serve as institutionalised “interspaces” for the co-creation of desirable futures. Multiversities are structurally unsuitable to do so, unless they create add-ons that stand in contradiction to the assumptions that guide the rest of the institution. If existing higher education institutions do not create, cultivate and facilitate such boundary-crossing interspaces, other institutional forms such as social labs, collaboratories or entire transversities will increasingly formalise until they might take the place of multiversities as anchor institutions in society.

Terminology

- Modernist Higher Education and Transformative Higher Education are *paradigms* and at the same time fields of academic research, guideposts for institutional development, and templates for educational and research practice, with Transformative Higher Education being an emerging paradigm and Modernist Higher Education an established paradigm.
- Multiversities and transversities are the key *institutional types* representing each of these paradigms, respectively, in an exemplary way.²
- The University for the Future (U4F) is a concrete transversity in the making. It is contributing to the current emergence of the paradigm of Transformative Higher Education. The U4F is a comprehensive system innovation in higher education. The U4F model offers a particular design approach to conceive and build transversities, but it is not the only design approach for creating transversities.

The University for the Future

The U4F is reviving carefully selected aspects of historical visions of higher education. It also shares certain features with other current attempts of advancing and showcasing Transformative Higher Education. The U4F is, and shall remain, independent from single schools of thought. It is developed as a new authentic approach facing boldly the future with a clear identity and position. This independence assures that it can stand on its own feet and that it can be implemented and localised in many contexts in various suitable ways. The U4F is not the only conception of Transformative Higher Education. We respect other development efforts, and we look forward to shape the new paradigm of higher education together with other initiatives. The U4F represents a fresh and independent agenda, for instance due to its unparalleled whole system design approach. Accordingly, the guiding question for the design of the University for the Future is:

What would higher education look like if we built it from scratch today?

When asking such a radical question, it is necessary to learn both from traditional and contemporary approaches across cultures, while also considering new approaches that are about to emerge. And it is necessary to devise entirely new ideas that have never been tried before, but that are necessary when considering likely scenarios of future global scale developments.

The U4F model is conceived as a new synthesis of

1. timeless wisdom;
2. the original idea of the university (i.e. “universitas”, the self-governed community of scholars and students);
3. all that remains valuable from the multiversity (e.g. the ideal of unprejudiced inquiry, the established bodies of specialised knowledge);
4. issue-based co-creation of approaches to address Grand Challenges (as practiced in social labs or laboratories for instance);
5. whole system, big picture and integral meta-perspectives.

Seeking inspiration and lessons of experience from a wide range of approaches is a prerequisite for quality. At the same time, the U4F has no particular attachments or commitments to any specific tradition, school of thought, or ideological orientation. It cannot be understood as a representative, subsidiary, or next evolutionary step of any specific educational paradigm. Therefore, it should be judged on its own terms, and not by association with other approaches. This is particularly important because we do not yet know how the currently emerging paradigm of Transformative Higher Education will evolve, and whether in ten or twenty years the U4F can be suitably described as one of the manifestations of this paradigm. Original ideas have often been subsequently

² Differently looking higher education institutions can represent the same institutional type whereas institutions representing different types look necessarily differently. The key institutional type of a paradigm co-exists with complementary institutional types that also represent the respective paradigm, albeit less comprehensively. For example, specialised schools such as business schools are not multiversities, but most of them still represent many features of Modernist Higher Education, while modulating other features because of their specific and more limited mission and target groups.

modified, for better or for worse. Even more so, the implementation of ideas does not always correspond with the original intent.

The *University for the Future* works with several interconnected horizons of transformation that are required for a life-affirming Great Transition during the 21st century. In what follows, we mention three important horizons:

1. *Individuals*. We believe that higher education shall serve to empower self-transformation of individuals by unlocking their higher human potential (not only their intellectual potential, but also their moral, emotional, social, aesthetic etc. potential). Higher education shall furthermore favour the expression of the resulting qualities, capabilities and responsibilities in all domains of life, based on an understanding and cultivation of personal uniqueness. Higher education shall support individuals in questioning the status quo and developing a vocation as change-makers, such as system innovators, paradigm-shifters or transformative leaders.
2. *Society*. The second line of transformation relates to social well-being at all levels of society (from families and other small groups to neighbourhoods, communities, regions and nations, and all the way to globalised society). Social well-being includes dimensions such as health, peace and justice, cultural traditions and participatory governance, as well as models of social and economic development. We believe that given the special characteristics of our era, higher education is an anchor institution that has the duty to catalyse positive transformative change across sectors (public, private and civil society) in the communities and regions in which its institutions are located and active, as well as in globalised society at large.
3. *Nature*. The third line of transformation is to spur the sustainability transition and improve ecological resilience and integrity in the age of climate change, environmental degradation and depletion of non-renewable resources. This is part of the Great Transition and a key transgenerational challenge of our era. A future-proof higher education needs to develop new powerful forms of ecosystem stewardship.

The U4F creates new higher education programmes that may have some similarities with existing programmes, but in their overall design are substantially new. These programmes can help inspire the redesign of existing programmes in multiversities, but it is not our primary goal to change existing institutions. This can happen either as a side effect or as a result of interest expressed in existing institutions to adopt U4F ideas for redesigning existing institutions. Our main goal is to create new educational programmes that are not burdened by institutional path dependencies and to align these programmes with unmet or underserved transformation needs. These programmes shall respond to or awaken aspirations of learners, organisations, local communities, as well as society as a whole, to establish social and intergenerational justice in respect of planetary boundaries.

The U4F is first and foremost a multi-local transversity, but its ideas can be adapted to creating other *showcases* in various locations and contexts and in different variations, including:

1. International, inter-institutional, and cross-sector programmes in terms of integrated transformative action-research-education;
2. U4F innovation zones within existing universities (“transversities within multiversities”);
3. Transformative higher education within businesses or public institutions (e.g. change lab, transformative leadership development, corporate university 2.0);
4. Concepts of integrative development on the local level, which include non-higher education institutions (e.g. multi-institutional campuses, learning villages/cities, neighbourhoods for “one planet living”).
5. Networks of diverse institutions in different locations (multi-local transformation ecosystems).

The showcases shall have a model character aiming to manifest U4F ideas in practice as comprehensibly as possible. This means including as many dimensions as possible, as shown in the following comparison tables. The showcases are tailor-made to the possibilities of the specific partnership developing them and the needs of the target groups and communities they serve.

The *University for the Future* does not

- *Emulate multiversities*. It rather aims to bring forward a specific type of transversity as a system innovation that can stand on its own and that can directly or indirectly stimulate the full-scale transformation of existing multiversities led by insightful leadership into genuine transversities.

- *Reform multiversities.* This has for instance been attempted by the Bologna process and the creation of the European Higher Education Area and the European Research Area. It is unlikely that we will see any other system-wide international reform happening in higher education anytime soon. What we start to see are reforms of this reform, mostly without questioning the underlying paradigm of Modernist Higher Education. System transformation based on a paradigm shift is an approach to institutional change that is substantially different from reforming existing institutions. The U4F ideas can be used (or misused) for partial innovations by existing multiversities to keep their basic model afloat under rapidly changing conditions, but it was not developed with this purpose in mind.
- *Replace multiversities.* For the foreseeable future, the classical disciplines and their institutional forms will continue to exist. Transversities will not replace multiversities in basic disciplinary and interdisciplinary research nor in mass teaching for degrees in standard professions anytime soon. In the next decades, we expect a co-existence of established multiversities and emerging transversities in the same way as the established scholastic universities and the emerging research multiversities co-existed in Europe in the 18th/19th century.

The Comparison

In the following tables, we compare typical features (including unintended systemic consequences) of two types of universities:

- Modernist Higher Education that is generally enacted by contemporary multiversities and their regulating institutions as the most prevalent variant of contemporary higher education.
- The University for the Future model, a specific variant of the emerging paradigm of Transformative Higher Education.

The comparison is carried out in a systemic way along thirteen dimensions that are constitutive for higher education and that influence and reinforce each other, such as the primary aims, the educational and research paradigm, the organisational and resource model, as well as the quality and facility management approaches. The foregrounded features are indicative, not comprehensive. They will be further extended and refined in the course of the development of the *University for the Future* through co-creative methodologies involving not only academics and students, but also representatives of civil society, local communities, etc. The compilation of characteristics reflected in the following tables stems from the long professional experience of the authors in educational innovation in and across several disciplines, in and across a variety of universities, in and across more than a dozen countries. It has been enriched through a series of co-creation workshops since 2012 with academics, students and practitioners. The statements are also backed by extant literature, which, however, is not included in this Working Paper, for the sake of the readability of the tables.

In our attempt to convey an understanding of paradigmatic differences between Modernist Higher Education and Transformative Higher Education, we can neither cover the diversity of higher education institutions in the contemporary global higher education system structured along the Modernist Higher Education paradigm, nor the diversity of approaches of Transformative Higher Education. The two columns of the following comparison tables shall therefore be understood as ideal types in the following sense:

- In light of the great diversity of existing higher education institutions, there is probably no institution that reflects all criteria of Modernist Higher Education as per the left column. The higher education system that has been spread from Europe over the entire world in the last centuries has nevertheless a number of widely shared characteristics. Many academics, students, administrators, and higher education policy makers therefore recognize many features of the first column as matching their experience (but not necessarily all these stakeholders will recognize all features, nor exactly the same set of features).
- There is no scholarly overview yet of the diversity of approaches that contribute to shaping the emerging field and paradigm of Transformative Higher Education. Many of these approaches are recent and in early stages of development. We therefore prefer presenting our own interpretation of Transformative Higher Education, the *University for the Future*, as a system innovation proposal that can be clearly described. To our current knowledge, there is no higher education institution in the world yet that complies with the complete set of characteristics of the U4F model as per the second column. However,

there are both small and large higher education institutions and initiatives that already exemplify certain characteristics of our model. Each real-life attempt of implementing approaches inspired by one or another variant of the Transformative Higher Education paradigm that we know about covers a particular subset of characteristics of the U4F model, while other characteristics still correspond to the approaches that are characteristic for Modernist Higher Education. The U4F is intended to be the first transversity that strives to realize a comprehensive set of characteristics of Transformative Higher Education in a way that aligns these characteristics with each other across all dimensions reflected in the comparison tables. Through this overall alignment new systemic qualities emerge that differ from the typical systemic qualities and consequences of Modernist Higher Education (and not only from specific, isolated qualities of this paradigm).

Preliminary note:

The numbering in the following tables is meant to facilitate discussion and referencing. It is not a ranking.

MULTIVERSITY Modernist Higher Education Paradigm (in terms of the globally prevailing model)	TRANSVERSITY Transformative Higher Education Paradigm (in terms of the <i>University for the Future</i>)
= key characteristics of the predominant higher education model ruling most contemporary universities	= key characteristics of the <i>University for the Future</i> as a model of higher education for the 21 st century

Aims & Orientation		
1	Academic excellence per se	Thought leadership and transformative leadership in society
2	Academic performance of students and scholars	Supporting the realization of the higher potential and the unique purpose of each individual
3	Accumulation of knowledge	Cultivation of wisdom (among other things: the capacity to realize what is of value in life for oneself and others)
4	Disciplinary competences	Capability to (co-)create across boundaries
5	Employability of students	Capacity to generate fulfilling work that contributes to catalyse the Great Transition; transforming existing professions, organisations and communities or creating new ones
6	Priority of research over teaching; public engagement (outreach, service to society) as a side activity	Merging the three traditional missions into an integrated stream of transformative action-learning-research responding to the grand societal challenges; primary focus on co-creative transformation work with representatives of all sectors of society ³
7	Scientism and materialism	No a priori limitation of worldviews and frameworks
8	Reductionism	Generalised complexity
9	Dichotomy of facts and values	Co-dependence of facts and values
10	Scientific “neutrality” (science as “disinterested”)	Science in and for society (science as value-based and ethically engaged in real-world affairs, in particular focused on the Grand Challenges)
11	Separation of levels of reality (e.g. physical, biological and sociocultural, or individual, organisational and societal)	Integrative multi-level frameworks
12	Paradigm wars	Meta-paradigmatic perspectives
13	Interest in individual advancement, institutional survival and maintaining the status quo	Mission to catalyse the Great Transition
14	Competition as higher value than cooperation	Cooperation, complementarity and co-creation as more important than competition
15	The primary types of change are incremental changes, reforms that re-shape parts of the structure, and innovations that add new features to the existing system.	Incremental changes, reforms and add-on innovations are complemented and framed by paradigmatic changes, i.e. whole system redesigns and system innovations

³ Outreach is one way to fulfil the mission of public engagement, among others. The U4F model does not need dedicated outreach as it does not separate itself from society in the first place.

Education		
16	Focus on factual knowledge about preselected parts of the external world	Cultivation of self-knowledge in relation to goal, system and transformation knowledge (whereby factual knowledge is part of knowledge about complex systems)
17	Largely predefined and standardised curricula	Largely co-created and personalised curricula
18	Classroom teaching of students of the same nationality, the same educational level, following the same specialisation; students of different levels, scholars of different disciplines, as well as practitioners of different professions are usually separated from each other by institutional boundaries.	Boundary-crossing programmes use innovative methods such as collaboratories to engage participants across educational levels, specialisations and cultures with each other and with real world Grand Challenges.
19	Separation into target-group specific educational programmes (e.g. for traditional and non-traditional students, undergraduate and postgraduate levels, initial academic and professional continuing education, domestic and international students)	Emphasis on educational programmes that favour intergenerational, interprofessional, and intercultural co-learning and co-creation
20	Fulfilment of externally given requirements (leading to teaching/learning for testing)	Fulfilment of students' evolving interests and life purpose in relation to emerging societal needs (vision-to-action cycles guided by wisdom)
21	Learning driven by pedagogical questions (to which the teacher already knows the right answer)	Learning driven by existential questions to which there is no uncontested answer and by the requirement to tackle Grand Challenges that nobody solved so far
22	Self-development considered a private matter	Education essentially about self-development
23	Initial choice of study programme determines specialisation	Induction into the big picture and clarification of the qualities and vocation of a person as prerequisites of specialisation
24	Academic studies separate from the rest of one's life	Life-long, life-wide and life-deep whole person learning
25	Teachers mainly as instructors in a narrow field ("sage on the stage")	Teachers mainly as co-learners ⁴ , process facilitators and mentors for whole person learning ("guide on the side")
26	Reproduction of standard disciplines and professions, students considered as novices	Encouraging individuals, groups and organisations to develop unique profiles, to participate in emerging transdisciplinary fields and to create new professions ⁵ — students considered as trend scouts and pioneers
27	Focus on individual knowledge acquisition and skill development according to homogenising standards	Focus on co-creation based on the cultivation of talents, dispositions, awareness, intentionality, creativity and higher-order capabilities
28	First attending lectures, then doing exercises	Students prepare for engagement with teachers and become co-teachers (flipped classroom, shadowing, learning by teaching, project-based learning, etc.)
29	Separation of head, hand and heart (i.e. separation of intellectual and practical education and work, and both from personal passion and values)	Integration of head, hand and heart (e.g. through social-emotional and intercultural learning, arts & handicrafts, working with animals and the land, real-world transformation and future-creation projects)

⁴ "When you learn, teach. When you get, give" (Maya Angelou)

⁵ The difference of speaking about disciplines in the left column and fields in the right column is intentional. Fields are more open and flexible than disciplines; there can be new fields within a discipline, across disciplines or beyond disciplines – this triple interrelated understanding links to Basarab Nicolescu's definition of transdisciplinarity.

30	Separation of disciplines and disciplinary fields (arts, humanities, social sciences, sciences ...) from each other and from practice	Transdisciplinary inquiry and practice throughout
31	Disciplinary skills, knowledge and competences	Inter-, trans- and meta-disciplinary dispositions, creativity and capabilities
32	Candidates unsuitable for their profession can succeed higher education by complying with the rules; candidates suitable for their profession can fail because of irrelevant formalities or education	Suitability for certain professional activities is assessed during the entire educational process as part of vocation-seeking (e.g. through continuous self-assessment, reality checks through practice, peer feedback and feedback from target groups)
33	Fostering competitiveness, individual achievement and self-interest	Developing sane and whole personalities able to integrate in their consciousness not only themselves and others, but also the Earth — engaged global citizens capable to face the grand societal challenges co-creatively with diverse others
34	Environmental, citizenship and leadership education as mostly taught subjects for a minority of students in specific programmes only	Education for sustainable development, global citizenship and transformative leadership for all students, with a strong experiential focus
35	Ease of adding new courses and educational programmes within given disciplinary structures; difficulty of creating inter- and transdisciplinary courses and programmes	Interdisciplines, in-between spaces, emerging fields and transdisciplinary explorations are considered key for learning and practice in the 21st century and structurally supported to develop
36	Most academic teachers do not have any training in adult education	Training in adult education is an integral feature of induction into academic work
37	History departments separate from social sciences focused on contemporary realities; futures studies absent from the standard set of disciplines	Intimate connection of past, present and future perspectives in all study programmes

Research		
38	Dominance of hyperspecialisation, sub-disciplinary research; reductionism	Dominance of integrative, trans- and metadisciplinary research; cultivation of systemic thinking
39	Relevant research questions arise in small communities of experts	Relevant research questions arise in dialogues of researchers and stakeholders of the communities served, concerning needs related to Grand Challenges
40	Ideal of universalist, decontextualized science; of the controlled laboratory experiment	Ideal of contextualised science; participation in complex evolving “real-world experiments”
41	Predominance of short-term research projects, unrelated to each other	Predominance of long-term transformative research engagements with specific communities, also and in particular beyond academia
42	Focus on mode 1 research (incremental improvements within given research paradigms)	Focus on mode 3 / transformative research (such as transdisciplinary, action-oriented, exploratory, community-embedded, and paradigm-changing frontier research)
43	Emphasis of scholarship of discovery and scholarship of (subject matter) teaching	Emphasis of scholarships of integration, application and transdisciplinary facilitation
44	Research funding programmes designed and fixed in advance by bureaucrats and/or status quo commissions	Research priorities developed dynamically by researchers and stakeholders together in long-term cross-sector communities of practice, including disadvantaged people

45	Research projects must respect predefined project plans and partnerships with little possibility for adjustment to emerging insights and opportunities	Research projects are process-oriented, iterative and reflective, oriented by social impact; adding relevant partners at later stages is welcome
46	Publish or perish	Publications as one among many aspects of real-world impact generation (alongside teaching in contexts of practice, transformation projects, practice-based research, institution and capacity building, advisory services, etc.)
47	Academic writing focused primarily on single idea papers as well as splitting ideas into as many papers as possible to optimise publication lists	Academic writing focused on deep exploration, complexity and unexpected outcomes; learning to write more succinctly and for wider publics, producing pre-publications reflecting various stages of maturation of an idea or line of research (idea bank, blog, sketch, draft, ...)
48	Spread of anticipatory optimization strategies for publication lists and research assessments (such as quoting circles, selecting the research question to fit the data, and designing research to fit the criteria of journals with the higher impact factor)	Focus on transformative innovations and real-world impact, not on number of publications/ quotations/ impact factor/ publication types
49	Narrow definition of academic publication, with primary focus on peer-review impact factor journals	Broadening academic publishing to include explorative, experimental, artistic, practical, multimodal and other types of presentation
50	Research ethics primarily a matter of “ticking boxes” in application forms (e.g. confidentiality, informed consent, etc.)	Research ethics part of the process of research design and research evaluation conducted together with the communities served
51	Very few academic researchers are trained in and dedicated to inter-, trans- and metadisciplinary research	Transdisciplinary and transformative research training is part of the general induction of students, scholar-practitioners and young researchers
52	Narrow set of acceptable research methods; career-deciding hierarchy of certain types of methods (quantitative over qualitative over action research methods)	Extended set of equally appreciated research methods, methodological pluralism and multi-method research
53	Research sponsored by corporations often leads to outcomes desirable for them	Total transparency of funding streams as a basic requirement for all projects and publications

Assessment		
54	Measuring what is easy to measure becomes, over time, what is considered important in education, research and institutional development; reversal of means and ends	The focus remains consistently on what is important, whether or not it can be (easily) measured; the reversal of means and ends is actively countered
55	Emphasis on summative evaluation (i.e. concerning short term result of a learning, research or development process)	Emphasis on formative evaluation (i.e. as a means to improve processes when they take place) and confirmative evaluation (i.e. long-term achievements)
56	Exams, tests, and grades govern education	Self-reflection, peer evaluation, portfolio work, 360° feedback, reality checks – overall emphasis on systematic, holistic, qualitative feedback loops that foster learning
57	Progression measured by credits completed	Progression measured by achievement of personalised commitments enshrined in flexible learning contracts
58	Narrow, multiple one-stop measurements of intellectual performance	Support of reflexivity on the developmental stages of a broad set of intelligences

59	Academic theses are the main option to complete studies	A variety of combinations of academic, design and practical work are possible to demonstrate mastery
60	Scientometrics govern research	Multi-layered, dialogical, qualitative assessment, including stakeholders from outside the academy; focus on supporting individual and collective development based on individual vocation and community needs
61	Impact factor as main measure of research productivity	Positive psychosocial and environmental impact as main measure of research productivity

Internationalisation		
62	Most higher education institutions belong to national higher education systems and require internationalisation strategies, accordingly	The U4F model is transnational and multi-local by design and therefore does not require an internationalisation strategy separate from its design as such
63	The default internationalisation strategy is student mobility, in most cases short term (e.g. Erasmus semester), but the majority of students does not participate in international mobility	The default is intercultural co-creation from day 1
64	For students participating in international mobility there is generally no preparation for the intercultural experience, nor reflection following the experience	The default is ongoing reflection of diversity as an asset and challenge for co-creation processes
65	The international dimension is confined to specific study programmes and subject matters (e.g. international relations, intercultural communication, area studies) that are studied only by a tiny minority of students	The international dimension is an integrated part of all study programmes, e.g. by means of international laboratories
66	The ratio of international to domestic students rarely exceeds 1/10. There is generally no institutional approach to make use of the international experience of students	Learning and research happens predominantly in culturally diverse groups, explicitly taking advantage of the diversity of backgrounds
67	In most cases, the percentage of international academic staff is low in relation to domestic academic staff. There is generally no institutional approach to make use of the international experience of academics	As default, academics and students work in transnational and transdisciplinary teams
68	Multilingualism is desired, but there is generally no institutional approach to multilingualism. Teaching happens predominantly in the national language	Multilingualism is constitutive for the daily work and everybody gets used to use more than one language for study and work
69	Some universities engage in the expensive and risky internationalisation strategy of creating off-shore campuses in selected target countries	Expansion into other countries starts in a lightweight and flexible manner, e.g. through small local labs, and evolves strictly driven by demand

Organisation		
70	Fixed hierarchy of many levels; culture of positional power	Flat, networked, agile holographic organisation; emphasis on self-organised teams; culture of commitment and responsibility
71	“Ivory tower” separated from society	Transformation Labs as basic organisational structure in which students, scholars, practitioners and decision-makers collaborate across sectors
72	Disciplinary departments	Flexible, issue-based (re)configurations

73	Rule-based bureaucracy	Goal and vision-based organisational flexibility (including institutional experimentalism by means of meta-design and co-design through which stakeholders become systematically involved in organisational redesign, governance and development)
74	System of formal ranks and titles determining organisational roles – leadership through formal positions	Formal ranks and titles are deemphasized; actual engagement, competence and trust create propensity in the community for organisational roles and leadership
75	Split between administrators, academics, adjunct faculty and students	Self-administration based on strong subsidiarity and on participation of all stakeholder groups
76	Focus in organisational development on incremental change of institutions and reforms of institutional systems	Focus on system innovations in ecosystems of diverse organisations
77	Institutions built / merged to realise economies of scale; growth mentality often leading to dehumanizing and unsustainable giantism; emphasis on quantity	Institutions not growing beyond self-determined human scale; deep relationships and respect of the ecological carrying capacity of each location; emphasis on quality
78	Establishing a new university is a great challenge and a long process that can only be undertaken by formally qualified “experts” based on substantial funding	The U4F ecosystem model enables smaller players across sectors to contribute to and take advantage of higher education, thus lowering the entry barriers, broadening access and leveraging synergies
79	Public sector and private sector universities	Civil society universities and cross-sector hybrids complementing public and private universities
80	Trend towards managerial and entrepreneurial universities	Learning lessons from a wide range of frameworks including the creative university, the civic/engaged university, and the ecoversity, (re)connecting higher education to the needs of individuals, communities and society

Partnerships		
81	Typically, universities are growing toward larger, internally complex and externally monolithic organisations that develop partnerships, mostly with other universities	The U4F is itself conceived as a partnership, an ecosystem of mostly smaller organisations collaborating across sectors and locations. A university successfully adopting the U4F model can become a U4F showcase.
82	Science and society are often split from each other by design and tradition; productive and resilient linkages are difficult to create and maintain due to this fundamental split	The basic organisational structures of the U4F, such as Transformation Labs and Learning Villages, are conceived as cross-sector spaces of co-creation in which students, scholars, practitioners, and citizens address Grand Challenges together
83	Dependence on third-party funding creates many short-term consortia that rarely outlast project life cycles	Long-term cooperation (e.g. the <i>Alliance for the Future</i> stimulates long-term collaborations beyond single projects)
84	The role of government is primarily as a regulator and funder, and as a target for lobbying	Governments on all levels are seen as partners of co-creation along with businesses and civil society organisations. The specific opportunity of working with government institutions is to create system innovations in education and other sectors and in changing the role and rules of higher education more

		generally depending on the success of new models tested in reality
85	Graduates have to leave their alma mater and are turned into alumni	Every stakeholder has the opportunity to remain part of the U4F ecosystem for their whole life, whereas roles and engagements can evolve organically

Resource Model		
86	In many ways, the academic enterprise has been forced into considering money as its core concern; there has been a creeping commercialisation, commodification and one-sided business orientation of higher education. Economic viability is achieved by profit testing of every unit and every activity, with little attention to systemic and long-term effects	Platonic ideals such as truth, beauty and goodness at the core of the academic enterprise. Economic viability through new economic models embedding higher education at the core of communities, regions and cross-sector networks of organisations
87	Primary sources of funding are state subsidies, third party research funding and tuition fees (especially in the Anglosaxon world and in private higher education institutions)	Increased attention to new core funding models (e.g. pay-it-forward schemes, crowdfunding, impact investments, service learning agreements, transformation projects for organisations and communities, equity in incubated organisations)
88	Requirement to intensify the search for money in pseudo-markets created by increasing the dependency of universities on competitive third-party funding, entailing a focus on “the next project” and a disinterest in the long-term viability of projects	Primary focus on substance and meaning, not on money: Focus on shaping and realizing unique collaborative visions based on profound ideas, personal integrity, conceptual integration, increasing societal value, and the confidence that these qualities will entail long-term viability and community support
89	Dichotomy between a decreasing proportion of permanent positions and an increasing proportion of temporary positions creates systemic gaps in many academic careers and partnerships (e.g. lack of support for keeping fruitful collaborations alive beyond project funding, for keeping young academics going between short-term contracts, for continuing promising lines of research or education when funding priorities shift)	Emphasis on continuity, productivity and value of careers of engaged scholarship and of scholar-practitioners; focus on the middle ground, i.e. neither sequences of short-term contracts nor tenure; flexible and case-dependent solutions; gap funding system for individuals, teams and organisations without undermining the principles of self-sufficiency, initiative and entrepreneurship
90	University budgets concentrated on maintaining existing activities and structures	Concentrating university budgets on facilitating the development of new activities and structures that can become self-sustaining and that actively contribute to catalysing the Great Transition and to the viability of the U4F ecosystem, at the same time
91	Scholars work for reputation, for money, and for keeping the privilege of academic freedom (whereby academic freedom is becoming more and more constrained in practice)	People work for meaning and impact; work and money become dissociated (e.g. through gift economy and time-banking systems established in the community, through consistent support of personal vocation, etc.)
92	Salary schemes are often fixed and dependent on job category and seniority	Flexible salaries, depending on actual contribution to overarching goals of the organisation, on actual personal needs and on the success of the organisation in generating societal impact and developing associated income streams
93	Mix of employment and entrepreneurial activities (of any kind) is difficult or impossible (or conversely	Mix of employment and socially-engaged entrepreneurial activities as well as volunteering is

	excessively practised without benefit for the community, as in many business schools)	encouraged; excessive participation in profit maximizing organisations is discouraged
94	Decision-making on resource allocation generally happens top-down and exclusively within the respective institution	Decision-making on resource allocation also involves members from the operational level and from communities that are served
95	Resource allocation is influenced by informal networks, political behaviour and sometimes outright corruption	Communal resource allocation mechanisms designed to respond to actual needs of supported communities and to eliminate undue and one-sided individual influences and manipulative behaviours
96	Base income depends on quantities (student numbers, square meters of facilities, number of publications, etc.); additional income of increasing share based on competitive third-party funding	Base income depends on quality (depth and breadth) of impact generation capacity; additional incomes based on community support and entrepreneurial success through mission-driven partnerships

Quality Development		
97	Accreditation through (often private) accreditation agencies applying general standards and procedures developed independently from those to which they are applied	A new Transformative Higher Education quality system favours continuous dialogical co-development and improvement of the standards and procedures with the user communities
98	Accreditation rules often favour homogenization around the status quo, thus suppressing system innovations	Accreditation rules are designed to recognize system innovations and to encourage the development of specific quality profiles within the overarching principles of a Transformative Higher Education label
99	Myopic, bureaucratic, inflexible, short-term, inefficient funding systems, often controlled by status quo networks. Applicants tend to react with tactical pragmatism, untruthfulness, face-saving and submissive reporting rather than improvement-oriented critical reflection and action	Complete re-design of the funding system, its priorities, procedures and rules. Focus on cultivating trust, entrepreneurialism and personal responsibility (controls are the exception, not the rule; the rule are freely chosen public commitments and verifiable statements on achievements in relation to these commitments that everybody is free to check back)
100	Audit trails (paper check); emphasis on quantitative indicators	Reviews of real process and outcomes (reality checks); emphasis on qualitative value and societal impact rather than paper checks; allowing projects to improve rather than sticking to inflexible designs, getting rid of timesheets, reductionist indicators and other impact preventing bureaucratic mechanisms
101	Course evaluation by students based on standard evaluation forms	Continuous improvement of learning environments based on focus groups, mutual learning of teachers, inquiries into reasons for choices student make, database of “stories of learning” from students, success in realising one’s vocation and in community-building, contribution to synergies, etc.
102	Increasing influence of national and international rankings based on normalising assessment of a limited number of dimensions	The U4F Initiative develops an Education for the Future listing of a diversity of inspiring showcases representing the emerging Transformative Higher Education model
103	Conviction that quality management systems result in improved quality, even though they take increasing parts of the time away from the core business	Awareness that systemic consequences of institutional quality management systems can deteriorate and undermine quality

ICT		
104	Overconfidence in ICT as a key pathway to educational innovation	Emphasis of direct, live, face-to-face interaction, one on one and in groups
105	A primary driver of ICT are direct, measurable cost savings (while overlooking indirect and often hidden costs)	A primary driver of ICT is to simplify or complement cooperation where face-to-face interaction is not possible or where preparation or follow-up through ICT demonstrably enhances face-to-face experience
106	MOOCs 1.0, 2.0, etc. as hype of the future of higher education	MOOCs as one among many options for learning materials when face-to-face interaction cannot provide an equivalent or better learning experience
107	Mountains of papers despite complex ICT systems	Paperless office
108	Non-integrated commercial software systems	Integrated, open-source software systems
109	Top-down, expert driven software development	Development of software tools driven by user communities and their needs
110	Many ICT systems limited by organisational boundaries	ICT systems specifically designed for networks of organisations and communities

Academic Culture		
111	Tendencies toward “low oxygen” academic culture	Enlivened, soulful community
112	Overemphasis of self-promotion, individualism and competition	Emphasis on teamwork and cooperation
113	Self-celebratory academic rituals	Meaningful and profound rituals and rites of transition based on shared values and wisdom; recognition also and in particular earned from communities that are served outside of academia
114	Student and faculty roles dominate interactions	Authentic interactions of whole human beings; people take on roles in a flexible manner (e.g. everybody is a teacher and learner, depending on the domain and the context)
115	System of formal ranks and titles	Formal ranks and titles are deemphasized and do not predetermine the roles in teams and organisations. Natural authority of the unpretentious, engaged intellectual and scholar-practitioner
116	Inaccessible academic language	Vivid, sharp, accessible language
117	The personal side of “science in the making” is mostly hidden	Reintegration of the personal side of “science in the making” and the results of science
118	Little attention to the side effects of performance based cultures (fear, dishonesty, strategizing, undermining colleagues, conflict, etc.)	Focus on prevention and healing of negative emotions and behaviours
119	Ethics enforced by management, reporting, controls, professionalism, code of ethics, ethics commissions	Primary emphasis on the well-being and harmony of teams, integrity of relationships and personal development as sources of moral behaviour
120	Organisational and team culture favouring acceleration, short term targets and other phenomena leading to stress and burnout	Organisational and team culture favouring personal growth, positive atmosphere, friendship and long-term impact

Recruitment & Promotion		
121	Universities generally recruit candidates for predefined slots in fixed organisational charts	Organisational units are dynamically formed as support for real-life transdisciplinary communities of practice responding to a grand challenge; everybody is invited to entrepreneurially develop their genuine contribution to the co-creative dynamics
122	Recruitment based on individual achievements alone	Individual recruitment is possible, but preferred is the creation of organisational boundaries around teams that are already productive as well as around promising new initiatives – enabling group applications for staff and students
123	Overreliance on journal publications in hiring academics	Comprehensive recognition of personal qualities, overall life achievements, and compatibility with existing team members, as well as with organisational vision, mission and culture
124	Recruitment criteria are applied in a technical and legalistic-reductionist way, often eliminating suitable candidates because of formalities or narrow criteria focused on the candidate's past academic achievements	Generative process focused on visions for the future and accounting for the value of human uniqueness and potential that cannot be reduced to any list of criteria
125	Many recruitment procedures are heavily biased, thus subverting in practice the goal of fair competition among the best (candidates are promoted by invisible insider networks, job ads are tailored to the profile of the preferred candidate, etc.)	Beyond competition for a limited number of positions, towards entrepreneurial co-creation between newcomers and existing staff of ever increasing opportunities for catalysing the Great Transition
126	Binary logic and fixed institutional boundaries (anybody is either part or not part of the organisation)	Permeable boundaries inviting and enabling various, possibly shifting, types and levels of participation (the whole range from small occasional contributions to full-time engagement)
127	Institutionalised split between knowledge and action, i.e. separation of (1) scholars and practitioners, (2) contexts of research/learning and contexts of real world application, (3) academic discourse and publications, (4) policy-making and entrepreneurship, etc.	Emphasis on the promotion of scholar-practitioners and on co-creation of contributions to the Great Transition between scholars, scholar practitioners and practitioners

Facilities & Locations		
128	Big multi-story buildings, technician and standardised box office architecture, landscaping to fit drawing board architecture	Organic architecture and human-scale buildings integrated in natural surroundings and landscapes
129	Focus on extensions of existing campus sites or on greenfield campus development	Focus on reconversion of brownfield sites, reconstruction of existing buildings, new buildings exclusively as positive impact constructions
130	Construction of facilities executed by private companies that are otherwise uninvolved in the higher education institution; often by big construction companies that are also uninvolved in the community; strict sequence of first building and then using facilities	Construction sites as dedicated learning environments; user-driven planning, building, interior design and facility management, reconstruction of a site as a permanent stepwise process during its use, extended into the local community
131	Overbuilt spaces; most rooms separated from the outside	Proper ratio between built environment and nature; connecting the inside and the outside (e.g. through interior courts, winter gardens, interior greening, vertical gardens, terraces, bridges, light seasonal constructions, etc.)
132	Architecture and landscaping rarely reflect integrated development principles	Land and buildings reflect ecological and permaculture principles, include food production, etc.
133	Industrial building materials, unhealthy chemicals and concrete; carbon-intensive materials and energy systems, little or no consideration of daily/seasonal natural cycles	Natural or recycled building materials from local environment; positive-energy systems, benefitting from daily and seasonal cycles, e.g. of sunlight, temperature
134	Prevalence of buildings looking like boxes combined with cubicles for interior spaces; impersonal, sterile atmosphere; insufficient or lacking options for resting and communication; separate sports facilities	Highly differentiated interior architecture attuned to varied creative learning and working environments; inviting atmospheres (e.g. as in living-rooms, stimulation of creativity through intentional use of colours, sounds, artwork, plants etc.); abundant comfortable spaces for resting and communication; fully integrated concept for wellness and regeneration
135	Pervasive dependence on electric light and air-conditioning; electro-smog in many spaces	Natural lighting and air-conditioning; minimisation of electro-smog; separation of technical rooms from living, learning and working spaces
136	No integrated water management; limited recycling, external waste disposal	Integrated intelligent water management (e.g. use of rainwater, organic sewage systems); towards zero waste systems: waste avoidance, waste minimisation, advanced recycling, cradle-to-cradle cycles
137	Cost calculation for buildings based on low initial costs; externalisation of other costs (e.g. related to resource depletion through the extraction of non-renewable materials or to waste disposal of toxic building materials at the end of the life cycle)	Cost calculation for buildings based on entire life cycle; internalization of external costs
138	Rooms on campus centrally allocated by the university administration for entire semesters, users have little or no choice and are locked in for predefined periods	Users choose rooms and places flexibly themselves, according to arising and changing needs, in any facility available in the multi-local network of partner organisations
139	Prevalence of commuting and dominance of high-carbon individualised transport	Proximity or integration of living and working; integrated, low-carbon mobility systems (e.g. electric buses, shared bicycles, integration of private and public transport)
140	Mono-purpose facility use; facility shut down in idle periods	Co-use of facilities through many stakeholders from the community throughout the day/week/year
141	Commercialism encroaching learning and work spaces (e.g. through advertisements, billboards, vending machines)	Minimisation of consumerist elements

Outlook

Shifting from the paradigm of Modernist Higher Education to the paradigm of Transformative Higher Education requires profound changes in and across all dimensions constitutive for higher education. Any single innovation that is part of the University for the Future does not in itself assure the realisation of the U4F, nor the broader paradigm of Transformative Higher Education. The U4F vision is only realized when it combines specific, simultaneous and coordinated changes in design and practice across the great majority of features treated in the above comparison tables.

Before an emerging paradigm becomes a widely shared practical philosophy and institutional reality capable of challenging the previously dominant paradigm, there is usually a period of co-existence of paradigms. In this period, ideas, practices and institutions based on different paradigms challenge each other, but also mix and merge in various ways in attempts to adjust to the new requirements of a changing era. There are indications in higher education that we have entered this period of co-existence. The U4F will be a pioneer that can make contributions shaping this period and influencing developments both in Modernist Higher Education and Transformative Higher Education, and how they interact.

We can see many experimentations with transformative learning and research approaches happening, often outside of established higher education institutions. We also see the first public and private higher education institutions implement strategies for becoming pioneers of Transformative Higher Education. The gridlocked dichotomy of mainstream higher education (meaning mass multiversities) versus alternative higher education (meaning small, underfunded niche institutions) is breaking up. It is hard to predict how this new stage of paradigm pluralism will turn out. In what follows, we would nevertheless like to share a scenario of how it could turn out.

First of all, the typical multiversity is supposed to fulfil three missions, from basic and applied research to mass education to public engagement (service to society). While attempting to do everything at the same time (in ways that are only loosely related), it is difficult to do anything well. Multiversities trying to do everything will continue to exist, but their quality in different areas risks lagging behind the following types of institutions with more specific and complementary foci.

1. In research, multiversities are already submitted to heavy competition for research funding by public and private research institutes employing researchers without teaching load. The latter have a competitive advantage in bid development over researchers with a teaching load. Furthermore, in various research areas there are large-scale facilities that are shared by researchers from various institutional backgrounds. For the benefit of society, there need to be publicly funded and protected spaces for non-utilitarian research — spaces that commodification of higher education tends to neglect or to reduce. But there is also a new type of research emerging that is different from traditional basic and applied research and that will gain in importance. It is called transformative or mode 3 research. This research is catalytic for societal transition processes. It involves multiple stakeholders and is embedded in local and regional contexts. Most existing multiversities and specialised research institutes are not well prepared to become frontrunners for this new type of research, even though it can be expected that funding priorities will be shifted to it on an increasing scale. In many places this creates a gap that other organisations will fill, for instance new research institutes set up and designed for transformative research.
2. In teaching, multiversities compete with big players taking advantage of the economies of scale of e-learning and blended learning, in particular in standard curricula for the disciplines and professions that have so far attracted the greatest number of students. Many of these virtual or semi-virtual universities are run as for-profit businesses. Recent developments like MOOCs reinforce the idea that a teacher can reach many more students than those fitting in a classroom. Furthermore, the open courseware platforms like edX, Coursera, and Udacity, a new phenomenon in this decade, are creating and dominating a different approach to mass teaching. They are not universities themselves, but they pool and produce courses provided by professors from across different universities. These courses are available online, mostly for free. The course catalogue of these platforms expands at a rapid rate. In a few years, it will cover pretty much all fields of knowledge that have been traditionally represented in multiversities. The reasons to attend a lecture at the multiversity next door, which may be delivered in lesser quality, is about to dwindle. As a consequence, in the 21st

century it can barely be the main task of a university any longer to deliver learning content packaged in traditional courses. Students do not need local universities as intermediaries for world class open courses. On the other hand, standardized and globally delivered courses can only teach established and universalist knowledge. They cannot teach emergent and contextualised knowledge; they cannot generate the energy that propels extraordinary teachers and students in face-to-face settings; they cannot provide experiential insights in the full spectrum of methods for co-creating the future; These platforms can only deliver knowledge on what is already known and what can be verbally/visually formalised. This opens new opportunities of human scale local learning centres and learning communities. If they offer facilitation and support for personalised pathways of learning focused on personal and vocation development in relation to societal Grand Challenges, they can help cultivating human qualities and faculties that are not in the reach of mass multiversities and online open courseware.

3. In terms of public engagement, societal relevance and social impact generation, a new diverse international movement has been emerging, the “social labs revolution”. In many places independent “think and do tanks”, variously called action tanks, change labs, social innovation labs, living labs, science shops or future centres, but also an increasing number of social enterprises, are linking knowledge to action in response to Grand Challenges by facilitating multi-stakeholder co-creation processes. They are either independent, created by activists and entrepreneurs, or by cross-sector consortia. Higher education institutions are not the prime movers of the social labs revolution and have been mostly timid to get into the field of social labs themselves, if at all. If multiversities create such labs, they are often at odds with the existing organisational structures and procedures. It is more easy for multiversities to send experts to such labs to complete the stakeholder composition than to create and facilitate these labs themselves while attracting other stakeholders.
4. Transversities strongly merge the formerly separate three missions of teaching/learning, research and public engagement into integrated streams of activity. The main mission of transversities consists in catalysing the Great Transition, in co-creating desirable futures. The new mission is cultivated where the three traditional missions of higher education overlap. This overlap can generate the kind of high impact system innovations that no educational, research or outreach programme can deliver on its own. Transversities adopt organisational structures and ways of operating that are foreshadowed by social labs. This allows tighter connections to civil society and other sectors than ever before. Moreover, it allows actively developing cross-sector partnerships centred on conducting transdisciplinary transformation programmes that respond to the Grand Challenges in a specific context (for instance a neighbourhood or a supply chain). As a primary focus, research, teaching and service to society will be integrated within concrete contexts of change-making and societal impact generation. Transversities participate as co-creators, together with other societal stakeholders, in context-dependent endeavours of social-ecological transformation that disciplinary inquiry tends to ignore or to consider as too complex to deal with. Transversities furthermore generate context-sensitive transformative methodologies, as well as meta-disciplinary integrative frameworks that can inform and advance many forms of research, teaching and intervention. This so-called scholarship of integration is a different type of basic research that has been structurally neglected in multiversities.

Transversities will transform existing fields, define new transdisciplinary fields, renew institutions and generate new professions that will shape society in this century and beyond. In the time to come, there is a much larger potential for transversities to develop than for multiversities, because multiversities are not very agile and have a hard time to adapt themselves to the emerging requirements, while the Grand Challenges are becoming more and more pressing. Transversities are much more flexible, open and embedded in society than any precursor institution of higher education. They represent a version of higher education opposite to the ivory tower model. They are open and connected. Transversities create interfaces and feedback loops with the other types of institutions mentioned above: specialised research centres, online course providers, social labs, firms, CSOs, and public institutions. Transversities operate more like local and international hubs linking diverse individual and institutional stakeholders and their respective knowledges and practices to each other, including practitioners’ knowledge and indigenous knowledge. There are very few transversities yet. Accordingly, there is a huge potential and opportunity that is magnitudes more important than the potential and opportunity for creating still more multiversities.

The emergence of transversities that are oriented by real-life issues, not academic disciplines, will enforce a new balance in resource allocation. For policy-makers it will be a new challenge to support rebalancing between:

- disciplinary and interdisciplinary research centred on non-utilitarian knowledge production,
- public educational institutions centred on teaching,
- autonomous social labs, and
- integrated transdisciplinary and transformative action-learning-research centred on catalysing the Great Transition.

The formerly institutionalised dichotomy between basic and applied research (and respectively focused higher education institutions) might well shift towards a new dichotomy between non-utilitarian research and transformative research for the common good (that both have their respective interconnected basic and applied streams).

The U4F does not focus on non-utilitarian research, nor on mass education for standard professions, even though both can also take advantage of certain suggestions arising from the U4F model. However, the more mass educational programmes would adopt U4F features, the more they would risk losing the efficiency gains lowering costs that are part of the economic rationale of such standardised programmes. The efficiency and productivity of the U4F model is much more multidimensional. We see a continued legitimate place for specialised schools, e.g. for medical or teacher training, architecture or design, IT or engineering, whether as standalone higher education institutions, as part of multiversities or connected to transversity ecosystems of organisations. We advocate the latter solution of embedding them in transversity ecosystems and transforming them accordingly. In the medium and long term, we do not exclude specific U4F designs for specialised schools that take into account the future world situation their graduates will face. In the short term, however, we are working on transdisciplinary programmes that do not compete with specialised schools: specifically a BA in Transformative Arts (a Liberal Arts 2.0 programme), an MA in Transformative Design (a Future Design 2.0 programme), and a PhD in System Innovation (a programme that has no predecessor in the current academic world).

The *next Renaissance initiative* does not seek to dominate the paradigm of Transformative Higher Education, nor to define the rules for others. It strives for developing and implementing a variant of this paradigm that is as uncompromised as possible. The initiative seeks to develop free spaces for development, prototyping and implementation. Keeping a different impulse while playing by the rules of the mainstream higher education system is a most difficult endeavour, as many alternative universities have experienced. We believe that the best option at this juncture is to develop new institutions from scratch. Supporting apt leaders in higher education and society to comprehensively transform existing institutions is a complementary pathway that can receive inspiration from uncompromised greenfield developments. The *nextRenaissance* initiative encourages such pathways, but has so far not actively pursued them, prioritising instead the co-creation of a new design defining next practices of higher education in the 21st century.

As any other impulse of cultural and educational renewal, the development of the U4F, and even of Transformative Higher Education as a whole, runs the risk of being undermined, spoiled or reconventionalised. The threats are both external (by opponents of paradigm change) and internal (by unpreparedness in relation to system dynamics, lack of clear purpose or perseverance, or lack of cooperation across likeminded and complementary initiatives). As for the external opposition, the U4F and Transformative Higher Education is likely to come under attack by forces trying to prevent transformative change. These forces are not only individuals or lobby groups, but also the bureaucratic system as a whole that has bound itself by rules and regulations that it cannot transgress itself, regardless whether they still make sense or not.

As for the internal opposition, the risk is no less formidable. As soon as the U4F and Transformative Higher Education will be recognised as cutting edge, many actors will appear claiming to represent this paradigm. As a result, these efforts risk becoming contested, politicized, downgraded and commercialised. If Transformative Higher Education becomes a vehicle to make money or acquire prestige, there will be people who will adopt it in rhetoric, while dumbing it down to make it more easily sellable. Many players will use its concepts, claiming to represent and promote them, while actually putting a shadow over the qualities inherent in this paradigm through superficial, incoherent or partial practices. Once status quo players adopt the language of Transformative Higher Education, or claim to be the *University for the Future*, we should be careful and scrutinize

the substance of their claims, so as to prevent that future developments converge to the same system as today, just in different garments.

The creation of a transversity in the current higher education environment, within the given legal system, the ministries of education, the accreditation system, the prevailing academic culture and career paths, the mainstream institutional infrastructure, the financing options, etc., is a great challenge. If there will be no changes within the larger system of higher education, transversities will need to establish protected spaces in which they can operate. Creating functional niches is not the ideal scenario, however. The overall change of the higher education system is necessary and overdue. This is therefore an explicit objective of the *nextRenaissance* initiative, which will require profound work, visionary, intellectual and practical. The redesign of the entire system of higher education goes beyond the the scope of this Working Paper. We therefore welcome anyone who feels inspired by our transversity design to start imagining and describing the kind of broader institutional environment, in which transversities would flourish.

We are giving these ideas away for free through creative commons licenses, inviting critical feedback and welcoming and supporting the creation of transversities by many development teams in many places for many different target groups.

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Acknowledgements

We are grateful to Stefan Pecho for his editorial work and ideas that were implemented in the paper.



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