

Higher Education in the World 7

Humanities and Higher Education: Synergies between Science, Technology and Humanities

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Table of Contents

Publication Team	10	Case Studies:	
List of Figures and Tables	12	• <i>Humanities Courses in All Degrees: The Case of the International University of Catalonia (UIC)</i>	93
List of Abbreviations	14	F. Xavier Escribano, Gabriel Fernández-Borsot, Judith Urbano	
About the Authors	18	• <i>The Importance of Interdisciplinarity and Intercultural Practices</i>	95
GUNi Presentation	41	Fátima Marinho	
GUNi Director, Josep M. Vilalta		• <i>Integrating Technology with Humanities and Social Science: Endeavors of a Global University in Rural India</i>	97
UNESCO's Introduction	43	Nandita Koshal	
UNESCO's Higher Education Chief, Peter J. Wells		• <i>The Universitat Oberta de Catalunya (UOC) and the Universitat Politècnica de Catalunya (UPC) Form an Alliance to Bring Humanities Closer to Technology</i>	100
Catalan Association of Public Universities' (ACUP) Introduction	45	Carme Fenoll and Teresa Ferriz	
GUNi and ACUP President, Joan Elias		• <i>Planetary Wellbeing, a Challenge for the Planet and a Central UPF Project</i>	102
About the Report	47	Josep Lluís Martí	
Editors' Introduction: Changes and Challenges that Require a Different Approach to the Relationship between Science, Technology and Humanities	49		
David Bueno, Josep Casanovas, Marina Garcés, Josep M. Vilalta		3. How can the obstacle of the specialisation and sectorisation of 'scientific' and 'humanistic' languages be dealt with in order to overcome the mediation of 'dissemination' and be able to imagine collective and reciprocal work processes?	104
PART 1: WORLDWIDE CONTEXT	69	— <i>Overcoming Specialization and Separation of 'Scientific' and 'Humanistic' Knowledge. The Co-creation of Hybrid Educational Programs from Reciprocity and Complexity Understanding</i>	105
1. What are the global challenges that require science, technology and humanities to be integrated into a conception of research and teaching in the higher space?	70	Case Studies:	
— <i>Higher Education in the New Era</i>	71	• <i>Experience of Collaborative Work between Students of Health Sciences and Media Communication</i>	113
Federico Mayor Zaragoza		María Laura Cuffí, M ^a Ángeles García, Jaume-Elies Vilaseca	
— <i>Knowledge Resistance: A Global Challenge – in Research and Education, in the Humanities and Elsewhere</i>	77	• <i>The Interdisciplinarity of Music Research: The Perspective of the Music Technology Group at the UPF</i>	115
Arne Jarrick		Xavier Serra	
2. What roles do universities play in the defence and promotion of humanistic approaches in all areas of knowledge and how are those roles addressed in the world's different education systems?	85		
— <i>Consilience between the Sciences and the Humanities: Small Steps towards a Humanistic Education</i>	86	PART 2: KNOWLEDGE SOCIETY	118
Ahmed Bawa		4. The current knowledge paradigm is based on Western ideals and has been exported all over the world with little regard for cultural diversity, which has been integrated into the idea of multiculturalism. How can we shift from multiculturalism to true epistemological diversity?	119

— <i>Towards Epistemological Plurality in Education across the Global South</i> Chika Ezeanya-Esiobu	119	— <i>From Info-Cognitive Extractivism to the Social Economy of Knowledge: A Proposal from the Global South</i> Analia Minteguiaga and René Ramírez	172
— <i>On the Dynamics of Languages of Science: Lessons and Challenges for Higher Education Policies</i> F. Xavier Vila	123	PART 3: INSTITUTIONAL PERSPECTIVES	180
5. Current changes in the field of science and technology are promoting an idea of human and non-human intelligence that goes beyond the notion of knowledge. What critical and proactive role must humanities play in this set of processes of change and what added value can they contribute?	133	8. How can universities participate in the changes that are helping to build bridges between different fields of knowledge? What should their role be?	181
— <i>The Contemporary Posthumanities</i> Rosi Braidotti	134	— <i>Synergy via Shared Platforms: The International Islamic University of Malaysia (IIUM) Way Forward</i> Dzulkifli Abd Razak and Lihanna Borhan	182
6. What added value can be offered by people with humanistic training that are engaged in scientific and technological development projects? Likewise, what added value can be offered by scientists and technologists that are working in humanistic development?	148	— <i>Overcoming Overspecialisation through Integrating Knowledge, Leveraging Diversity, and a Return to Basics</i> Haruaki Deguchi	187
— <i>At the Interface of Biology and Humanities: Archaeogenetics and the New View of the Past</i> Carles Lalueza-Fox	149	— <i>The Humanities Center: Synergising Institution, Institutionalizing Synergy</i> Sara Guyer	192
Case Studies:		Case Studies:	
• <i>EPNet Project - From Multi- to Interdisciplinarity: A View from Archaeology</i> Iza Romanowska	154	• <i>Synergies between Humanities and Technology Outside the Classroom</i> Jooyoung Kim and Farrah Sheikh	199
• <i>Interdisciplinary Laboratory on Climate Change of the University of the Balearic Islands</i> Damià Gomis	157	• <i>The Euro-Mediterranean University of Fes (UEMF)</i> Manale Adnane	201
• <i>ProjecTA-U: Where Artificial Intelligence (Science), Machine Translation (Technology) and Translation Studies (Humanities) Meet to Improve Higher Education Student' Access to Global Knowledge</i> Anna Aguilar-Amat, Pilar Cid-Leal, Marta Fuentes, Olga Torres-Hostench	160	• <i>Cross-Disciplinary Study Abroad Programs: The Case of James Madison University</i> Lee Sternberger	203
7. Who knows? Knowledge implies a certain conception of who the subject of this knowledge is. Who is our current knowledge system aimed at today? Who are the beneficiaries and who are not? How do we define the concept of profit? Is it possible to hold a universal point of view?	163	• <i>Humanising Higher Education: Transforming the Co-curriculum as the Core-curriculum at the International Islamic University of Malaysia (IIUM)</i> Zainal Abidin Sanusi	206
— <i>Unravelling Silicon Valley's Innovation System from a Southern Perspective</i> Raúl Delgado	164	9. Humanities are not only active in the university sphere, but are also encountering increasingly more space in cultural institutions and industries. What relationship must the university system have with these other entities? Is it possible to conceive an institutional ecosystem that is able to overcome the dualism between universities and society?	208
		— <i>Museums and Collections, Epistemic Convergence and Higher Education</i> Andrew Simpson	209
		— <i>Mediating the Duality of Universities and Society: Arts and Humanities Confronting the Obstacles of 'Authentic Engagement'</i> Richard Watermeyer	216

– <i>University Culture as Communities of Practice: Cultivating Interactions Inside and Outside Campus</i> Antonio Casado	224	– <i>Humanities in Medical Teaching: A Passing Fad or a Sound Need?</i> Josep E. Baños, Irene Cambra-Badii and Elena Guardiola	274
– <i>Business Ecosystems and the Dualism between Universities and Cultural Industries</i> Roberto Moreno	229	Case Studies:	
Case Studies:		• <i>Territorial Awareness at Rovira i Virgili University (URV): A Chemical Itinerary in the City of Tarragona</i> Núria Ruiz	282
• <i>The Case of “Ateneu Barcelonès”</i> Jordi Jiménez	237	• <i>Neurosciences and the Humanities: Teaching Neurosciences as a Liberal Art</i> Fernando Giráldez	284
• <i>Creating Art of Science</i> Dobriboje Lale Eric	239	• <i>Geography and History of the Social Education</i> Daniel Gutiérrez-Ujaque	287
10. <i>Universities are part of each country’s political system and depend on its decisions in the fields of education, research and the fostering of innovation and knowledge. How can universities maintain their autonomy but at the same time foster impact as agents in their respective societies?</i>	241	• <i>Integrating Social Sciences and Humanities into Teaching about Energy: The TEACHER Project</i> Meritxell Martell and Piotr Stankewicz	291
– <i>The Balancing Act of Societies and Autonomous Universities: How Universities Could Do Better</i> Sijbolt Noorda	242	12. <i>What skills and abilities need to be acquired in order to deal with the current changes to the employment, social and economic system on a global level?</i>	293
Case Study:		– <i>Education in the Era of Automation and Artificial Intelligence</i> Ana María Fernández, Anna Forés, Gilberto Pinzón	294
• <i>SciTech DiploHub – Barcelona Science and Technology Diplomacy Hub</i> Martí Jiménez and Alexis Roig	248	– <i>What Skills and Competencies Do 21st Century University Students Need?</i> Francisco López	301
PART 4: EDUCATION		– <i>What Can Universities Do About the Future of Work?</i> Michael A. Peters	309
11. <i>How can education curricula be designed to integrate different areas of knowledge on the basis of common problems in an interrogative, critical and cooperative manner? How should learning methodologies be focused in order to benefit transversal humanism?</i>	250	– <i>Fit for Future – Skills for Next Generation Learners in a Sustainable Digital World</i> Zeinab El Maadawi	316
– <i>Resolving Complex Situations at the Heart of the Curriculum: the Situation in Andorra</i> Marta Llop	252	Case Studies:	
– <i>Assemblages in Higher Education: a New Learning-Teaching Approach through the Prism of Social Space, Transdisciplinary Practices and Contemporary Art</i> Quim Bonastra, Monica Degen, Rosa M. Gil, Daniel Gutiérrez-Ujaque, Gloria Jove, Guillem Roca	260	• <i>Play4Guide Project</i> Zacharoula Smyrnaiou	325
– <i>Robotics and Artificial Intelligence Meet the Humanities: Some Initiatives for Ethics Education and Dissemination</i> Carme Torras	267	• <i>The Communicative Competence of University Students</i> Marta Gràcia	327
		PART 5: RESEARCH	329
		13. <i>What do we understand socially responsible multidisciplinary research to mean today and what changes need to be made to current research protocols and methods?</i>	330
		– <i>Fostering Institutional Changes towards Responsible Research and Innovation through European Framework Programmes for Research and Innovation</i> Linden Farrer and Philippe Galiay	331

— <i>The Multidisciplinarity of Science and its Processes of Socially Responsible Transformation</i> Bartolo Cruz	341		
Case Study:			
• <i>Experimental Practices, Humanities and Arts in the Process of Modeling Knowledge for Data-Based Society</i> Agnieszka Jelewska and Michal Krawczak	347		
14. Is the democratisation of science through 'Open Science' and 'Open Data' feasible? How can it be effective? What are the implications of the concepts of academic autonomy and freedom at universities? How are these two concepts configured in order to deal with current challenges?	350		
— <i>Open Science: A Cultural Change for Universities</i> Paul Ayris and Ignasi Labastida	351		
PART 6: IMPACT	359		
15. How can ideas that may not fit easily into current education indicators, such as intuition, peripheral thinking and cooperative problem solving, be evaluated? What are the positive and negative effects of rankings on humanities, on science and on technology? Which need to be reviewed and which should be promoted?	360		
— <i>Assessing the Impact of Humanities, Science and Technology: How to Fill the Gap?</i> Emanuela Reale	361		
— <i>Assessing the Impact of Humanities in an Era of Rankings</i> Paulo Franchetti and Marcelo Knobel	368		
16. How can we identify, evaluate and communicate the social impact of research? What is the key to successfully achieving the greatest social impact of research? Is the social impact of research a consequence of research or the very reason for its existence? Should research always seek social change and impact?	376		
— <i>Research Impact Assessment as a Source of New Inquiries, Values and Practices in University Research Ecosystems</i> Paula Adam	377		
— <i>Cultural Impact of the Impact Agenda: Implications for Social Sciences and Humanities (SSH) Research</i> Gemma Derrick	385		
		PART 7: GENDER AND EQUALITY	393
		17. How can equal gender opportunities in access to education and the choice and continuity of an academic and research career be encouraged today?	394
		— <i>Are Women Their Own Obstacles to Progress – a Woman's Perception!</i> Zakia Ali-Chand	395
		Case Studies:	
		• <i>RMEI on TARGET: Taking a Reflexive Approach to Gender Equality for Institutional Transformation in Mare Nostrum</i> Anastasia Zabaniotou	401
		• <i>Research: Gender Inequality in STEM in Spanish Higher Education</i> Andrea Fernández and Ana Sánchez-Bello	403
		• <i>Equality as an Instrument that Favours Access to Education and Subsequent Insertion into Academic and Research Activity: The Case of the University of Guadalajara (Mexico)</i> Martin Barajas, Martin E. Barajas, Jorge G. Bautista	405
		18. The ideological basis of humanism, as well as our conception of science and technology, is patriarchal. How can patriarchy be criticised and overcome in all areas of knowledge, both theoretical and practical?	407
		— <i>Towards an Inclusive Paradigm: The Change from a Patriarchal Conception of Science</i> Maria José Prieto and Claudia Prats	408
		19. How can a trans-disciplinary gender approach be developed, beyond gender studies as a specific branch of each area of knowledge, which are usually only developed by women and for women?	415
		— <i>Gender Equality: Is It a Matter of Education?</i> Amal Al Malki	416
		Case Study:	
		• <i>The Innovative Gender Studies Program at Sciences Po</i> Hélène Périvier	422
		PART 8: ENVIRONMENTAL	424
		20. Traditional Humanities have been developed in terms of such contrasts as those between nature/culture, natural/artificial, civilised life/uncivilised life, etc. In the time of the Anthropocene, how can this dualism be overcome in different fields of knowledge?	425
		— <i>The Environmental Humanities and the Current Socioecological Crisis</i> Marco Armiero	426

21. How can the Sustainable Development Goals (SDGs) be developed in the different fields of knowledge?	433	A Regional Approach: The Latin American University: Science and Technology Seen from the Humanities – Emer(conver)ging Issues	503
– <i>Optimizing the Space for the Development of the Sustainable Development Goals (SDGs) in the Different Fields of Knowledge</i> Akpezi Ogbuigwe	434	Axel Didriksson (Coord.), Freddy Álvarez, Carmen Caamaño, Celia Caregnato, Damián Del Valle, Alicia Hernández, Daniela Perrotta, Sandra Torlucci	
22. Environmental problems today redefine the fields of ethics and the relationship with the sense of human experience. What ethical challenges are being faced by the different fields and practices of current research?	442	Case Study:	
– <i>Global Environmental Challenges: Scientific, Philosophic and Social Implications</i> Jordi Bruno	443	• <i>Center for Complexity Sciences (C3) at UNAM</i> Aurora Lechuga	518
PART 9: ENGAGEMENT	451	Country Case:	
23. How can current public institutions maintain and promote their commitment to social equality and the universal availability of all knowledge for everyone? What concept of equality can we defend that does not contradict that commitment to diversity and reciprocity between cultures and lifestyles?	452	• <i>Towards a Policy on Coordination between the Humanities, Sciences and Technology: The National Council of Science and Technology (CONACYT) in the New Mexican Government</i> María Elena Álvarez-Buylla	519
– <i>The ‘Open’ University as a Transformer of Public Service Ideals</i> Paul Benneworth, Julia Olmos-Peñuela, Lucy Montgomery, Cameron Neylon, John Hartley, Katie Wilson	453	Special Contribution: The Union for the Mediterranean (UfM) Perspective in Promoting Higher Education in the Mediterranean	527
24. How can we relate such phenomena as populism and the discrediting of democracy with respect to the ways that humanities are practiced (or not) today? When politics reinforces identities and the clash between identities (religious, cultural, etc.), what role can the humanities play?	462	Union for the Mediterranean Secretariat	
– <i>A Society of Interpreters</i> Daniel Innerarity	463	Special Contribution: Humanities and Higher Education: Synergies between Science, Technology and Humanities – The Role of “la Caixa” Foundation	531
Special Chapter: Integrating the SDGs into Higher Education	466	Àngel Font	
Budd Hall and Rajesh Tandon (Coord.), Francesca Antongiovanni, Kaustuv K. Bandyopadhyay, Stefano Chessa, Mariantonietta Cocco, Marta Congiu, Romina Deriu, Valentina Ghibellini, D. B. Lortan, S. M. Maistry, Alberto Merler, Crystal Tremblay, Andrea Vargiu, Sarah Marie Wiebe, Madhura Yadav		Editors’ Conclusions and Recommendations	534
		David Bueno, Josep Casanovas, Marina Garcés, Josep M. Vilalta	

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GUNi Presentation

Global University Network for Innovation (GUNi): Twenty Years at the Service of Progress and Innovation in Higher Education around the World

The Global University Network for Innovation (GUNi) was created in 1999, one year after the first UNESCO World Conference on Higher Education in Paris. One of its main goals was to continue and facilitate the development of the agreements of that World Conference, at a time of clear expansion of higher education throughout the world. GUNi was promoted by UNESCO itself, by the United Nations University (UNU) and by the Polytechnic University of Catalonia (UPC). Five years ago, in 2014, through an agreement with UNESCO, the Catalan Association of Public Universities (ACUP) was granted its presidency and permanent secretariat. This year we are commemorating, with modesty and much shared responsibility, twenty years of one of the world's most active networks in analysis, debate and public policy in the field of higher education and university management. Twenty years in which our network has been growing in status around the world, under the approval and guidelines of UNESCO itself, driven decidedly by local institutions (in Barcelona, Catalonia and Spain as a whole) and in increasing interaction with GUNi regional offices in various regions of the world.

GUNi's main mission remains in full force (and is maybe now more necessary than ever), namely to strengthen the role of higher education in society, and help to renew its goals and policies worldwide from the perspective of public service, relevance and social responsibility.

GUNi's main goals are as follows:

- To encourage Higher Education Institutions to reorient their roles in order to broaden their social value and contribution, and strengthen their critical stance within society;
- To help bridge the gap between developed and developing countries in the field of higher education,

fostering capacity building and cooperation and in fully engagement with the 2030 Agenda;

- To promote the exchange of resources, innovative ideas and experiences, while allowing for collective reflection and co-production of globally relevant knowledge on emerging issues in higher education, innovation, social responsibility.

Today, GUNi has more than 220 members from 80 countries around the world, including higher education institutions, UNESCO Chairs, research centres and university networks related to innovation and social commitment.

Of the main activities that the network conducts on a year-to-year basis, we highlight five as listed below:

- World Higher Education reports, such as the one in your hands now, which have become key publications for analysis, debate and public policy on emerging issues in university politics around the world;
- Conferences, seminars and workshops, held on a regular basis both at its headquarters in Barcelona and in other cities and universities around the world;
- Projects promoted both internationally by the secretariat itself, and others attending to proposals from different members or regions in the world;
- The promotion of the different regional networks, attending to their specificities, problems and needs;
- Management and dissemination of knowledge in the field of policies and the management of higher education in the broadest sense, through the GUNi website, regular newsletters, social networks and other face-to-face or virtual methods.

Undoubtedly, today's world is facing a series of major planetary and social challenges of increasing complexity and dynamism: the climate crisis, the globalisation of economies and markets, social inequalities, poverty and migration, the crisis of democracy and public institutions, world governance, technological and digital change, highly changeable employment, and so on. We are therefore witnessing a real change of era. With regard to the world of education in general and specifically higher education, this context often implies

rethinking the social mission of universities, their core activities, their organisation (structures, personnel and talent, finances, operational management, autonomy and freedom, partnership and competition), their ability to respond, equality, social responsibility and the impact of their academic activity.

It is in this context that GUNi, twenty years after its creation, is strategically reappraising its role in the global change of era that we are witnessing, in order to become a global trendsetter as a network for analysis, debate and policy in the field of higher education and university management. For example, in 2016 GUNi set up a new strategic area based on the implementation of 2030 Agenda and the UN Sustainable Development Goals (SDGs) in the field of higher education and scientific research. GUNi is seeking to thereby become one of the world's benchmark networks in the deployment of the 2030 Agenda and the SDGs in terms of higher education and research. That is why it holds a biennial International Conference on the SDGs and higher education, has an International Group of Experts on the SDGs and higher education, and regularly drafts reports and studies in this field.

Another new strategic area is the social responsibility of higher education institutions in the new century, which have come to light in recent years in the form of activities and projects on responsible research and innovation (RRI), the challenge of climate change and the role of universities and research, and local-global tension in higher education. Finally, in relation to the Report that you are holding in your hands, GUNi advocates for in-depth reflection on classic academic disciplines, their organisation and their compartmentalisation and is hence proposing that interrelations and joint ventures between the sciences, technology and humanities need to be fostered in order to produce new forms of education, scientific research and collaboration with society.

Twenty years on, in full responsibility and based on all of the progress made thus far, at GUNi we feel strong enough to reinvent ourselves and intensify our role in analysis, debate and proposal at the service of progress and innovation in higher education around the world. We invite you to join us, with the firm intention of working together to forge greater progress, well-being and global justice in our societies.

Josep M. Vilalta
GUNi Director

UNESCO's Introduction

By their very nature, institutions of higher learning provide a space for the widest exploration of knowledge exchange and debate across every field of human enquiry. The universality of the university is thus still sacrosanct and fundamental to the mission and values of higher learning today and not inconsistent with the modern reforms and new pressures faced by the academic community.

Nevertheless, and arguably, in recent years higher education systems have experienced a surge in pressure to move away from some more traditional academic pursuits such as those of the humanities in favour of the more vocationally perceived fields of applied sciences, practical study programmes and technologies. In part, this has been driven by demands of the labour market and often in turn mirrored by a push from policy makers and the public funding of universities.

This trend has, however, begun to wane and there is an increasing appreciation that subject or field knowledge and competencies need to be balanced by a wider appreciation of the world we live in. Such an appreciation and understanding is afforded by the Humanities – in all of the field's domains as it cements the inter-disciplinarity of cognitive intelligence with emotional and cultural intelligence.

The United Nations Sustainable Development Goals (SDGs) demand an interdisciplinary approach to critically inclusive solutions. The natural sciences, the social sciences, and technological and engineering fields cannot work in isolation and must work in concert with the Humanities to ensure that science and technology and STEM (Science, Technology, Engineering and Mathematics) teaching, learning and research are balanced by a humanism that encapsulates what these fields aim to achieve. While the STEM focus is increasingly being expanded to embrace a wider STEAM approach (where 'A' refers to the Arts), there is now a further move to project this to ESTEAM, with the 'E' referring to Ethics. This is not insignificant and speaks to the holistic mission of academia. Have we come full circle? Arguably this represents a return to an appreciation that higher learning is and always has been holistic and a space for preparing learners to be fully rounded individuals rather than pure specialists.

The so-called 'Liberal Arts' education has had little traction outside of the US. In many parts of the world there is no such concept where the doctrine of specific academic fields of study and research still prevail. This is however beginning to change. Employers and academia now recognize that the world needs inter-disciplinarians. Individuals who can relate to people; graduates of higher education who can relate to graduates from fields of expertise and knowledge outside of their own narrow fields.

Realizing the SDGs precisely demands this approach. UNESCO applauds the GUNI network for promoting this inclusive approach. This 7th edition of the Higher Education in the World Series: *Generating Synergies between Science, Technology and Humanities* provides testament to the inter-disciplinary cooperation between disciplines, between higher education institutions, and between international systems as they approach the final decade of the Education 2030 Agenda.

Peter J. Wells
Chief, Higher Education
UNESCO

Catalan Association of Public Universities' (ACUP) Introduction

Since their origins, universities have been concerned about global affairs. We have been so by advancing and transmitting knowledge, and by educating the people and professionals in our societies, and by doing so in a critical and analytically rigorous manner, often by raising the right questions rather than settling for easy answers that often fail to drive us forward.

The Catalan universities that belong to the Catalan Association of Public Universities (ACUP) have both historically and currently assumed such commitment to society, both locally and globally. Created in 2002, the ACUP groups the universities of Barcelona (UB), Autònoma de Barcelona (UAB), Politècnica de Catalunya (UPC), Pompeu Fabra (UPF), Girona (UdG), Lleida (UdL), Rovira i Virgili (URV) and Oberta de Catalunya (UOC). Its main purpose is to be the essential voice of the public universities in Catalonia and to unite their efforts, both at home and abroad, to promote joint initiatives, programmes and projects to improve the university system and to ensure that it is a driver of social, cultural, technological and economic development.

Since 2014, the ACUP has assumed the presidency and the secretariat of the Global University Network for Innovation (GUNi) and works in close collaboration with UNESCO and in accordance with the values that foster peace, justice, culture and education around the world. Today, GUNi groups more than 220 university institutions, UNESCO chairs and research centres worldwide and over the years it has grown into one of the most prestigious international networks for the analysis and debate of higher education in the world. It is the ACUP's honour to chair and promote GUNi, and in our daily work we take full responsibility for maintaining its rigor, its goals and its programmes.

As you know, one of GUNi's flagship projects is the biennial publication of the series of *Higher Education in the World Reports (HEIW)*, the seventh volume of which is in your hands now. On this occasion, we opted for an in-depth analysis of a fundamental aspect of human knowledge, namely, what we know as the humanities in the broadest sense. Through direct contributions from 130 experts from around the world, and coordinated by a local team and an international advisory board, the

HEIW7 is structured into 9 parts and 24 specific questions that study the situation of the humanities in higher education and the synergies between science, technology and humanities in the early 21st century. I would like to use this short introduction to most sincerely thank all of them for their contributions and for all their work over these two years.

We are not only convinced that the humanities are subjects that need to be preserved and/or promoted, but moreover that they are fundamental tools that should accompany and be embedded in all research and innovation in more scientific and technological branches of knowledge. The humanities are and have proved to be essential for human progress, and for making us freer and more committed to the common good. We hence believe that both knowledge itself and the challenges we are facing in this first third of the 21st century need to be addressed in a holistic and integrated manner, and by establishing the necessary synergies between science, technology and the humanities.

There are no certainties. All we have are questions that we must all ask in order to find the right answers together. It is from such a view, whereby this is not so much a point of arrival as it is a point of departure, that we hereby share the World Report of which you are also a part.

Joan Elias
ACUP and GUNi President

About the Report

The Global University Network for Innovation (GUNi) is pleased to present the 7th Higher Education in the World Report, entitled *Humanities and Higher Education: Generating Synergies between Science, Technology and Humanities* in a fully open-access online version together with an abridged version in paper format.

The Higher Education in the World Report is a collective project and it is the result of a global and regional analysis of higher education, with a specific subject chosen for each edition. The Report reflects on the key issues and challenges faced by higher education and its institutions at the beginning of the 21st century. It is currently published in English, but some other past editions have also been published in Spanish, Chinese and Portuguese. The general objectives of the Reports are:

- To reflect on key problems and challenges that higher education and its institutions are facing today;
- To contribute to the renewal of ideas, while generating visions and promoting reflection concerning the contribution of higher education and the knowledge society;
- To provide a toolbox for researchers, policymakers and practitioners.

To date, GUNi has published seven issues plus a summary version requested by UNESCO for the World Conference on Higher Education held in Paris in 2009. 19,000 copies have been distributed in 130 countries.

For the second time in its history, the HEIW Report is fully open access. The first five editions offered 30% of their content in open access format, while access to the whole report was only available by payment. The 6th edition presented a new 100% open content version with the aim of making it available to everybody, regardless of economic reach, in line with GUNi's objectives and values. The 7th edition follows the same format and anyone interested will be able to view it in full at www.guninetwork.org.

Along with the full open content online version, GUNi is publishing an abridged version of the report in paper format, which contains a selection of the most relevant ideas from each of the authors' articles – offering a taste of the broader and more in-depth content available in the full report.

The 7th GUNi Higher Education in the World Report (HEIW7) is intended to present a comprehensive analysis of the interrelations and synergies between humanities, science and technology in higher education. This edition has been led by the GUNi Secretariat, a local editorial team and an international advisory board.

In the process of producing this Report, GUNi held the International Conference "*Humanities and Higher Education: Generating Synergies between Science, Technology and Humanities*" at the CosmoCaixa Science Museum in Barcelona on November 19th and 20th, 2018. The Conference was viewed as an essential step in the process of developing the report and its main objective was to foster worldwide debate on the current role of humanities in the social, academic and scientific areas and on their importance for promoting a more equitable, more responsible and more democratic society. The event gathered 160 attendees from 22 countries from diverse areas of knowledge and fields. Further information is available at: www.guninetwork.org/activity/international-conference-humanities-and-higher-education

Objectives

The Report aims to provide the academic community, policymakers and decision-makers within higher education and wider society with a comprehensive analysis of the interrelations between humanities, science and technology in higher education, as well as to offer some recommendations, guidelines and examples of good practices from different higher education communities, countries, regions and cultures.

Some of the specific aims of the Higher Education in the World Report 7 are to:

- Explore the relation between humanities, science and technology in different societies around the world and showcase examples of synergies in different higher education systems.
- Explore how humanities should address major current transformations regarding science and technology and their ethical challenges.

- Address the different roles higher education should play as a social agent and explore the possible relations between university and wider society.
- Map and understand the global challenges that are calling for a new paradigm in the relation between science, technology and humanities and explore the role that higher education should play in addressing them.
- Delve into the issue of the multiplicity of *knowledges* beyond the current Western paradigm of knowledge.
- Identify key skills and competences to be developed in the face of current changes to social, economic and labour systems, as well as exploring teaching methodologies, curricula and the concept of lifelong learning.
- Identify and understand current issues and trends in research in humanities, science and technology (socially responsible research, budgets, Open Science and Open Data) and discuss possible ways to move forward and enhance research practices and policies.
- Analyze the question of impact in terms of the current indicators and measures and their positive and negative influence on science, technology and humanities as well as proposing new options to address current practices and needs.
- Explore the issue of gender equality in terms of access to education, academic careers and the choice of studies.
- Analyze gender in science, technology and humanities in terms of ideological paradigms as well as exploring the way to embed the gender focus throughout the disciplines and beyond specific gender studies.
- Investigate environmental issues (in their broadest sense) in the Anthropocene in terms of knowledge, ethics and human experience as well as exploring the development and implementation of the SDGs in all fields of knowledge.
- Discuss engagement in its broadest scope, including democracy, equality and identity through the lens of humanities and the role of higher education in this process.
- Examine/consider the role and commitment of higher education systems in relation to the future of work, as well as its dignity and its quality.

Structure

The Report is structured around 9 topics that seek to encompass the different epistemological, social, cultural, political, educational, environmental and institutional issues that are currently being posed in relation to the need to change education and research in order to integrate fields of knowledge.

Each topic includes questions on major issues that the different authors have used as the basis for their contributions, always striving to adopt a reflective and propositional approach. Practical cases and examples of institutions, programmes, research studies and projects that work in a transdisciplinary and innovative manner are also added to illustrate the most theoretical sections.

The Report has two special chapters: one dedicated to the achievement of the SDGs and another that offers a regional perspective from Latin America and the Caribbean. Special contributions from the Union for the Mediterranean (UfM) and La Caixa Foundation are also included.

In total, 130 authors from 30 countries have participated in the report.

The Report is a key part of GUNi's activity, which in this regard encourages the dynamic involvement of a wide range of actors, fosters cooperation between them and promotes debate and the creation and exchange of knowledge on higher education worldwide.

The GUNi Secretariat would like to take this opportunity to thank everyone who was involved in the preparation and publication of this Report in any of its phases, and who have contributed ideas, suggestions and so much energy to ensure such a useful document for analysis, reflection and decision-making.

Editors' Introduction: Changes and Challenges that Require a Different Approach to the Relationship between Science, Technology and Humanities

David Bueno, Josep Casanovas, Marina Garcés, Josep M. Vilalta

Conceptual Framework

The humanities are made up of a heterogeneous set of knowledge that is combined in order to study and reflect on the human condition in social, cultural and artistic terms. Although their exact definition is complex, debatable and widely discussed, they commonly include, among others, philosophy, language, literature, history, human geography, cultural anthropology, law, politics, religion and all forms of the arts (visual, musical and performing). The belief in the West is that they originated in Classical Greece for the study of the nature of people and their position in nature and society, but they have been developed in one way or another by all human cultures and societies since antiquity, as a product of the reflexive and rational capacity of human beings and their need to understand and organise the environment in which they live. The humanities have therefore been one of the key definers of the human condition.

However, we sense a growing concern about the perception of the usefulness and need for the humanities in today's society, especially in higher education systems. This perception is conditioning their future and in recent times has sparked numerous debates, publications and reports in different countries of our cultural environment. The views on the matter are contradictory, as if there was an underlying conflict that goes beyond differences of interpretation. That is why GUNI has proposed this report, with a view to integrating all possible perspectives. Unlike other reports, however, we did not want to solely address the issue of the humanities in an endogamic manner from the humanities themselves, since we believe that such analyses would not help us to progress and would only leave us stuck in the same situation. We have expressly sought to reflect the humanities' dynamic and synergetic relationship with the other fields of knowledge, especially

science and technology, and also with a very special focus on human 'cultures', in the plural, deliberately avoiding views from centralism and cultural neo-colonialism. We believe this is the only way to gain a clear picture of the current tensions and future challenges. We believe such an analysis is necessary (or better said, indispensable) in a society that is increasingly more globalised and inter-, multi-, pluri- and trans-culturalised. Such an analysis will always be incomplete, given the immense cultural, social and, by extension, humanistic diversity, but it is nevertheless broad enough to put forward suitable proposals to help build a dignified and dignifying society from the field of higher education. The two keywords that best describe the goals of this report are diagnosis and proposal, within the aforesaid parameters of the interrelation with science and technology as elements that are also inseparable from the human condition, and avoiding the worldviews of cultural neo-colonialism. These aspects are reflected in the range of authors of this report, through their cultures and areas of expertise, while also observing gender parity.

We are aware that many of the problems that affect the humanities are not exclusive to these disciplines. Hence the need to integrate perspectives and combine our efforts and reflections in order to reappraise today's challenges in terms of research, teaching, the socialisation of knowledge and social commitment within the global university system. Our goal is for this integration of perspectives, with all the differences and discrepancies that that may imply, to be the distinguishing feature of this report, reflecting the cross-cutting nature of all the authors who have made it possible.

Concern for the current and future state of the humanities often leads to positions that shift between two extremes: the catastrophic and the protectionist views, which are often exaggerated by exclusivist positions

among certain members of academia. There are sectors of society that foresee the end of the humanities in the imminent future. Others are committed to preserving them in a protectionist way, but there are others that are working for their reappraisal and transformation. Protectionist and often nostalgic views tend to focus on defending and preserving the institutional and academic space and the epistemological division whereby the knowledge that we have traditionally considered to pertain to the humanities is considered separate from other fields of knowledge. The catastrophic vision, on the other hand, puts the focus on what is being lost and warns of its ethical, political, social and cultural consequences, which directly affect social development, including the perception of society itself, relationships with other societies and the natural environment, and even between its members and with its own self. So, the end of humanism and hence of critical spirit is directly associated to the loss of democratic quality or to a democracy under threat, and to a present in which a rise in authoritarian, dogmatic and even post-human tendencies has been detected.

This report seeks to go beyond protectionist nostalgia and catastrophism, and clearly advocates reappraisal and transformation. We see the humanities as a series of dynamic and constantly changing activities that are part of the dispute and the production of meaning in our time, in reciprocal permeability with all other fields of knowledge, including, and very especially, science and technology.

We are witnessing profound changes in the modern world with clear implications for the future. These changes are presenting transcendental challenges in terms of thinking and rethinking the meaning and value of human experience, and even of what it means to be human, as individuals and in relation to other people and with nature, now and in the future, and so we need to reflect critically and rationally, including from human emotionality. The humanities, together with the sciences and technological innovations, must necessarily play their part as both drivers and critics within the framework of these transformations. We are basically referring to three types of changes:

1. Those related with **environmental and climate issues**, which radically put into question our relationship with the environment, in a single and shared biosphere, and that therefore affect what we mean by 'life', including its development and even survival. The Western, scientific,

technological and humanist tradition, which was exported around the world during the European colonialist era, has traditionally tended to trace a very clear border between human beings and the rest of nature, based on the view that nature was 'created' for the use and enjoyment of people. The theocentrism of the Middle Ages produced anthropocentrism, but the human experience is actually closely linked to its surroundings and the reciprocal relations established therein, and this has since led to the emergence of ecocentrism. They are not the only cultural traditions to adopt that trend, but today's financial systems, not just capitalism but most especially liberalism and the neoliberalism, as well as state-based collectivist systems, have appropriated it and exported it practically all around the world.

However, the advances of recent decades in so many apparently diverse but all inter-linked fields, such as ecology, genetics, neuroscience, chemistry and physics, among others, and the growth of new philosophical and humanist schools of thought, especially but not only what are generically dubbed the 'environmental humanities', are producing a turning point in the conception of the relationship between people and nature. However, these new, heterogeneous conceptions are meeting major resistance from, on the one hand, social and cultural inertia due to customs and preconceptions and, on the other hand, the predominant political, economic and socio-cultural interests of the establishment. And also because of the biological imprint of the way the human brain works, which is more attentive to emotional inputs and responses than to rationality, making us more likely to make emotional rather than prudently calculated decisions, and which tend to be more grounded on individualistic or group immediacy and the pre-established actions of inherited customs than on long-term global reflection.

2. Those connected to the **scientific advances and technological developments** that are having such a fast-moving effect on our lives, especially but not only those raised by the implications of digital transformation and advances in biomedicine and healthcare. The first factor of change, the digital revolution, is and will be decisive in most aspects of our lives, in the short, medium and long term. Having now been assimilated as an indisputable and irreversible reality, this universal presence of highly interconnected data, processes and devices in constant feedback with each other, has only just begun and is already almost naturally ingrained in our younger generations. The repercussions in terms of

everyday operations, the way we communicate and our privacy, to mention only a few of the many factors that will all undoubtedly affect or possibly affect the very concept of human dignity and experience, are having an impact that is unpredictable at this moment in time. These issues require permanent debate, education and critical information and the adoption of measures to protect the people from the many derived threats, beyond the obvious benefits that can also be deduced.

Regarding the transformation or improvement of the living and survival conditions of human beings, partly also driven by the digital revolution, genomic research, personalised medicine and regenerative medicine, to cite just a few examples, there is need for a delicate and complex process of reflection on their scope, deployment and implications for ways of life, longevity, values, ethics and the definition of the very 'identity' of individuals, robots or cyborgs, with clear individual, social and planetary repercussions.

Finally, the connection of science and technology with the economy, and their implications for politics, the media, power mechanisms and the socialisation of knowledge itself and of new technologies, i.e. ultimately for human beings' capacity for self-determination, for democracy and for people's freedom, compels us to synergistically resituate other areas of knowledge, such as the social sciences and humanities, at the heart of discourse and decision-making.

3. Those associated with **cultural and social aspects of a global, postcolonial world**, which are highly interconnected but at the same time very fragmented and unequal. Humanism, as an ideological and cultural core of the humanities, is linked to the history of Eurocentric and patriarchal imperialism. Thus, the humanism that lies behind modern-day human sciences and political institutions is based on the way it is conceived by male, white, middle-class Europeans, and is imposed as hegemonic to every creed of human being, inside and outside of the geographic setting where it originated, and of which there have been many variants throughout the course of history in other geographic and cultural spheres. However, in recent years, academic thought has shifted towards a critical view of this hegemony, especially in countries linked to a colonial past, and this is something that we also wanted to reflect in this report. We offer a very rich and indispensable range of criticisms of humanism from the standpoints of gender, ethnicity, culture, politics, economic relations, and

more. The question that we need to ask today, however, needs to look beyond these essential positions: If humanism has become a kind of imperialism or has been exploited by imperialism, can this be stopped? And what would its 'being stopped' actually mean? Or do we have no choice but to rid ourselves completely of the whole humanist legacy as it has been conceived until now, as techno-capitalism has already started to do with its so-called 'fourth industrial revolution'?

However, we do not believe that the need for criticism of historic humanism and its universal models should erase our ability to associate ourselves with the shared background of human experience, which does not, in fact, date back to a single model. It is not a case of the Vitruvian Man or any other such abstraction, or of the cultural corpus of so-called dead white men. Human experience is our ability to share the fundamental experiences of life, which are transversal in all societies and cultures, such as death, love, friendship, commitment and collaboration and also individualism, fear, sense of dignity and justice, care, and so on. A propositional analysis like this must therefore be appraised and taken into account.

What paths do we have for exploring these proximities and developing the sense of human experience without projecting one model over another? More than being denied, humanism and European cultural legacy as a whole need to be put in their place, i.e. in one place among others in the common destiny of humanity. This also implies the need to explore each other's legacies. It is not a question of continuing with the idea of juxtaposing cultures that the multicultural model has already exhausted, as a way to neutralise diversity and its tensions and reciprocities. Instead, it is more a case of taking a receptive, attentive role, including not only cultural otherness but also the tension and antagonism between ways of life, within the shared framework of human rights.

These are not sectorial changes. They are major transformations that affect the very meaning of what we mean by 'human' in relation to society (or to societies) and the life of the planet as a whole. From these three clearly interrelated axes of change, we view the humanities not as a set of disciplines to preserve or conserve, but a set of utilitarian and applicable activities, which we must continue to cultivate through relevant research, with goals and models as necessary and appropriate for tackling new challenges. And this is in the good under-

standing that they are indispensable, for it is on them that the capacity to make sense and value out of human experience depends, especially in times of change, and this needs to be done in commitment to dignity, equality and the reciprocity of these values.

It is from this propositional approach, which is so attentive to our present and the challenges of the future, that we sought to engender diagnosis, debate and proposals that, far from conformism and catastrophism, or from nostalgic protectionism, addresses in terms of higher education the problems involved in the perception, transmission and application of current and medium-term research in the humanities. In producing this report, we have prioritised a problem-based approach over what might be deemed a thematic approach, because we believe that we can only move forward by addressing unresolved problems that we must take on board as shared problems. The main topics detailed below in this Introduction constitute a map of open-ended questions and problems on the basis of which we triggered the process of joint reflection that led to the production of the GUNi Report and that guided the organisation of its international conference and other work seminars. The fundamental aspects of the 7th GUNi Report *Humanities and Higher Education: Synergies between Science, Technology and Humanities* originated from open discussion of the following four core areas: epistemological, philosophical and cultural; political and economic; environmental and social, and educational and institutional.

1. Epistemological, Cultural and Philosophical Considerations

We are the heirs of a dualised and disciplined culture. Over the course of the last two centuries, probably driven by the particularities and specificities of the methods and objectives of scientific research and technological and humanistic development, we have split ‘scientific and technological’ activity apart from ‘humanistic’ activity, and we have organised education on the strict basis of this partition. For decades, several authors (C.P. Snow, I. Prigogine, I. Stengers, E.O. Wilson, F. Fernández Buey, etc.) have warned of the problems derived from this epistemological situation. Its effects are felt in all fields, as the humanities and the sciences tend to ignore (and

sometimes even reject) each other, and are consequently impoverished. If we want to make advances in an epistemology based on common problems and shared solutions in which all angles of human knowledge are involved, as opposed to disciplinary compartmentalisation, the first thing we need to address and discuss is the curricular and disciplinary organisation of our primary, secondary and higher education institutions. Different programmes for educational change are already under way, but they tend to focus more on didactic methodologies than on epistemological change, which is a more profound and hence also more complex affair. It is very hard to imagine an integrated university system, where problems are tackled from different practices and languages, if our starting point is a kind of education in which children’s familiarity with different types of language ends before the age of sixteen. When the general social perception is that the humanities ‘are of no use for anything’ or that the sciences are ‘too technical’ and ‘have no concern for society’s problems’, or that the arts imagined in their broad sense (visual, musical and performing) are ‘mere entertainment’, these are the symptoms of a division that neutralises every area of knowledge and produces highly restricted perspectives of their potential.

That is why we believe that treating the humanities in relation to science and technology means, first of all, imagining other configurations of the relationships between fields of knowledge. It is not a case of linking them as separate realities, but one of precisely questioning their strict Cartesian separation, and of working specifically to reverse the process from the foundations. This implies going beyond the paradigm of inter- and trans-disciplinarity. We believe that what we need to do today is not only to cross or join disciplines, but also redefine their separation. In other words, we must redraw the knowledge map, not to mix areas, but to allow and facilitate their indispensable synergies, and encourage them to flourish. Western culture has traditionally represented knowledge as a tree, with a trunk and different branches. We now have a set of branches that have difficulty meeting and speaking, or that simply do not know how to do so. What we need is a knowledge ecosystem where the connections between languages and knowledge, and between the questions and practices of knowledge, are living and dynamic, respectful and cooperative, without depending on new branches that only reach in a single direction.

This epistemological challenge, namely to turn academic disciplines into a living ecosystem of knowledge

without them losing their functional and research specificities, has many concrete implications, of which we have highlighted and presented for discussion the following: 1) Redefinition of the vision, mission and goals of the respective institutions; 2) Comparative work based on existing models or that are undergoing experimentation in different countries or sociocultural environments, and 3) Overcoming the obstacle of the specialisation and sectorisation of 'scientific-technological' and 'humanistic-artistic' languages in order to conceive collective, reciprocal work processes.

As regards the cultural sphere, the humanities have traditionally been associated to the typical cultural expressions and languages of Western societies. It is from this hegemony that the academic and cultural ways of the rest of the world are viewed, even including other Western languages and cultures that for reasons of history have not benefitted from state protection. Given the way things have gone over the last three centuries, what we call the humanities are actually strongly conditioned by the idea of 'national culture' (in the fields of literature, history, languages, and so on) and by the ethnicist view of 'other' cultures that came about in the colonial era, and even more so in postcolonial times, and which still exerts a strong influence today. The same goes for science and technology, for the branches that currently dominate research, funding and production in the global world are also derived from the scientific and technological revolution of Western modernity.

Thoughts about the challenges faced by the humanities in relation to science and technology should not perpetuate these cultural frameworks and their effects on identity or in social terms. A knowledge ecosystem for the 21st century must be produced and developed from respect, listening, equality and reciprocity between the different cultures of the world and from the different ways of life therein, in accordance with human rights. This implies two premises: 1) incorporation of the different views of what we mean by 'human' and the environment in which life is developed, and 2) assumption that cultures no longer live in isolation or at a distance from one another but are in constant interaction, hybridisation and transformation, but not always on equal terms.

From higher education systems, these premises have consequences that must be taken into account. First of all, we believe that academic institutions must not only report on these conditions but should also incorporate

them in their ways of learning, teaching, researching and transmitting a humanistic approach to our cultural, scientific and technical experience. This means going beyond the cataloguing of cultures that 'cultural studies' have somehow perpetuated, towards truly intercultural or transcultural approaches and aspiring to dialogue for change.

Finally, with regard to philosophy, what we call the humanities are not separable from humanism, as a philosophical way of understanding the world and our place in the universe. Indeed, humanism, both from its more scientific and from its humanistic and artistic angles, puts forward an anthropocentric idea of the human condition that is currently being questioned from many areas of knowledge and our present experience, which has led to the need to reappraise the definition of the humanities and, with that, perhaps also its goals and methods.

The current limits of humanism can be situated around four core matters: 1) the planetary condition of the main challenges of our time, which make us as part of a much bigger life story, with an ecocentric root; 2) the patriarchal model of humanism, which has neglected many ways of life, worldviews and non-patriarchal interrelations; 3) the religious background of humanism, which despite the shift towards secularity is still grounded on eminently Christian values, and 4) the evolution of science and technology from the sixteenth century to the present, which has changed our relationship with the universe, space, time, matter and other living beings, and even with reality itself and our perception of it, including diversity and its preservation as a fundamental right and necessity.

The humanities are nothing in themselves if we do not put their different activities and ways of teaching and learning in relation to the current limits of the humanist tradition and their future challenges. Right now, the strongest philosophical, aesthetic, technological and other schools of thought have made a stand either for or against humanism. Hence the debates on Trans-humanism, Post-humanism, Anti-humanism, and so on, which are not scholastic debates but rather positions that are establishing how a large part of scientific research, technological innovation and ways of organising life and work are going to happen in the immediate future.

Higher education must find ways to gather and trigger these discussions in the field of teaching and scientific research, beyond its circles of specialists. It is not just about having knowledge of them, but also of being able

to spark discussion on the ethical, social and political consequences of these issues in academic spheres, together with their legal, scientific, technical and economic implications.

From here many perspectives that until very recently were not taken into account are opened up. For instance, feminism and gender studies have now for decades been producing and contributing essential work for repairing the damage caused by humanistic patriarchy with regard to our ideas of the human condition and relationships between us. However, gender studies are often classed as one specialisation among many that do not affect our view on knowledge in general and the way it works. We believe that one of the challenges for the humanities, science and technology as a whole is to include the gender question outside of its specific realm, and even beyond the duality of what have traditionally been viewed as 'male' and 'female'.

On the other hand, the humanities in general and philosophy in particular must acquire the capacity and also the will to welcome the advances that science and its present methods can contribute, for example through knowledge of the way the brain works with regard to such topics as ethics, empathy, tribalism and others. Other technological issues such as robotics and artificial intelligence, or increased human capacities, condition and must be reflected in the future of philosophy and humanistic thinking.

2. Political and Economic Considerations

The political systems of each country, the legacy of their own traditions or born out of revolution, are a fundamental element when it comes to evaluating the state of the humanities in their education systems. To a large extent, laws on education and in the field of culture condition the day-to-day work of teachers, creators and researchers. It is not just a problem of public funding, but also one of orientation and goals, and of political priorities and institutional appraisal, which could range from curricular affairs to aspects of operations and promotion.

A fundamental question we need to ask is what kind of culture does each country want in the global context, on the understanding that the response and the way this is done will depend on social, political and economic development, and consequently also the individual

development of its members, including those related to other cultural, political and economic models, and with the natural environment. Thus, for example, during the formation of nation-states, to a large extent the humanities served a major role in forging their corresponding 'nations' (speaking a common language that was not necessarily shared initially, the establishment of a cultural corpus and of historical references that were not necessarily shared at first either, and so on), through, or by means of, a certain identity, which in many cases is still being promoted in our present era. In the struggle between democracy and dictatorships of the 20th century, to cite another example, the humanities also played a role in creating more democratic (critical, thoughtful and willing to enter dialogue) or otherwise more obedient (dogmatic) subjects. This role is also still very much apparent today. It was also evident in the tension between communism and capitalism, which was played out as a major cultural battle. And it is also the case with the current clash between the liberal and social economy, the unlimited spending of resources and sustainability, homogenising or integrating globalisation, and so on.

Right now, in political and economic terms (but in interaction with the environment, education, etc.), we are faced by a global scenario that in our opinion involves three major issues: 1) the birth or return of authoritarianism, in old and new forms; 2) the multifaceted and widespread nature of war, and 3) the climate emergency as a factor that is questioning the world's entire financial and production system. All this, moreover, is shrouded by the growing difficulty to distinguish between truthful and proven information (always with an element of subjectivity depending on who is transmitting this information, but that is nonetheless essentially verifiable) and 'fake news', which so quickly spreads across global social networks. What place and what role do the humanities have in relation to science and technology in this context? Some laws on education and culture only seem to attribute them a testimonial and apparently ever-more residual role. Others, however, treat the humanities as a corrector or firewall against the evil that is so irretrievably caused from other sectors and practices. In this report, we go beyond these two opposing extremes, for we are working from the idea that humanities are neither a residual heritage that needs to be protected, nor a drug or a remedy to counter the devastating effects of other areas of society. Quite the contrary, the humanities are part of making sense of

human existence and our shared experience and, therefore, of the political and social lives of contemporary societies, within them, between them and in their relationship with the natural environment.

That is why we need to ask where we should place the relationship between current political systems and their interest in or rejection of the humanities. What are the reasons for that? And how do they relate to the academic goals of scientific-technological progress? What do they depend on today? There is a certain preconceived idea that the most authoritarian regimes are the least interested in the humanities. But that is a misguided view. We need only think about Nazism, for example, and its use of culture to rebuild the Aryan identity and push its ideas about society. It is not so much a question of "humanities yes or no", but more of the way they are put into practice, how they are produced, developed and shared, and by which criteria and for what purposes. So, it is very important to assess the cultural and political perspectives, as well the institutional dynamics of the humanities or they could be used for highly elitist and non-democratic motives, which rather than facilitating dialogue and reflection promote credulity and submission.

One of the many aspects to be taken into account in the cultural development and advancement of societies is the socialisation of knowledge at all levels: humanistic, artistic, scientific and technological. It is not easy for the members of a society to have a say in equal rights or be able to make decisions that affect the whole, such as, for example, those related to reducing the impact of climate change or which have to do with ethical issues, such as the use of big data or the application of genetic biomedicine, if they do not understand the basic scientific and technological facts and their humanist connotations, or at least have access to the right kind of knowledge, to assess for themselves the implications and consequences. Most advances in all fields of humanistic and scientific knowledge happen within academic institutions or through people who are directly linked to them, in the same way that art tends to move in certain cultural circles and technological progress is the main driver of industry. In the former case, for example, scientific advances are also communicated via academia, which has very well-established rules to guarantee the originality and reliability of those advances, including the use of technical language that avoids ambiguities but is also unfamiliar to anyone who is not a specialist in that particular field. What is more, use of these communication channels has traditionally

been limited almost exclusively to the members of academia, given their highly technical nature and the fact they must be paid for.

We therefore consider that there are two very important processes of change that need to be taken into account, and that are addressed in this report. The first is the fundamental role, in our opinion, of scientific, humanistic, artistic and technological divulgation and dissemination. The word 'divulgation' comes from the Latin *divulgare*, literally meaning "deliver to the public" (being made up of the prefix *di* followed by *vulgāre*), and involves providing a certain order of knowledge to a broader audience, which implies that this must be done using the linguistic standards and basic knowledge of that audience. Divulgation therefore reduces the distance between academic knowledge made by and for academics and the kind of knowledge possessed by the general public, which for us implies the essential need to socialise the knowledge that the members of society need in order to become implicated in equal rights and be able to make the decisions that affect them. In other words, we perceive that the dissemination of knowledge and advances in humanities, arts, science and technology is a necessary activity not only for the socialisation of knowledge but also, or as a consequence thereof, to foster democratic mechanisms and the democratisation of collective decisions, by incorporating all of society, or all the members that by their own free will wish to play a part in decision-making processes with equal rights and responsibilities. For this same reason we also speak, as a synonym for divulgation, of the dissemination of knowledge, in analogical reference to the way seeds are disseminated to germinate and bear fruit. So we could also speak of 'intellectual pollination'. Indeed, many of the most influential and well-known texts of the humanities were published by their authors in a non-academic, informative manner. And in the case of scientific and technological dissemination, the means used necessarily require the involvement of the humanities in the widest possible sense, since they are based on reading, writing, speaking, audiovisual media and other such processes.

The second process of change that we feel should be highlighted is the method for academic communication of findings, which is shifting from a closed system that due to the high costs can almost only be accessed by the members of academia, to an Open Science model, whereby findings in any field of knowledge, including publications, data, software, and so forth, and their

dissemination are accessible at all levels of amateur or professional research, at no cost to the receiver. This therefore fosters transparent and accessible knowledge that is shared and developed through collaborative networks. Open Science can therefore be viewed as the socialisation and democratisation of traditional academic publications, and is a necessary process given the growing social demand for access to knowledge.

However, the consolidation of the social and cultural methods of knowledge dissemination and the Open Science model fundamentally depend on the political and economic priorities of each country in an otherwise globalised world, where laws on education, culture and the promotion of R&D can be highly influential. So, cultural policies that encourage the dissemination and transparency of knowledge and education laws that prioritise reflective and 'discussive' elements at all levels of education will tend to promote a greater say and democratisation among all members of that society.

Open Science is not, therefore, an option, but a necessity. As a practical or moral concept, the sharing of knowledge and instruments in order to benefit the progress of knowledge that forms part of humanity should be an 'obligation'. An important first change involves the extension of what we call Open Data. Although there are still obstacles and difficulties, progress is slowly being made in some areas of both public administration and the world of research, and it means taking on the commitment to make the huge amount of data that is generated available to everyone at all times. The aim is to share the data obtained or generated from any source, such as that produced in the fields of research or that is derived from different public administrations and agencies that gather information. This would be the case, for instance, with data on the weather, traffic, pollution, finance, health, sports, and so on, which may be generated by sensors, by what is becoming known such as the Internet of Things (IoT), or by our own mobile phones and data repositories when properly enabled and protected.

In addition to being a major contributor to the development of new studies based on real and proven data, this approach compels us to think in depth about concepts related to the privacy and security of data and its public and private use. This requires the deployment of regulations and a solid, disruptive (and also ethical and social) political stance. Although it may appear conceptually simple, the management of 'living' data is a major

technological and organisational challenge. The idea is for each repository of data on any given topic or experiment to be preserved and for the public to be able to access the most recent and enriched version together with successive contributions made by every new study, while safeguarding authorship and the traceability of versions over time. This is one of the main problems with Open Science. Data is hard to come by and costly in resources and time, and it is also hard to share, while the duplicity of transformed data generates much confusion.

Open Science therefore needs a firm and consistent political and social positioning. On the one hand, we must establish the ideological, operational and ethical standards for collaboration in and sharing of knowledge at the global level. We also need to think about how this is feasible in a society that has established mechanisms for the protection of intellectual and industrial property that carry considerable legal weight and where knowledge is such a fundamental strategic and economic factor for innovative companies and projects. In this context, the private sector tends to be highly reluctant to share its most strategic or profitable knowledge, which is why there has been so little progress in this area. Without large-scale involvement of humanistic thought in this major transformation, it will not be possible to lay the foundations any further than what public institutions, such as universities and research centres, are morally obligated to do at present.

Another example of integration is the Horizon 2020 (H2020) programme promoted by the European Union, which focuses on three core areas: 1) scientific excellence, not only in basic research but also in exchange projects; 2) business leadership of small, medium and large companies, with predominance of ICTs, and 3) the social challenges that are also linked directly to the humanities, which include, among others, health, demographic change, wellbeing, food safety and agricultural, marine, environmental and energy sustainability, and the promotion of reflective, inclusive and innovative societies.

In short, any approach to the humanities that relates to its social value and its transformative effects on the freedom and dignity of people everywhere on the planet, with all their conflicts and diversity, must be viewed as a political approach. From the perspective of interdependence, this approach also includes the relationship with non-human beings. Humanities help

us not to fall into the trap of 'solutionism', immediacy and technicality, and provide an idea of the roadmap, analytical density and various assessment criteria. This makes the humanities not only an arena for resistance but a common, critical and diverse front, from which to put into question and at the same time to work together to address the main political challenges of our time.

With regard to economic issues, in any debate or analysis of the humanities, the issue of funding is almost always a central one. Who should finance their transmission, development, availability, activities, resources, and so on? The public system for funding the humanities and culture has been developed in the most prosperous Western societies over the course of the last century through the public education system and a cultural system based on museums, libraries, academies, auditoriums and so forth, as well as through the promotion of the activities associated to them (publishing, artistic production, exhibitions, subsidies, etc.), although there are other ideologies of a more neoliberal nature, where it is felt that at least some cultural manifestations should be self-sustaining.

There are many questions to ask on this matter, all of them necessary, but also difficult to answer, if the aim is to recover the value of the humanities and research on humanistic matters for human experience, and also in relation to advances in science and technology. For example, when it is commonly said that the humanities are not profitable enough, what is really being said? What exactly is this referring to? For whom and in terms of what parameters of profitability? Are there other parameters? Are there other economic models for the promotion of the humanities? Indeed, there is a current of authors (among them the philosophers Martha Nussbaum and Nuccio Ordine) who have prioritised the defence of the non-profitable or useless nature of humanistic knowledge. However, how far can this duality between what is 'profitable' and what is not be maintained in mercantile terms? By comparison, how much science is profitable and in which of its aspects? This is also a highly controversial aspect in terms of the basic scientific research that is mainly done at public centres with public funding. Who should finance that? In many economic and political systems, science is very much funded through public resources, on the understanding that at least some aspects of that research may be applicable in the future. In other systems, much of the basic scientific research is funded through public or private foundations that are financially supported

by private donations. In all cases, however, in order to be granted funding, applicants are asked to reflect on possible future applications and also, and this is a very important aspect, on the socialisation of this knowledge, through dissemination, and how it might end up having a favourable affect in one way or another on social development. In the context of the humanities, do we therefore need to redefine the concept of 'profit'? Indeed, do the humanities compel us to reconsider the very concept of value? What economies and ways of life can sustain the humanistic activities that really do form part of our lives today and of the problems that we need to ponder and develop in a sustained manner?

Based on all this, we believe that considering the humanities 'unprofitable' means having a highly limited perspective of the bonds between universities and the socio-economic system that surrounds them and finances them, and reflects a Cartesian system that is excluding in the way that it classifies scientific-technological and humanistic aspects. If the humanities are to be part of the fabric of higher education and interact dynamically and synergistically with other fields of knowledge, the concept of profitability takes on a new dimension.

If these ideas stem from a negative assessment of the potential employability of humanities graduates, perhaps we should think about the kinds of jobs that will subsist (or appear as new) in the future, which will undoubtedly be very different to our present world. In a scenario where most mechanical or routine activities will be performed by organised consortia of smart machines and devices, with autonomous learning capacities and in constant activity, we might need to start thinking about 'other' types of work that will necessarily have to incorporate aspects that are more inherent to people and their feelings, thoughts and vital attitudes. The interdisciplinary component of potential workplaces will play a central role in the humanities, which will lend meaning and content to many new kinds of activities, both professional and those focused on culture and leisure, all of them necessary for a dignified and dignifying life.

The path ahead is long and difficult. If companies' success is only judged by their position in the market, their profits and their shareholders' dividends, without considering, or sufficiently considering, the plenitude of human life, this change in our perception of utility will be harder to achieve. Higher Education Institutions also have a role to play in debating all imaginable and

evaluable scenarios and the ways in which mentalities, indicators and social, labour and financial systems can be changed.

When job insecurity and low wages are common features not only of most 'countercultural' activities, but also of academic and institutional life, and not only in the field of humanities, what can we expect from our lives and work? What can they contribute and what can they give? What material and labour demands are related today with a better course for humanistic activities in general, and scientific and cultural ones too?

The change may perhaps be brought about by assuming different values, especially among young people, the drivers of change and transformation, beyond commercial success and entrepreneurship, for example, which have been so highly appraised over the last 30 or 40 years and which will have long-lasting effects. The low-cost model does not lead to more efficient and balanced societies, but rather quite the contrary. Nor does disregard for life in the fields and agricultural work, or the view of the countryside almost exclusively as a place of leisure, like a kind of theme park, or the overestimation of urban conurbations, which do not lead to more efficient and balanced societies either. If we think that many activities will be automated, and very much so, in the immediate future, it is obvious that the resulting jobs will have to incorporate other skills and abilities, and these include those linked to and driven by study of the humanities.

Universities, and particularly public universities, in many countries of the world are suffering from budgetary cuts and regulation by different international, national, regional and local administrations, often based on various profitability indicators such as those mentioned in previous paragraphs. This relative decrease in investment, which has been especially harsh over the last few years has, among other things, cheapened the academic careers of young teachers and research personnel, and led to more unstable jobs. At the same time, universities, which should be the ideological drivers of change and transformation, have often become highly conservative in their attitudes and mechanisms. They have not reacted properly and failed to envisage the urgent need for the permanent presence on their institutions and governing bodies of younger blood with a more creative outlook, who tirelessly question the establishment to which they are exposed and are continuously critical of their environment. There can be no

doubting that universities require such freshness if they are to be truly faithful to their mission to society. The excessively regulated, bureaucratic, hierarchical and result-focused vision of university institutions is becoming increasingly apparent.

So, in this Report we also want to reflect upon and make proposals about the added value of people with humanistic training supporting scientific and technological endeavours, both in academia and in the business world. And, reciprocally, the added value that scientists and technologists can contribute to humanistic development. As is recognised in the report *Work for a Brighter Future*, published in 2019 by the International Labour Organization the main jobs that will exist in two decades from now do not even exist yet, and some of the skills that will be most in demand are related to the humanities, communication, relations and critical thinking.

3. Social and Environmental Considerations

The way in which the humanities are taught, shared and disseminated has much to do with the cultural idiosyncrasy of each society, including religious factors, with their history and with the relationships they establish and have established with other peoples, with their types of economy, with the environmental needs around them, and also with any possible social and gender inequalities, both locally and globally. Access to culture or cultures in general has always been a factor of social exclusion or inclusion and of the way societies are shaped, including the relationships between their members (equality, hierarchy, exclusion in certain areas, and so on). But beyond this, the different relationships that can be established when it comes to critical tools and individual and collective autonomy are the main elements that contribute to a fairer and more egalitarian society. We are in a world and in societies where inequalities have always existed on every level, meaning sociocultural, economic, gender inequalities, and so forth.

Studies on sociology, cultural anthropology and family relationships carried out in various human groups to analyse migration and migration paths, as well as mobility among families due to marriage, indicate that social and gender differences substantially increased from the Palaeolithic to the Neolithic Ages, due to ownership of land and all it contained. This process also included

people as property, as in slavery, feudal societies and even patriarchy over women, which have featured in many cultures throughout history. Although some of these inequalities have gradually been quelled, as in the case of the abolition of slavery, the path towards gender equality and different family units, universal education and healthcare and so on, the fact is that there is still major variability between cultures and different political and social systems, and this has become especially apparent in terms of access to information and globalisation. However, such globalisation fosters other types of inequalities, not only between people in the same territory but also between territories, which can lead to neo-colonial situations. And given how easily it can be distributed, information (which can also generate 'fake news') can also help to boost or hinder the processes of achieving equalities.

Despite all this, or perhaps due to all this, there is also the perception of new and growing inequalities, such as new and old forms of illiteracy (humanistic illiteracy, scientific illiteracy, technological illiteracy, digital illiteracy), which can increase the social vulnerability of certain schoolchildren. Likewise, the mobility of global populations, through massive and rapid migrations, and which is often the result of those inequalities, but which far from solving them instead often increases them, often makes this situation even more linguistically, culturally, socially, politically and legally complex. If the humanities are about the way we shape and make sense of the human experience in terms of dignity, both individually and most especially in a collective sense, then it is essential for them to include an assessment of the current conditions for equality.

In this regard, it is important and urgent to analyse examples of the contributions of the humanities to equality in different cultural, social and political contexts, and their implementation in higher education, which will help to generate environmental conditions that are more prone towards equality, and that help to reduce these new forms of illiteracy and their impact on people's vulnerability. There is also a need for the humanities to analyse the very concept of 'equality', to prevent it from becoming contradictory to our commitment to diversity and reciprocity between cultures and ways of life. We also need to analyse the extent to which technology, and especially communications, can help ensure that this concept of equality does not contradict diversity or reciprocity, and make sure that it does not work in the opposite direction through, for example,

fake news. Similarly, knowledge of the scientific method as a means to acquire knowledge, which by definition excludes the concept of authority whereby one discovery or theory prevails over any others that might be contradictory, can help us on the path towards human equality and dignity, while maintaining diversity and reciprocity between cultures and ways of life.

A specific aspect is that of environmental sustainability as a source of inequalities and as a path towards dignified living. In the eighteenth century, the Industrial Revolution significantly altered the relationship between people and nature, and is viewed as the beginning of a new geological age called the Anthropocene (derived from the Greek *anthropos*, man, and *kainos*, new or recent). It is not, however, a clear threshold, since the human species has been meddling with nature since antiquity, from the Neolithic Revolution, about 10,000 years ago, and which brought about a radical change in the relationship between humans and the rest of the environment, and the beginning of an increasingly clearer contrast between what is considered natural and artificial. With the beginning of agriculture and livestock rearing in the Neolithic, the human species began to drift away from its atavistic relationships with the ecosystems of which it was a part. We ceased to be hunters and gatherers, and abandoned a way of life that had been maintained since the beginning of our existence, about 200,000 years ago as *Homo sapiens*, or more than 2 million years ago as the earliest hominids that evolved into *Homo habilis*, the ancestor of today's humans.

The Neolithic Revolution was also the start of an ever more sedentary lifestyle, one of the consequences of the major technological and cultural developments that gradually led to the Industrial Revolution and the Anthropocene, which is not a geologic period in the strictest sense (unlike the Eocene or the Pleistocene) but has borrowed the naming structure. Instead, it refers to an era when human activity has started to have massive effects worldwide. In the eighteenth century, the beginning of the Industrial Revolution coincided with what is considered the birth of Western modern philosophy through René Descartes, who proposed the problem of the validity of knowledge as the primary philosophical question and went on to be one of the key figures of the scientific revolution. His way of thinking was also the beginning of the scientific method, and also of the *Cartesian* separation between science and the humanities.

But the schism between nature and humanity dates further back to the philosophical and theological discussions that considered mankind to be superior to the rest of nature, as in Platonic and Augustinian philosophy, to mention just two influential Western traditions. In any case, there was a clear distinction between people and nature, which also generated significant differences in different cultural domains, such as between the West, East and so-called indigenous peoples, with regard to the relationship between humans and nature, and to humankind's position in the world.

Advances in various scientific disciplines such as ecology, genetics, neuroscience, chemistry and physics, among others, and new philosophical and humanistic ideas from what are generically known as environmental humanities, were a turning point in our conception of the relationship between people and nature, albeit against strong resistance from the prevailing political, economic and socio-cultural preconceptions and interests. Environmental humanities are an interdisciplinary area of research and reflection that addresses contemporary environmental challenges in a historical, philosophical, cultural and social manner, including scientific and technological aspects, challenges and inputs. It involves dynamically integrating the sources and development of environmental challenges, the most significant of which is climate change derived from global warming and waste accumulation, which has crucial social, financial and political repercussions, for example with regard to the availability of such basic resources as drinking water and food, and the increase in extreme weather events such as catastrophic floods and droughts. This is together, of course, with the different philosophical views derived from the different cultures all around the Earth.

In this context, the environmental humanities are characterised by a connectivity ontology based on the need to integrate human development into ecosystems. Or, put another way, to adopt ecological, economic and social sustainability as a paradigm for development, which implies treating humanity as part of a much larger vital system, the biosphere. Such a system was proposed in 1969 by James Lovelock (although he did not publish his work until 1979) as the Gaia Hypothesis, which postulates that climate, life and the geological substrate act together in such a dynamic, interactive manner that they self-regulate and create balance. According to this hypothesis, the Earth is a complex organism made up of the biosphere, the oceans,

the atmosphere and the geological substrate, which together form a cybernetic retroactive system through which the conditions for life are relatively constant via the control exerted by its own elements. Put another way, Gaia is a homeostatic system that tends to maintain its internal balance and stability.

It is not the only case in which a scientific advance has opened up a new field in humanistic research. One of the most paradigmatic was the publication of the theory of evolution by means of natural selection by Charles Darwin (*The Origin of the Species*, 1859), which was followed by another influential text for both the sciences and the humanities: *The Descent of Man* (1871).

The Gaia Hypothesis, which includes humans and all their activities as part of the homeostatic system and has profound humanistic implications, is based on several scientific principles, such as thermodynamics and the theory of complex systems, which are theoretically grounded in physics, chemistry and theories of information and ecology, among others. Although many of the postulates of the Gaia Hypothesis have been demonstrated empirically, many are deemed improvable by the scientific method, which is why it still called a Hypothesis and not a Theory (according to the current formulation of the scientific method, a 'hypothesis' is an acceptable proposal made by collecting information and data, and although not fully confirmed, serves as a tentative response to a science-based question, while a 'theory' is a model of reality used to rationalise, explain and predict phenomena, which needs to be verified by experimentation or observation).

Nonetheless, the integrated and interdependent vision that the Gaia Hypothesis offers for life, nature and humanity encompasses not only the various fields of science but also the humanities, which restores the humanities as an inseparable part, now and in the future, of human progress. For example, research in ecology has demonstrated the existence of many phenomena of symbiosis, a type of ecological relationship whereby organisms of different species collaborate for mutual benefit, and without which life on Earth as we know it would not be possible. In fact, in evolutionary terms, the first bacterial communities that existed more than 3,800 million years ago quickly grouped into small symbiotic ecosystems, known as stromatolites. The parallels with human societies and cultures are evident, and emphasise the need to use and foster the synergies between different branches of scientific and humanis-

tic knowledge, between different human cultures, and also between human activity and the rest of nature, as proposed by authors such as Edward Wilson, one of the founders of sociobiology. In fact, because of its humanistic implications the Gaia Hypothesis has also been worked on from philosophy by the likes of Pierre Teilhard de Chardin, Thomas Berry, Alan Marshall, Tony Bondhus, Edward Goldsmith, and others.

A derivative of this is the growing phenomenon of Smart Cities. Defined as cities equipped with mechanisms based on the technologies of the information and communication society, these are focused on improving both the management of different services and the quality of life of their inhabitants. They are not solely based on the construction and management of physical and digital infrastructures, but also on the availability and quality of communication of knowledge and social infrastructure, i.e. their intellectual, social and cultural capital. The competitiveness of Smart Cities therefore also depends on the sustainable and socially acceptable implementation of information and communication technologies, and on social and environmental capital. Sustainability and inclusiveness are fundamental components of this worldview, as is the need for the people to co-participate in decision-making. So, the necessary relation with the humanities is evident and direct, at the same time that the term Smart City is being used as a commercial slogan.

In parallel with advances in ecology, chemistry and physics, genetic research has demonstrated the single origin of life on Earth, and therefore the existence of an undeniable biological kinship among all living things, from bacteria to humans, who are all members of the same interrelated vital community. It has also been shown that what is known in evolution as the 'tree of life', which usually places the simplest organisms at the bottom and the most complex ones at the top, with humans at the highest point of all, is actually inaccurate. Despite the existence of an evolutionary relationship between all current and extinct living beings, genetic research indicates that there is no directionality in evolution, which places humanity on the same biological level as all other living beings with which we share our planet. This is a solid argument for environmental humanities, and raises important philosophical questions not only on our relationship with the rest of nature but also on humankind itself.

However, the absence of evolutionary directionality does not mean that mankind has found a new ecological niche, namely culture (in ecology, an 'ecological niche' is the place that a species occupies within the ecosystem, or, in other words, it is the function that a species performs within its ecosystem, and which is defined by such aspects as behaviour, the nutrients it consumes and where it gets them from, the effects it has on other species, and so on, and is the result of its evolutionary adaptation to the environment in which it lives). This ecological niche, in which the development and transmission of humanities, science and technology are deemed typically and exclusively human activities, arises from the ability to reason, deduce and analyse that is generated by a very specific organ, the brain. Advances in neuroscience have shown that the most distinctive and apparently exclusive characteristic of the human brain with respect that of any other organism, and despite humans having evolved out of ancestral primates, which came from other ancestral mammals and those, in turn, from the lineage of vertebrates, is the existence of neural circuits, located in the so-called frontal lobes, that are involved in the ability to visualise and plan alternative futures, to reason reflectively on the pros and cons of each of these futures, to make decisions that take this reasoning into account beyond any primary biological impulses, and to adapt individual behaviour in the right way to achieve the desired goal (what is called "control of the executive functions").

The ability to adapt behaviour to a desired goal or future very importantly includes inhibition against impulsive behaviours, which are produced as a result of emotional and previous learning experiences that condition behaviour in a reflexive, subconscious way. In terms of cerebral activity, emotions are preconceived behavioural patterns that are automatically triggered in any situation that requires an immediate response, since pondered responses are much slower and consume many more mental resources. This implies that we are not aware when emotions are generated (such as fear, anger, sadness, disgust, joy or surprise), but once they have been generated we do become aware of them and they can be redirected through the emotional control that is part of our executive functions. Emotions are, in evolutionary terms, crucial for individual survival, since they permit quick responses in situations that require them. The study of emotions and their role in human life has also been widely analysed by the humanities and art. In fact, art appeals directly to human emotions.

And as for philosophy, the subject of emotions appears in the work of many philosophers, both from Western tradition, such as Plato, Descartes, Pascal, Hobbes, Spinoza, Shaftesbury, Hutcheson, Hume, Kant, Brentano, Husserl, Scheler, Stein, Heidegger and Sartre, among many others, and also from eastern tradition. In the fourth century BC, for example, the first Chinese philosophers were distinguishing between the mind (*xin*), biological human nature (*xing*) and emotions (*qing*) to explain the origin of morality and knowledge. And the subject of emotions and emotional management is central to the Buddhist and Confucian traditions. In other words, research in neuroscience and philosophy are clear examples of the synergies that can and must be established between the humanities and science.

Research in neuroscience has also shown that, although areas of preferential activity can be identified in the brain that manage certain types of task, it functions as an integrated whole, synergistically using all the sensory data it receives together with its previous experiences, emotional responses and the capacity for reflection and reasoning. Some activities that were believed to be typical of adult brains and that needed to be specifically learned, such as the use of the scientific method and philosophical reasoning, have been shown to be consubstantial to the human species, and are used instinctively from childhood as part of the 'basic software' of being human beings. For example, 12-month-old babies have been shown, before they have learned to speak, to routinely use both disjunctive syllogisms and the scientific method (observation, deduction, experimentation, analysis, new deduction, and start over again) to relate to the environment and extract information that they find valid and can hence transform into knowledge. Going back to the Anthropocene and current environmental challenges, where is this taking us? Although Gaia tends to maintain the homeostasis of the Earth, the accumulation of waste, over-exploitation of resources and the need to produce huge amounts of energy are pushing the planet to the limits of its own capacity for recovery and regeneration. Although there is debate about where this is ultimately heading, due to the lack of scientific data with which to compare the situation, and despite the existence of pressure groups who seek to minimise or deny the effects of climatic change by confusing them with oscillating weather conditions, alterations to biogeochemical cycles are threatening to increase social and territorial inequalities, cause more extreme weather phenomena, such as prolonged droughts and

floods and other catastrophic meteorological events, and as a result raise the number and virulence of regional and global conflicts.

Scientific research must open new avenues for understanding these phenomena and offer new possibilities for managing human needs, based on its methods. Humanities, in turn, should enable and facilitate intercultural, intersocial and interterritorial dialogue, reasoned assessment of needs and the establishment of shared and achievable sustainability goals both locally and globally, which also affects the ethical aspects of the integration of human life in its environment. And technological development must feed on scientific and humanistic contributions in order to streamline the transition towards sustainable development. Everything must come together in a political, social and cultural climate that encourages the integrated functioning of human brains (i.e. people), in a sufficiently settled environment in which they can make the most appropriate and meditated individual and collective decisions. And once these decisions have been made, they must have sufficient room to adapt both individual and collective behaviour to make them possible, in a multicultural, multisocial and multiterritorial environment that is respectful of different perceptions and sensibilities, and making use of the elements that are best suited for the common good. One of the goals of this report is therefore to offer a platform for meeting and discussion between the humanities, sciences and technology so that they can contribute synergistically to the environmental challenges that human activity itself has generated in every one of its senses.

In many cultures, human beings have viewed themselves as the centre of the world and of creation, different from the rest, with the right to use and exploit the rest of nature without having to render account. In modern times, we do the same as re-creators. However, the environmental challenges require a reappraisal of the situation, given what our legacy means for future generations, for human well-being and dignity, and for life as a whole. This also means non-human intelligence. In other words, the meaning and value of humanity must be resituated, in order to integrate human life, in a balanced way, in the life of the planet as a whole. And these are issues that go further than scientific research and technological applications and are instead fully part of the field of humanities.

4. Educational and Institutional Considerations

In general, education systems in much of the modern world, especially in secondary school and higher education, have a globalised tendency to prioritise the resolute, adaptive, and competitive aspects of learning, with a growing vocational focus. This has even affected the way we work in humanities departments, adapting all knowledge and research activities to goals, methodologies and (currently digital) instruments that are often based on criteria alien to the activity's own needs. The problem-solving and critical questioning involved in humanistic activity, which seek to trigger the critical, evaluative and creative dimensions of the relationships between what we do, what we learn and what we know, are side-lined from education at too young an age.

In a relatively similar fashion, there is often a tendency in science to try to explain scientific knowledge and theories in a finalistic manner, to solve specific problems rather than employ dynamic processes involving the gradual and critical extension of knowledge, which is often obtained *per se*. And these require the application of the scientific method in some of its forms, such as experimental or the hypothetical-deductive, and of reflection, also as procedures to predict and prevent problems.

On an educational level, all learning, whether of concepts (regardless of whether these are humanistic, scientific or technological), of skills (procedural learning) or attitudes (inclusiveness, respect, critical and reflective assessment situations, dialogue-seeking to resolve conflicts, empowerment of one's own life history, etc.), is stored as memories in the brain in the form of patterns of neural connections. The brain is the organ of thought, and its activity produces mental functions and psychic faculties. Learning fuels the brain, and this conditions a person's self-image and their view of their environment, and the way they relate to it. In other words, education is the key to the future of people and societies, as the great theorists of modern pedagogy have been emphasising for decades, with specific proposals of great didactic value that promote, above all, the personal growth of students from shared, cross-cutting and dynamic experience, getting them socially implicated in a context that enriches human dignity. An education that synergistically and harmonically integrates the humanities and science through

thought, reasoning and emotions will help to generate more plural and pensive human minds.

The more neural connections a person's brain has, the richer their mental life. But that is only half of the brain-building process through education. The other half is about the areas of the brain that are prioritised when establishing new connections. An education system that prioritises the management of otherwise inevitable uncertainty and changes to the environment through fear and, by extension, credulity, is not the same as one that does so via transformative curiosity. The former, taken to the extreme, tends to generate fearful people who will shy from change, and thus be more easily manipulated by demagoguery and populism. The latter, also taken to the extreme, will lead to people with a proactive attitude who are willing to thoughtfully explore new ideas and transform themselves and their surroundings should they deem it appropriate.

These differences arise from the way knowledge is transmitted, and how it interacts with other knowledge. To put it bluntly, primary, secondary and higher education that integrates humanistic, artistic, scientific and technological knowledge in a dynamic way, not by blending them all into one but by using them all, each with their epistemological particularities, to address different issues from all possible angles, will help to build people with a greater mental capacity to integrate, value and reflect on any situation. In other words, it will make for individuals with a greater capacity to contemplate and appreciate situations by themselves based on the data around them, and become involved in the search for solutions and to commit themselves to making them happen, both individually and collectively. Primary and secondary education conducted under these conditions necessarily means the same notion should be carried across to higher education, with the incorporation of humanistic aspects in the study of science and technology and vice versa, in order to maintain and enhance this 'wide-angle' lens, but without neglecting the opportunity to 'zoom in' on any required specialisation in any particular field of study.

If education stops teaching students to think and evaluate what we do and what we know by themselves and with others, and focuses only on the zoom without a wide angle view, it is no longer education and instead becomes schooling, programming or indoctrination. We should bear in mind that the word 'education' comes from the Latin *educō*, which is formed by the prefix *ex-*

(out of, far from, in each part of, in awareness of), and *duco* (driven, guided). So, the debate on the humanities should not be about how many hours or how many departments are needed in humanistic fields, but about ways to promote a certain attitude to knowledge (or knowledges) from the very start of the education system that includes all forms of learning and allows bridges and mutually enriching relationships to be built between science, technology and the humanities.

One of the key questions we need to ask is what curricula favour this dimension of learning and how education methodologies should be focused in order to promote cross-cutting knowledge and growth. Curricula tend to focus on *what* we need to learn (the content), and at best make only a few suggestions as to *how* it should be learned (the methodology). Indeed, *what* needs to be learned is one of the most segmented aspects of academic disciplines, and there are often very few interrelations between them (especially between science and humanities). So, another key question to ask is how the *why* can be included in curricula, i.e. *why* we should learn certain things (the *what* or the content) and *why* this has to be done in a certain way (the *how* or the methodology), given that it is precisely the *why* that is always cross-cutting and lends meaning to everything else.

Taken to specific and possibly more tangible cases, and to cite an example from that of Europe, it is essential to reflect on the effects of the deployment of the European Higher Education Area on these education conditions; on the limitations faced by teachers and students when it comes to finding an interrogative, critical and evaluative approach to what they do; on ways to assess elements that do not apparently fit easily into current indicators of education, such as intuition, peripheral thinking, cooperative problem-solving and so on, and on what effects the rankings have on the humanities. Throughout this analysis, and something that justifies the imperative need for it, there is another crucial aspect that needs to be taken into account: complex situations only find sufficiently satisfactory and efficient answers from plurality and diversity, through wide-angle analysis from which we can zoom in on the most important points, and interrelate them.

At the institutional level, there is a general feeling of the regression or residualisation of humanities departments at many universities and higher education centres around the world, as well as humanistic approaches in other areas, which are viewed as accessories or optional.

The extent to which this is the case in different countries and contexts needs to be examined, along with the consequences and also experiences that have worked in the opposite direction, like some of those included in this Report. In many countries, a shift or transfer of humanistic activities has been observed. While the humanities are leaving universities, they are spreading into other types of cultural entity or institution. Similarly, there is also an excessive mood of mercantilist technical professionalisation in the scientific and technological departments of many universities and higher education centres, which put limits on a more global vision.

One of the issues to be resolved is the assessment of multi/inter/trans-disciplinary research. In terms of academic and research policies, this kind of research is held in increasingly higher esteem at the conceptual level. Indeed, mankind's greatest advances, in any area, usually happen in the borderlands between disciplines, where the weaknesses of one become the strengths of the other, and vice versa. However, in order to apply for funding, stand for academic positions or even to justify the curriculum, the system is cordoned off into impermeable areas of knowledge that work in the opposite direction, i.e. they clearly foster monothematic specialisation above transversality. Hence the long-standing but growing tendency in the scientific and technological university world to take refuge in the 'business' of publications and research focused on success in journals and 'competitive' assessments, while paying little heed to the potential transferability of 'research' or the need to socialise knowledge. However, and perhaps to compensate for this, the competitive funding of research, for example in the specific scope of the European Union and in several other countries, has, for some years now, included a section on the potential transfer of knowledge, where any intended actions in this regard should be noted. This requirement has led all public research centres and universities to create or expand communication offices, in order to contribute to this goal. However, these tend to be highly inward-looking, and lack the required multi/inter/trans-disciplinarity. We hence believe that we need to take another look at the interrelationship between disciplines, and this matter is also analysed in this Report.

By what processes are these displacements occurring and what are the consequences? The University, as an institution, has not only chosen to prioritise certain areas of knowledge, but more importantly certain procedures, objectives and standards for the assessment

and profitability of academic activity that are often unsuited to humanistic activities, which tend to encourage specialisation activities in very specific and limited areas. What are universities winning and losing by this move? On the one hand, by acting like this, universities are pandering to the dominant discourse and the increasingly widespread perception that the public sector in general needs to be changed into a merely neutral provider of quality services to society. This is the very worst case scenario for humanistic studies.

This view, manifested in a wide variety of ways depending on each social and cultural situation and each country's policies on universities, places the concept of the "citizen that must be provided with services", and which must be as personalised as possible, right at the centre. In this process, which in our view is still happens far too incipiently, the people also must also be made to feel they are able to control and audit the way the resources that they finance with their own taxes are used. In addition, some lobbies are trying to weaken or diminish that public sector, either because they have so little confidence in its efficacy, efficiency and transparency (often justifiably) or for more short-term interests, such as prioritising certain budget items over others or transferring them to the private or mixed sector, to the benefit of the corporations they represent. This legitimate need for control drives the creation of protocols and legislation to guarantee that the procedures, expenditure and results of institutions and administrations are monitored. The increase in controls and guarantees, and the inherent difficulty of managing such a highly digitised public sector, is a challenge for administration as a whole and, in particular, universities.

An example of this perspective of change in the relations between the administration and the people is the implementation of new models and concepts for life in cities and metropolitan areas, where the most rapidly-changing concentrations of the population are located. In Smart City or Smart Metropolitan Area terms, the people are active agents of the processes of urban and social change that will supposedly lead us towards a fairer, more sustainable and more caring society. Guided by such events as those derived from United Nations 2030 Agenda, cities are building a discourse that prioritises such issues as equity, circular economics, sustainability, the environment, health, mobility and governance, among many others. Where do universities stand in this new order?

When we project this phenomenon (and many other changes, such as the new digital skills of young students and their methods for socialisation) onto university, we find that they are affected in a variety of ways. On the one hand, as a public organisation (or private, but nonetheless projected at the public), it is subject to mechanisms for the control of procedures, results and, in the public case, costs, like any other administrations and services. This implies a certain level of often bureaucratic administrative control that clashes with the academic way of doing things, where there is generally less concern about criteria of economic efficacy and efficiency. It is the scientific quality or level of what is done for society that matters most and, unfortunately a lower status is attributed to the provision of adequate, modern teaching that is connected to the needs of society and the labour market.

So, in the adaptation and connection of academic activity, especially teaching, with the specific and often circumstantial demands of the socio-economic and industrial fabric, the situation is still very difficult, and also very unclear, in many university contexts beyond the quest for the very survival of academia as an institution. Is it the socio-economic fabric that should be dictating academic activity? Where does the need for university autonomy stand here? Is it possible to satisfy all the different stakeholders: the financial, political and social, students and academics?

Along with this, there is the pressure to specialise and to forge professional profiles that are in keeping with the specific demands of the economy at any given time. A paradigmatic case is the need for computer experts with in-depth knowledge of certain tools or products that are mainly implanted in the market. These computer packages and services often have a relatively fleeting lifespan in comparison to the working careers of professionals in the sector. This phenomenon of ultra-specialisation resonates with the tendency for science and technology to head in the same direction. The movement to promote multidisciplinary has only just begun, but trans-inter-multidisciplinary activity is still too heavily penalised in the academic context, and especially the mechanisms for funding research and in the relentless universe (and business) of publications.

Education centres are responding in a variety of different ways. Some simply react by inertia or mimicry, depending on the setting and what leading education institutions are doing in their respective fields. Others

respond with the utmost immediacy, for example by creating degree courses that are very tightly bound to the needs of the labour market.

We also need to differentiate between universities in terms of their history and origin. 'Historic' universities tend to offer a wide variety of degrees in all areas of knowledge, as part of their traditional mission to teach people who, over the years or centuries, are required by a certain society. The globalisation of supply and demand, and the internationalisation and appearance of new 'markets', are gradually changing their ecosystem. They still try to meet what they believe to be their commitments, regardless of financial context and the returns, and look to balance human and economic resources in order to satisfy 'all' academic needs, as perceived by the institution itself. This means keeping and/or finding staff and degrees that are difficult to sustain in the medium term.

Meanwhile other universities, which are often privately owned, focus their portfolio of degrees on the direct needs of the market and also, let's face it, concentrate on those professions that they consider strategic, be that socially, politically or to create nuclei of power and influence. By way of example, we find universities that concentrate on or prioritise such strategic areas as law, economics, business and health sciences. This brings them closer to present and future decision-making hubs and, ultimately, to empowerment and consolidation of their influence (a possible mission of the institution itself) and to hypothetical financial returns in the future.

We cannot ignore how certain currents have been bulldozing the image of universities as the original, sole and essential source of new knowledge. There are several questions that we need to ask here. What should we make of the boom in 'business universities', especially with regard to lifelong learning? How can the mechanisms for accrediting and acknowledging skills and knowledge (which are conveniently guaranteed via blockchain procedures) be coordinated with the demand for professionals and their remuneration? How can we integrate the research done in large companies within the 'open' panorama heralded by universities? And how can we quantify and evaluate, in a guaranteed and secure manner, the effect in the present and in the immediate future of quality virtual learning that is now so widely available to different layers of the population? We are no longer merely speaking of remote or open universities, but also of the huge amount of materials

and structures that are more or less spontaneous or even supported by major universities, that can be found nowadays on the internet (Coursera, Udemy, and so on, and in such an uncontrolled and uncontrollable fashion on such social platforms as YouTube).

This reality clashes with the lives of institutions that often stand out for their contributions to knowledge and research, but are struggling to subsist and to attract the best academics and researchers and the best students. How are these institutions to remain preeminent due to having the best experts and professionals, who can only be recruited and conserved if they are provided the means to do their research projects in a reasonable, long-term manner and with the right social and emotional returns and the knowledge that they are supporting human progress? We believe that one possible answer might be based on the ability to maintain and strengthen stable, well-structured, well-funded and well-governed, multidisciplinary and multi-institutional teams that integrate different fields of knowledge and, as a result, provide a response that is better oriented towards the need to understand and improve the complex systems that make up the world today. One such alternative is being consolidated, and it revolves around a new model of self-styled 'popular' or 'free' universities that are trying to provide an answer to some of the challenges and shifts that we have been mentioning in this introduction. However, without going into their social relevance and connection with new proposals and visions, to what extent are they or can they be ratified as academic universities?

Another key question for higher education in relation to the humanities, science and technology is where all of this is going to take us and who will ultimately benefit from it? Thinking in general, much of what 'comes out' of universities has no specific projection (so it does not really 'come out' at all) basically because the actual research is not based on society's direct needs but on the intellectual intents and interests of researchers and research groups. However, there are different models that depend on corporate involvement in university research and others for governing the obtainment of economic resources. Another considerable amount of university results is channelled through instruments that are perpetually being changed and adapted, such as framework programmes or national research programmes, which depend on political management by each country or each conglomerate of countries, such as the European Union and its Framework Programmes,

which are increasingly dependent on national programmes and whose intentions are well-meaning: to foster collaboration between states in terms of research and development. Unfortunately, however, the system supposedly driving their leadership has mutated into becoming the fundamental mechanism for the survival of research groups and other related institutions.

In the specific example of the European Union, the latest trend in Horizon 2020 programmes and the future Horizon Europe entails an incessant increase in the weight of (large) companies in the constitution and credibility of consortiums and in the distribution of resources as opposed to university groups, and it is easier for more flexibly structured private organisations to justify such expenditure than it is for more compartmentalised and hard-to-govern university system. Within this framework, the humanities are at risk of being marginalised.

Finally, we should consider the question of the relationship between the humanities and the circuit of cultural industries. It still seems evident that the world of humanities is unclear about how its academic, teaching and research work forms an integral part of the value chain in the future employment world and, in particular, of the promising changes to the cultural industry. It is shocking to see people question the connection between academic activity and the 'financial world', beyond the personal brilliance of scholars in different subjects. We need to stop viewing society as something to be instructed, driven or indoctrinated and instead see it as an integral part of the cycle of knowledge creation and the training of people and, in particular, citizens.

Of the many reflections that we could make on this subject, it is clear that, in the world of the immediate future, employment will gradually become scarcer and human beings will have to fill their time with other activities that generate another type of compensation and positive feelings. Industry linked to culture (and we are not just talking about the supply of cultural content, but also the whole industry that supports it by creating physical, digital and virtual infrastructures) and industry dedicated to the identification of interests, to the generation of expectations, to media management, to management of the business model, and so forth, will be the bulk of the work done by humans. The weight of the digital, virtual, augmented reality and other such worlds will also be very important and hence the need for universities to train new people who are able to recognise and integrate the different universes involved.

The establishment of permeability mechanisms between the universe of the humanities and the people, wherever they are, from whatever starting point, will bear increasingly more important value and weight in the creation and perception of personal and collective well-being, harmony, plenitude and satisfaction among societies.

Moreover, if this connection between the two universes, the academic (the trinomial of the humanities, sciences and technologies) and the resulting economic and social reality, does not occur, the void will be filled by others: clearly the evolution of those that are already being deployed, plus a multitude of complementary or additional initiatives that will come from other business sectors, and the most restless from the world of science and technology, who will have spotted an endless number of opportunities for the production, creation, diversification and generation of beauty and wealth.

In short, how can modern-day public institutions maintain and promote their commitment to social equality and the universal availability of all knowledge for everyone? What institutional scenarios can we imagine for the immediate future? Centralisation or decentralisation of universities? Standardisation or diversification of the ways of exercising knowledge? If we take heed of the tendencies and more superficial trends and perceptions, the shift towards the centralisation of systems and processes of coordination and control will unfortunately become even stronger.

Universities are following the same path. Coordinated and centralised organisation mechanisms, especially those based on computer applications, are tending towards unification because they are cheaper from the preponderant perspective, which is that of managers. Flexibility and proximity are always more costly and difficult to control, but the key factor when articulating decentralised, close and flexible mechanisms is precisely to get them to adapt to the changes that are inexorably on the way.

The distance and disregard among the management of academia is not working in our favour. It would be a grave mistake to consider this activity inferior because, from our cross-cutting approach, all cultures and knowledge are necessary in order to survive in the university of the future. Another dimension is blooming, and how is university teaching to be organised (and hence its areas of knowledge and departments) in order to structure a flexible offer,

with a capacity for evolution and sustainability, and to transmit knowledge and connect in a certain way with society?

The current tendency to specialisation from the first year, and to the continuous creation of master's degrees in line with scientific and technological trends as they appear, does not help to build bridges, although some of these courses do pool these areas, as in the cases of bioengineering or studies that combine environmental issues with social and territorial planning.

So, throughout this context, what are the implications of the Responsible Research and Innovation (RRI) paradigm and how should it be addressed at the institutional level, especially in relation to the humanities? Many science, engineering and architecture courses, for example, have made major efforts to progressively introduce aspects related initially with ecology and then with sustainability, and more recently with values and ethics in the research and exercise of professions. Clarification of the missions and visions of universities, along with the creation of codes of ethics in different university activities, has helped to change the flat and, apparently, neutral scenario of science and work at university in general.

What would be the most appropriate science and education policies to integrate the humanities, science and technology into higher education systems nationwide, and what success stories could be used as benchmarks? What are the implications of the concepts of academic autonomy and academic freedom at universities in relation to the humanities? How are these two concepts configured in the face of the current challenges? Some universities have already included subjects, seminars and even postgraduate courses whose purpose is to bring the humanities and science/technology closer together in an interdisciplinary manner. These are good examples of the humanities being moved closer to or included in other knowledge areas of higher education, and which foster joint research in particular fields. Analysis and reflection on the kind of future we all want for society should guide us in the exploration and implementation of a higher education that, without losing the necessary specialisation, opens its horizons towards the synergies offered by different fields of knowledge. This report hopes to contribute to that.

Part 3

Institutional Perspectives

8. How can universities participate in the changes that are helping to build bridges between different fields of knowledge? What should their role be?

Synergy via Shared Platforms: The International Islamic University of Malaysia (IIUM) Way Forward

Dzulkifli Abd Razak and Lihanna Borhan

Abstract

The debate on whether to integrate or divide the many branches of knowledge, in particular science, technology and humanities, has been going on for centuries. This divide is perhaps in a large part due to the institutional role of universities. One might argue that universities are the most liable party for the existing divide. But on the heels of that argument, one could also argue that universities may be the ones to lead the way towards integrating knowledge. The International Islamic University Malaysia (IIUM) is poised to take on such a role. Established in the modern-day conventional model of a university offering subjects across the board, albeit with the underlying philosophical framework of tawhid (“oneness”), IIUM is embarking on an ambitious project to integrate the different bodies of knowledge in a more formal and organised form – called “shared platforms,” an experimental amalgamation of various fields of study. This chapter will discuss the tetrahedron model of the shared platform in general, followed by an explanation of the four specific platforms. Although the shared platform is seen as one possible manifestation of the tawhidic epistemology of knowledge, the concepts can easily be adapted to other universities subscribing to different philosophical approaches.

Introduction

The debate on whether to integrate or divide the many branches of knowledge, in particular science, technology and humanities, has been going on for centuries. The epistemological discussion of knowledge aside, this chapter will look in depth at the institutional role of universities. One might argue that universities are the most liable party for the existing divide. The conventional model of universities is to compartmentalise bodies of knowledge into different faculties or departments.

Faculty members may collaborate with others from other faculties, but the essence remains that they are separate from and independent of each other. Perhaps then, as institutions that drive this separation, universities may also be the ones to eliminate this separation, and lead the way towards convergence of knowledge. The International Islamic University of Malaysia (IIUM) is poised to take on such a role (Dzulkifli, 2019).

The conventional model of universities is to compartmentalise bodies of knowledge into different faculties or departments

Established in the conventional model of a university, with all the different areas of studies including humanities, science and technology parked under separate faculties, IIUM has embarked on an institution-wide initiative to integrate the different bodies of knowledge into a more formal and organised form — termed “shared platforms.”

The ideal of a converged body of knowledge is not alien to IIUM. In fact, it is the underlying philosophical framework of the university’s education system. As stated in the Code, viz., “the spirit behind this recognition of *Allah* as the Lord of the World (*Rabbal-alam*) represents the apex in the hierarchy of knowledge. All disciplines of knowledge should lead towards being subservient to this truth.” (IIUM Code of Ethics p. 4). It is often referred to as the *tawhidic*⁽¹⁾ perspective of knowledge, namely, the source of Knowledge is one, and as the branches of knowledge increase, the responsibility of each branch is to converge back to the original source of that Knowledge.

1. Tawhidic perspective. The core of Islamic belief is the Oneness of God (Allah), the Creator of all, not just of things physical, but the source of knowledge (Quran 2:31). Subsumed under this is the idea that as the Creator, only Allah deserves to be worshipped, and that all our actions are to move us towards knowing more about Allah so as to better fulfil our intended duties as the vicegerent of the earth (Quran 2:30). Hence it is incumbent upon believers to seek knowledge.

Integration has therefore always been an integral part of the University's existence, if not perhaps the *raison d'être* of its establishment (Mohd Kamal Hassan 2019). One of the earliest and biggest faculties (known as *kulliyah*) at the university in terms of number of students, staff and programmes is the Kulliyah of Islamic Revealed Knowledge and Human Sciences. At other universities in Malaysia, these two areas of studies — Islamic Studies and Social Science — would have been placed separately. IIUM, however, chose from its inception to integrate them in one faculty to emphasise the convergence of knowledge. Another concerted effort towards integration is to combine each academic programme with the Islamic aspects of the respective curriculum. Moving forward, the “shared platform” concepts are being introduced.

So why the need for a shared platform framework? As novel as the strategies described above are for interpreting IIUM's philosophy in an otherwise conventional university, the fact remained that in all other disciplines not described above, and except for the use of English as its main medium of instruction, IIUM very much resembles any other university in Malaysia. Over the years, these areas of studies have remained highly isolated from each other. On the contrary, while at some universities the basic health sciences subjects (anatomy, physiology, microbiology etc.) are taught by one department and attended by students from different programmes such as Medicine, Dentistry, Nursing, Pharmacy etc., learning together in the same classes, at IIUM this is not the case. The practice of integration seems to be limited to within each academic programme, and resources (human, physical, financial etc.) are not shared or integrated in compliance with the relevant Code as mentioned above. The philosophy is there, some implementations are visible, but it is not enough. Hence the Shared Platforms Initiative.

Shared Platforms as an Approach to Fostering Integration

The IIUM's shared platforms are materialised via the Tetrahedron Model where four platforms are interconnected with each other on all sides. The Model emphasises the idea of connectivity, collaboration and communication — all of which are essential elements for

achieving full integration. Although someone may be identified as being in one of the four shared platforms, that person continues to be able to tap into ideas and knowledge from the other platforms and work with their members. Instead of territoriality towards one's area of expertise, the push is now towards inclusivity and partnership — that is, no-one at the university is constrained to their own fields only, but instead everyone is actively engaged with each other in various academic pursuits. Experts from different areas work together towards achieving a fully informed perspective on all issues, covering both breadth and depth as part of life-long learning. In essence, this reflects the earlier state of scholarship in the more than seven centuries of the Islamic Golden Age, represented by scholars such as Ibn Sina (Avicenna) and Al Khindi. They were polymaths who led in many fields, the scientific, humanities and the religious, for they truly embraced the unity of knowledge originating from a single Source i.e., the Creator.

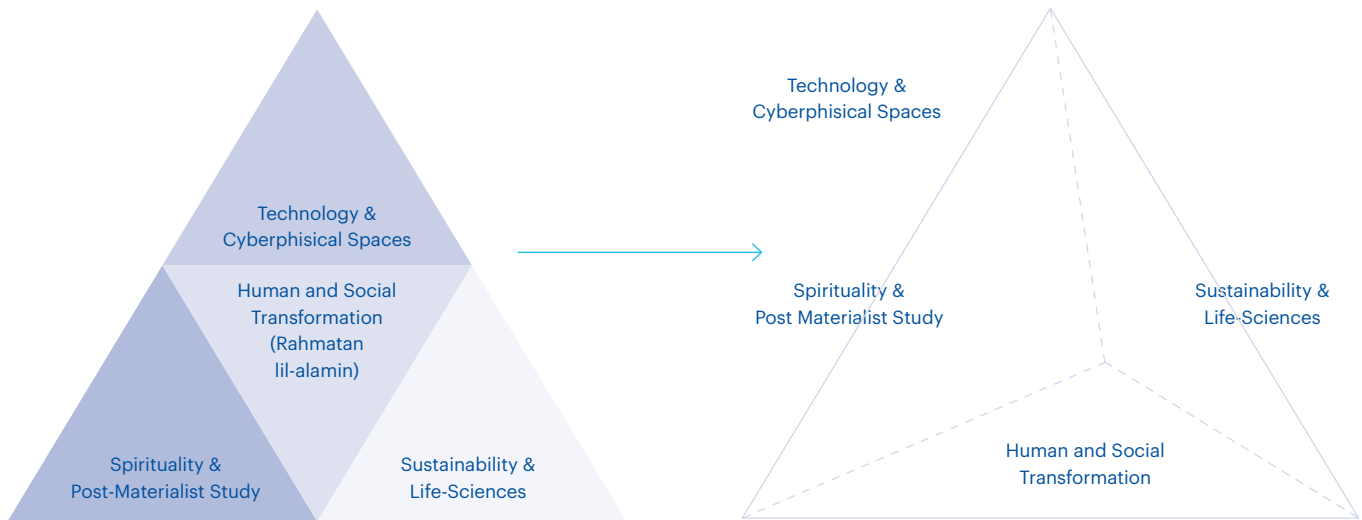
No-one at the university is constrained to their own fields only, but instead everyone is actively engaged with each other in various academic pursuits

In this exercise, IIUM has identified four (4) shared platforms — human and social transformation, spirituality and post-material studies, technology and cyber-physical space, and sustainability and life sciences to collectively reflect the emerging frontiers of knowledge.

The Tetrahedron Model Concepts

Human and social transformation is the base of the Tetrahedron Model, being the ultimate pursuit of knowledge at IIUM. The pursuit and dissemination of knowledge and skills, whether via academic programmes, research, consultation or public discourses, should serve to benefit humankind, as befits the concept of *rahmatan lil-alamin* (mercy to the worlds). When the tetrahedron is unpacked, this platform is positioned in the middle i.e., structurally representing the base of the tetrahedron. It is thus directly linked to all the other faces of the tetrahedron, making up the three (3) remaining platforms. As such, the platforms should tap into the expertise of the rest in order to help anchor their activities in meeting higher global aspirations as expressed by *rahmatan lil-alamin*. The

Figure 1. Tetrahedron model



overarching implication of this is that the experts within this platform should also challenge themselves to be multi-disciplinary, if not transdisciplinary. The aim is for people to become aware of our common humanity (and destiny) so that positive social transformations may be brought into society - not confined just to Muslims but to the entire human community in consonance with the IIUM Code of Ethics.

Humans are essentially biological beings. Regardless of levels of civilisation, the core biological aspect of humans remains the same, if not identical. Together with other life forms, they inhabit the Earth, which needs to sustain itself given the increasing demands placed on it, mainly by humans. Hence, with a deeper understanding of these aspects, the need to be biologically aware is pertinent in order to improve our quality of life. For example, understanding how parasites work may help contain the diseases they bring and promote quality of life. However, simply understanding the physiological aspects of humans, animals, and plants is not enough. Discoveries in these fields need to be interpreted in light of human nature, both at the individual and societal levels, to bring about more meaningful transformation as envisaged by the United Nations Sustainable Development Goals (2016-2030) and therefore raising the quality of life. Hence, the urgency of a shared platform between sustainability and life sciences.

At the same time, the world is moving at a rapid pace, much of which is attributed to the advances in technology. IIUM is cognisant of this and intends to muster and lead the advances in technology, not for the sake of technology *per se*, but to “humanise” it for the greater

benefit of humanity, and not the other way round. This is manifested through the third shared platform i.e., technology and cyber-physical space. When expertise is shared across platforms, “disruptive” technologies that essentially “disrupt” those who are less aware and prepared can be mitigated, if not eliminated by tapping into the knowledge and expertise gained from the other platforms. The IIUM community strives to be more aware and prepared by leveraging on the tetrahedron model and concepts to facilitate knowledge transfer, among other things. Biomimicry is one such example of how nature informs – not just inspires – technology leading to more sustainable solutions and initiatives in transforming society.

As a university rooted on *tawhidic* principles, IIUM chooses not to become apologetic in this era of Islamophobia. Instead, the Islamophobia making its way around the globe should be a catalyst for the University to become more visible, making the Muslim voice heard through the championing of societal and global issues, affecting humanity, not just Muslims. To achieve this, those who are academically committed need to not only be highly versed in the Islamic tradition of knowledge, but equally able to use and apply that knowledge and further inform the future. Hence the final shared platform - spirituality and post-materialist study. This speaks to the notion of rediscovering the lost soul of universities, which may be their academic essence (e.g., Mallard 2002; Moore 2005), or may be their humanizing and human elements (e.g., Dong & Yi 2014; Musick et. al. 2002), and in IIUM’s case, both (Mohd Kamal Hassan 2019).

In short, the shared platform initiatives are the basis for more organised collaboration and integration.

Moving from an isolated perspective, academics at IIUM are starting to work on multi-disciplinary projects that will then move towards a trans-disciplinary approach in pushing the boundaries of knowledge toward convergence

At the same time, they are creating not just new areas of knowledge, but more importantly a new working culture and relationship, and partnering that is integrated and holistic, providing solutions to humankind on a seamless journey towards the humanisation of education (*Insan Sejahtera*).

The Initial Implementation Phase

A change that is wide-ranging, using an institution-wide approach such as this, should not be implemented in one fell swoop and as a top-down didactic move. Change management has to be properly deployed. Hence although the idea germinated from the leadership, the torch has to be passed to and continued to be nurtured by everyone at the university in a collective bottom-up manner. The initiative thus began with a series of dialogues to open up a path towards an institution-wide paradigm shift, spear-headed by the top leadership of the University. Once the idea was well understood and accepted; and began to take shape in the minds of the IIUM community, a university-wide survey was undertaken for everyone to express their interest and commitment. Those who were keen were asked about the level of participation they wished to engage in during this initial phase – whether they wished to be participants, researchers or champions. This self-identification of champions is a core aspect of facilitating a more organised shared platform. They are the ones tasked with leading activities and projects that will move the shared platforms from the realm of conceptualisation to a crystallised and pragmatic form that will then gear the entire University to engage with and complement each other. This university-wide engagement is expected to be a manifestation of the convergence of knowledge as envisioned in its philosophy. The various activities may include dialogues, projects, colloquia and other activities deemed fit to move from a mul-

ti-disciplinary towards a trans-disciplinary approach. Some develop into “flagship” programmes that clearly live up to the university’s expectations as they can also converge with global agendas like the United Nations Sustainable Development Goals or Education 2030. Examples are the emergence of the River of Life (<http://iiumrol.wixsite.com>) and Jungle School (<http://jungle-schoolgombak.com>) programmes, which are expected to further spearhead new and more integrated areas of study using the shared platform. This will make IIUM more engaged, socially responsible and relevant locally, nationally and even globally.

A change that is wide-ranging, using an institution-wide approach such as this, should not be implemented in one fell swoop and as a top-down didactic move

In its most extreme form, the fluidity as well as mobility of staff will be heightened, such that academics are no longer bound to one particular domain related to the *kulliyah*. One foresees academics working not just with academics from other departments, or different universities for that matter, but students too. This will require major structural changes to be aligned with the adopted strategy, followed by change in major policies to institutionalise the transformation. IIUM is committed to this agenda. Some of these include close collaboration between the parties involved, internally and externally, which must be democratic and equitable (as in SDG 17) in search of a common solution taking into account the needs, values and context of the parties involved, which means relevance is as important locally as it is globally. However, the former is always treated with less importance than the latter, especially when a dominant (western-centric) partner is involved. This approach in turn redefined research as “responsible,” encompassing elements of “public engagement”, “open access” and “ethics and governance,” at the very least. Each enhances the meaning and depth of “collaboration” whereby members of the public and community are partners to be engaged throughout the research process from start to end, thus keeping them informed and consulted all the time, making peer-reviewed “open access” an imperative. It further strengthens the notion of integration and partnership across the board. Last but not least, the principles of ethics and governance are deemed essential to ensure that the collaborative work remains transparent and thus accessible, so that the outcome and impact can bring about peaceful, harmonious and just solutions as emphasised in SDG 16.

Case Study — Humanising Higher Education: Transforming the Co-Curriculum as the Core-Curriculum at the International Islamic University Malaysia (IIUM)

Zainal Abidin Sanusi

Formal university curricula are getting more complex and diverse as the world's issues are getting more complicated and interlinked. In responding to this demand, some subjects have become so specific and technical that they may have neglected the purpose of their knowledge to society. In some cases, subjects are highly commercially driven and minimal attention is given to the values that they need to inculcate. Transformation is needed to humanise the curriculum and bring back the original purpose of universities and education.

At the same time, the informal curriculum, also called the co-curriculum, has been the platform to complement core disciplinary subjects and inculcate all the soft skills. But these co-curriculum activities are somehow structured and executed with less significance and loose institutional support, rendering these activities less impactful. However, with the increased complexity of issues, the need for soft skills is receiving more dynamic attention, as systems thinking, transdisciplinary cognitive skills, leadership skills and communication skills are becoming more critical than cognitive and technical ones. Hence they should be at the core of education, and not a co-learning process. Unfortunately, these skills are not taught in the core curriculum and not easily acquired in classroom or laboratory environments. It is therefore beyond imperative that the role of the co-curriculum as part of the core education process should be strengthened. It is for purposes of such a change that IIUM is gradually shifting its role towards structurally balancing inputs and processes to ensure not only pure academic excellence among graduates but also, and equally if not more importantly, holistic excellence.

The IIUM's objective is to redefine the concept of education practiced in a liberal and secular environment by integrating Islamic revealed knowledge (knowledge directly based on the Holy Quran and teachings and practices of the Prophet) and human science (derivative and interpretive cognitive skills). It aspires to produce better quality intellectuals and good character to serve as agents of comprehensive and balanced progress as well as sustainable development in Malaysia and the world.

Specifically, IIUM has put forward three transformational programmes for this purpose. The first initiative is focused on creating an *ummatic* worldview. *Ummah* is an Arabic word literally defined as 'community' which technically implies a perspective that is based on concern towards the five pillars of human existence – people, planet, partnership, prosperity and peace, that sees every human being as a member of the ummah. The ummatic perspective sees all human beings as one group of global citizens coming from diverse backgrounds, ancestry, locations and nationalities. In alignment with the spirit and concept of sustainable development, the *ummatic* worldview emphasises an intergenerational perspective whereby this earth should be perceived as a trust to be taken care of and pass on to the next generation in the same condition as, if not better than, we received it. In order to build this worldview among students, several subjects are made compulsory, which can be grouped into two levels – Ministry of Education required courses and university required courses. The ministry required courses that are compulsory for every university student in Malaysia focus on preparing the young generation for a nation-building process, especially in terms of social-cultural sustainability. Meanwhile, the university required courses are Ethics and *Fiqh* (Islamic

Jurisprudence) and Islamic Worldview, Knowledge and Civilization. What is unique about these two courses is, in contrast to normal classroom lectures, it is part and parcel for them to feature direct engagement with the community to apply and reflect upon the knowledge acquired from the classroom setting. The subject is as theoretical as it sounds, but engagement with the community brings in the fundamental understanding needed for the student to truly appreciate community needs. This makes the subject very 'head-on' (intellectual component), 'hands-on' (practical component), 'heart-on' (affection component) and 'content-on' (technical component). Through this approach, the students are not only grounded in strong theoretical understanding but tested with realities from societal life.

The second initiative towards integrating the co-curriculum as a core education process is known as '*usrah*', which is literally defined as 'family' (the activity is formally known as *halaqah*, which linguistically means 'circle'). An *usrah* is often a religious gathering or a conventional study circle. However, at IIUM, *halaqah* is structured as the main co-curriculum activity addressing contemporary issues, especially those related to sustainable development, in a very dynamic way. Being an Islamic university, fundamental knowledge is inevitably based on Islamic teaching and aims at strengthening the spiritual foundation of the students. In contrast to the conservative approach of religious discourse, *halaqah* is designed to link the fundamental teaching of Islam with society's current needs. It serves as a dynamic and progressive learning community. One example is the issue of poverty eradication and Islamic teaching about it and ways to solve it on the ground. All students must register to join a *halaqah* in 4 of their 6 semesters at university. *Usrah* is not only compulsory for all students but also a graduation requirement, thus emphasising the importance of knowledge and action, university and community. Each *usrah* consists of 20 students from different disciplines to ensure exchange of ideas across different schools of thought and promote diversity among the members. The *usrah* has four different levels. Level 1 discusses fundamental knowledge on Islam and spiritual aspects and the following levels focus on its application, including project planning, culminating at Level 4 with execution of the project. This project is not only intended to give communal services but is also designed to empower the community economically or socially. Through the integrated core and co-curriculum, the students will find continuity and coherency in their

learning processes, which is a highly critical condition for an impactful education.

The third initiative is a university-wide approach to humanizing student learning experiences whereby the research process, teaching and learning journey, and community engagement activities, are structurally linked. The university has 29 projects designed to contribute to the SDGs, thus transcending its boundaries. While all students are required to do research for their degree, the projects must be directly or indirectly linked to the 29 projects. The same applies to the community engagement projects and teaching and learning process. In doing so, it is hoped that the whole university will integrate its spectrum of knowledge, and that such connectivity can break the perception of it being an ivory tower. With this system, IIUM hopes to nurture balanced and holistic students.

Editors' Conclusions and Recommendations

David Bueno, Josep Casanovas, Marina Garcés, Josep M. Vilalta

This report was not produced in abstract form, but has instead raised questions in the real context of higher education in the world. We did not want to perform a speculative exercise on what the relationship between the humanities, science and technology should be in the ideal world, but instead we have addressed active members of the academic, cultural and institutional community around the world to find out what is happening, what changes they perceive, what their limits are and what their potentialities are. What synergies are occurring? Which are not occurring? Why not? Which views do we share and which are driving us apart? What initiatives are being experienced? And what recommendations, proposals and good practices can we share at this early stage of the 21st century so that all these words do not end up being no more than good intentions?

A report like this, produced over two years of dialogue with colleagues in as many countries and disciplines as we have been able to bring together, is not about self-congratulation. In fact, it is quite the opposite. It needs to serve as the springboard towards the demand and desire for change that most of us participants share. We have found that when asked about the role of the humanities in the context of current changes, everyone has good things to say. From politicians, to technicians, regulators, academics from different fields and financiers, everyone is convinced that humanistic education and cultural experience are key factors for a more dignified, fairer and more democratic society. The problem is that the reality of the education and research system is far removed from these good intentions. Specific decisions in terms of funding, salaries, teaching hours and social assessment of the humanities and culture are sending out a contrasting message: that the humanities are dispensable and a complement, even an ornament. We have produced this report from the conviction that this situation must be changed both in theory and in practice and that there are important reasons for doing so. This report should therefore be viewed as the open expression of a commitment shared by many different voices.

The reasons for these changes that we want to help to promote relate to the biggest challenges and changes of our time. We have arranged these into three core areas:

1. those that have to do with environmental and climatic issues, which put our relationship as human beings with all other living beings and resources on the planet in crisis, and which are calling for a reappraisal of the very conditions for life (habitability, survival and diversity),
2. those that have to do with scientific and technological changes, which are presenting new possibilities in terms of robotics, artificial intelligence and big data, as well as developments that are still hard to imagine in the fields of biomedicine and life sciences, and
3. those derived from the cultural changes in a world where the West and patriarchy are no longer the sole hegemony, as we shift away from the Eurocentric, chauvinistic paradigm that has prevailed among mankind until now.

These are not three separate sets of questions. Rather, all three overlap as we redefine the boundaries of a way of understanding civilisation that has been based on the continuous and unlimited spread of its power, its dominion and its ideas for the future. As a global world, we are experiencing the limits of a finite planet and of a mortal species, we humans, who are the cause of the widespread threat to our own living conditions, together with those of other living beings and ecosystems on this planet. It is not that the planet is too small for our aspirations. The planet is neither big nor small, it is what it is. What we may need to reconsider is our aspirations, their meaning and their consequences, as well as the way in which these aspirations are to be put into practice.

We have learned, throughout the modern era, progress does not work as a straight line along which we advance in stages. The path we are taking is full of potholes and new abysses that we ourselves are causing. Society as a whole is participating in this process, albeit with different privileges and responsibilities. We could try to draw a general map of these interactions, but what interests us is to understand what role and responsibility the world's higher education system has to play when it comes to contributing to a better appraisal of mankind's hopes and expectations.

General considerations

We are not interested in the question about how the humanities should be adapted or modernised on the basis of scientific or technological changes. There is a very large market of 'new humanities' that only seem to add apparently innovative adjectives to a legacy that they do not question. This report takes a different point of view: we want to focus on the need to think together, from all areas of knowledge, about the shared problems of our time. What role can the humanities play in this common challenge? This is not only a question for humanists. The different sciences and different technological practices also have a vision of the world that they transmit and often impose through institutions and the market. So, it is a question that we all have to ask together. And 'all together' also means from the different levels and responsibilities of the university system, from senior governors to students, scholars, assistants and users, who are increasingly more diverse, fleeting and unstable.

Thinking together about the relationship between the different fields and practices of knowledge and the specific situation of the humanities within the context of current changes has led us to question the higher education system as a whole. And although it is beyond the scope of this report, this also means the education system all the way up from elementary, primary and secondary education, for they are the foundations for higher education, which to a large extent conditions what they do. The shared questioning that has come out of this report has led to three general considerations that we would like to emphasise:

- First of all, that in most of the opinions we have gathered, the humanities are no longer viewed only as a series of disciplines but as a way of addressing and understanding human experience in all its manifestations. Their existence and focus conditions the conception of the general paradigm of knowledge that we are developing in other areas and disciplines of knowledge. So, it is not a case of working out how we can keep a place for subjects like literature, history, philosophy, art and so forth, but of how we can guarantee and accompany sufficiently consistent education in all these fields, and how this can have an impact on the knowledge system as a whole.
- This means, secondly, that the question about the place of the humanities in the system has led us to the need

to rethink everything. This means that the report, as a whole, may sometimes have too abstract or general a tone. We should make it clear that this is not because we have avoided being too specific, but because the specific problems we face today have to do with the rules of play that are determining the global higher education system as a whole. Changing just one part is the start of changing everything.

- Thirdly, despite the differences in local political, cultural, economic and other contexts, the higher education system appears to be far more similar around the world than we thought, both in terms of its problems and of the solutions being tested. This is something we have perceived as the different contributions arrived and that it is reaffirmed when the full report is read, to quite a startling extent. This speaks to us of a system that despite being institutionally heterogeneous, nationally diverse and economically very unequal is today a global system where changes spread very quickly and have an immediate effect on the specific ways that each place works. The danger of this is that any trend soon becomes strong and apparently irreversible. The positive side of this is that if we properly coordinate the focus of critical debate and its follow-up, then the drive for major change will also catch on quickly. We hope this report will help to do that.

GUNi decided to make this desire to put everyone on the same page to be its first stance, and entrusted the coordination of the book to three people from different fields and backgrounds: a biologist, a philosopher and an engineer. The personal and professional relationship between these three coordinators throughout the period in which the report was being put together was in itself an unusual experiment given the way the university system usually works. There are commissions that involve representatives of different disciplines, but each of these is usually only there to represent their own area and play their own separate part. In this case, the challenge was to generate an integrative shared framework and formulate the questions together from the beginning, bringing together languages that are not always easy to share, and also receiving the responses together, as well as proposals made by the members of the international editorial committee and the contributing authors to the report.

After two years of collective effort, this final document collects some of the most important conclusions that we have reached. They are not a complete summary

of the report. What we present hereinafter is a reasoned sequence of some of the ideas that we want to put forward as a starting point for later studies, as thought-provoking material for readers and, above all, to contribute to the debate and the transformation of a higher education system that must not shirk its present and future responsibilities. We have grouped the conclusions around the following questions:

- What education?
- What knowledge?
- What humanism?
- What research?
- What impact?
- What institutions?
- What equality?
- What professions?
- What ethics?

What education?

- C1. Education means access to a dignified life for everyone and for society as a whole. We need to distinguish between education for instruction and for training. Education does not aim to create people who are able to function better, but people who are aware of their place in the world and their relationships with others and with the environment. This is the only way that can we speak of true skills that contribute to higher levels of both personal and collective freedom and dignity.
- C2. The education system has increasingly focused on the training of skilled professionals. This tendency becomes clearer as we advance through the education process, from primary school to higher education. The entire education system needs to be rectified in order to reliably promote the principle whereby education is a right and a common good. UNESCO's *Rethinking education: towards a global common good?* (2015)⁽¹⁾ report, published as part of the debate on sustainable development and the Post-2015 Agenda, defends this new humanist view of education and the need to overcome "dichotomies between cognitive, emotional and ethical aspects" and "promote awareness of and a sense of responsibility for others" (UNESCO, 2015).
- C3. Education involves the entire education system, from the first years and throughout life. We stress the importance of a general base and the cross-cutting presence of the humanities in all areas and levels of education. We cannot advance with the production of more cross-cutting knowledge if from the outset we are learning each subject in such a segmented, disciplinary and self-referential way. Integration of the fields of knowledge begins with a good basic education that offers the chance to move freely between different problems and languages, and to use them in an interdisciplinary manner in order to solve all kinds of questions or problems. The humanities are not just a part of the education curriculum. Instead, they are an important part of the basic ability to relate the meaning of the different learning experiences that we will have throughout our lives.
- C4. Similarly, several contributions have highlighted the importance of artistic education in all areas of knowledge, including within university courses and even research. Artistic education does not mean general culture about the history of art or more access to cultural products or events. It means learning to be actively aware of the methodologies of creation and research that contemporary artistic practices can contribute to all areas of knowledge.
- C5. Education right now is highly focused on methodological innovation in the classroom, although this has not reached all higher education institutions. A recurring argument in the different articles is that such changes are necessary in order for them to truly respond to the challenges of our time. A lot of innovation merely consists of the uncritical incorporation of new technologies, which do not always satisfy true educational interests, but rather the interests of the corporations that promote them. It is clear, from all points of view, the university system needs to think hard about the way it teaches and how people should be educated in the world today. And this question will not be answered by making changes to teaching dynamics and channels. We need to diversify the spaces and types of learning at university while creating environments that 'conjoin' perspectives, both inside and outside of higher education institution. Higher education institutions must also encourage a critical and analytical spirit among professionals and citizens, and skills based on the four pillars of education: learning to know, to do, to be and to live together.

1. <http://www.unesco.org/new/fileadmin/MULTIMEDIA/FIELD/Cairo/images/RethinkingEducation.pdf>

C6. Regarding universities and education there is a shared concern in many parts of the world about the loss of value and recognition of teaching within the higher education system. The notion of an 'academic' today privileges those people who work in research, which is the most valued activity. Meanwhile, the role of teachers has become unstable and is the lowest of functions. Universities hence face the paradox of being education institutions in which teaching is increasingly less valued and where the value attached to researchers has left the relevance of teaching in the shadows in terms of the creation of quality knowledge.

What knowledge?

- C7. Knowledge is not neutral content, but the ever-changing result of a set of practices that produce certain visions of the world and of ourselves, and which therefore condition the direction taken by new knowledge and views of the world. Talking about knowledge is talking about these practices, their complexity, their prejudices, their power relations and their consequence. So, a critical approach to the historical past is also essential in order to understand the events and contexts that have brought us to where we are.
- C8. Knowledge is therefore not the result of a single point of view or a privileged vantage point. Higher education institutions cannot be that either, nor aspire to neutrality. One of the clearest views among the contributions to this report is the defence of epistemological plurality in all fields, including those of science and technology. This means, first, a historical review of how certain hegemonic conceptions of knowledge have been reached on the basis of the dominance of the West and patriarchy on all the cultures and populations of the world. Defence of epistemological pluralism, secondly, means welcoming it and putting it into practice within the higher education system by opening it up to inclusive paradigms of knowledge. This implies not only studying the cultures of others (other ethnicities, cultures, genders and social classes) but considering them from reciprocity and from their legitimacy.
- C9. One of the most serious problems faced by the current hegemonic system of knowledge is hyper-specialisation and its effects on our experience and conception of the world and of ourselves. We need to distinguish between necessary specialisation and banal specialisation, guarantee good basic education in all fields, and work towards more holistic perspectives and the convergence of knowledge. It is not easy to strike a balance between these two dimensions and everyone cannot know everything. The important thing is to work on shared visions and practices that mediate between languages, goals, procedures, infrastructures and assessment systems.
- C10. Dualisms are the foundations of modern Western culture and the knowledge system has been organised on the basis of two oppositions: the science/arts opposition and the theory/practice opposition. Learning to think about common problems and integrate thoughtful, resolute, speculative and transformative approaches involves overcoming these two dualisms.
- C11. We are living in a knowledge society where there is alarmingly growth in resistance to knowledge, contempt for analysis and certainty and deliberate production of confusion and ignorance as a way to control public opinion, even among the most educated. We need to develop strategies that contribute to affirmative yet also pensive and critical knowledge. Confidence in knowledge can only grow if it is exposed to shared and open criticism, from calculated reasoning.
- C12. In this knowledge society, higher education institutions no longer hold the monopoly on the creation and dissemination of knowledge, which is increasingly more widely distributed. HEIs will have a greater role in teaching critical and analytical skills to citizens and future professionals, as well as developing, complementing and disseminating knowledge in close collaboration with other parties (organisations, institutions, companies, administration, civil society and the students themselves).
- C13. Many of the articles indicate that interesting crossovers between disciplines are already happening, driven by the possibility of answering old questions with new technologies. It is not just about having new tools, but about the way these new tools change our perception and concept of what we are studying. This is the case, for example, with the current crossover between archaeology and biology (archaeo-genetics), which is generating a new idea of our past. We need to move forward with the creation of multidisciplinary work teams that really do have the capacity to work together, something that courses are not doing very often at present, and where there is a particular lack of input from the humanities.

- C14. The knowledge economy is as extractivist as the other areas of the capitalist economy. Cognitive extractivism is focused today on data mining, following on from other forms of knowledge extraction (biopiracy, unfair south-north transfer, seizure of ancestral knowledge and so on). We need to work on developing a social knowledge economy that responds in a complex and coordinated fashion to the principle that knowledge is a common good, as well as on forms of exchange, appraisal, ownership and institutionality that are consistent with this principle. Experiences with intellectual property, commons and open forms of socialising knowledge are manifold and in recent decades have been reflected in many both practical and theoretical proposals that the university system has kept at a distance from its decision-making and assessment centres. Many members of academic communities are now calling for serious attention and responses to this challenge.
- C15. We cannot speak of knowledge if it is not capable of generating meaning. Knowledge is that set of relationships that allow us to make a significant experience out of our environment, respond to it and transform it. Such interpretation of experiences should not be confused with processing of information. All knowledge needs a context and certain tools in order to be interpreted. So, the humanities or a humanistic and social approach to science and technology are fundamental.

What humanism?

- C16. The humanities often speak in the name of human experience and give it an ever open and changing meaning. They are shaped with a view to answering the question “Who are we?” There is no single ‘we’, nor is it homogeneous. Every collective subject that says ‘we’ (be that a scientific community, an institution, a group, a nation, users of a particular technology, or whatever) is a complex, heterogeneous reality in which tensions and antagonisms are crossed. The sciences and different technological practices must also ask this question and open up their inner tensions, since science and technology are not homogeneous either, and nor do they speak for the same ‘we’.
- C17. Modern humanism had put the ideal of man in on a higher plane than other living beings, and anthropocentrism has also placed the human race in an exceptional and superior position over other animals. Both humanism and anthropocentrism are based, moreover, on a rigid distinction between the human and non-human worlds, be that the natural world or the artificial world (the human being as something separate and superior with respect to nature and things). At present, science and technology, philosophical thinking and contemporary humanities are all working towards a review of the links between human and non-human, natural and artificial. This is happening in studies of the brain and intelligence, in the field of life sciences and in the development of technologies that are blurring the boundaries between these ‘kingdoms’. The meaning of this re-encounter between man and nature, and between nature and culture, is not clear, hence the relevance of the debates in Post-humanism and Trans-humanism. The developments could be dangerous and dogmatic, of a neo-authoritarian and technocratic nature, or the opposite could occur, whereby an opportunity will arise for us to re-connect reciprocally and integrally with that which was previously separate and hierarchized. The conclusion here is that the debate on these issues must be shared by all the agents involved, in a theoretical and practical manner.

What research?

- C18. There is a very widespread desire for implicated and committed research. Research systems have often created very closed circuits of citations and self-reference, which ultimately make the research system (projects, publications, impacts and so forth) self-fulfilling and unaccountable to society and bereft of any duty to share the problems that it works on with the affected groups and contexts. Recent developments have included, among others, the concept of Responsible Innovation and Research (European Commission) to better align the research process and its results with the values, needs and expectations of modern society in accordance with criteria based on ethics, equality and participation. In this regard, there has been an increase in the concepts and practices of citizen science, co-creation and participatory research, which seek to encourage a variety of actors to engage in the research process. However, the system in general is far from embracing these changes and academics often have a dual agenda when it comes to getting their knowledge and research practices to reach beyond the most research-producing circuit. Different ways of creating and valuing this implication need to be devised, from the humility of being aware that the most decisive social changes do not come from academia, which must therefore learn to receive, listen and accompany.

- C19. One of the problems with the segmentation of research is that the basic academic architecture still operates by faculties and departments for all purposes and huge efforts are required in order to overcome these divisions (management of staff, projects, funds and so on). There is an indispensable need to set up cross-cutting research centres, organised around problems more than disciplines and connected with local and international contexts.
- C20. Research methods are also far too standardised. Such rigid assessment procedures make it very difficult to experiment with more creative research and take risks. This is a problem that affects all areas of knowledge, so it is another challenge that we can confront together. It would be interesting to incorporate methodologies that have been employed of late in less formal environments, such as the worlds of arts, social activism and education, and which promote reciprocity, research-action and bottom-up dynamics.
- C21. Research has serious communication problems. Who is researched for and how is research reported? Communication is not easy, not even within the academic system itself, as it is hard for research to be passed from one field to another. Congresses and publications are aimed at extremely closed communities around the same disciplines and specialisations. We need to create other channels to report and share research that, while maintaining the same level of rigor and demands, is expressed in a more accessible language to specialists in other fields, thus creating more cross-cutting contexts of exchange.
- C22. Along similar lines to the previous conclusion, research needs to be transparent and accessible to society. Some universities and institutions are already committed to the shift towards open science but, as some of the contributions to the report point out, we must ensure that these ideas are more than a mere statement of good intentions and are instead plans for real change on a number of decision-making levels and that will have an effect on the way research is evaluated and funded. There is also abundant (and good quality) research that is done outside of higher education institutions or research centres, in high level science and technology companies. This implies the need to establish stable and even 'regulated' ties between the two worlds to enable permeability, reciprocity, trust and fair play, all based on a more holistic view of public and private research in universities and companies.

- C23. One of the biggest difficulties when it comes to generating a more dynamic relationship between the humanities and other scientific and technological practices is the issue of research funding. There are major differences between the procedures, budgets, and public and private organisations that are interested in funding research and they operate within highly disproportionate budget brackets. If we are to shift the focus towards committed, transparent and open research that can create new spaces for debate between disciplines and with society, we must also review the mechanisms for its proper funding and prevent the humanities from being relegated to a merely voluntary or decorative role in any project that is considered important.

What impact?

- C24. Rankings culture has had a strong impact on the crisis of the humanities in the current university system. This competitive focus of the academic system has resulted in a loss of appreciation of epistemological diversity and a reorientation of humanistic research towards products that are comparable to those of the most valued science (in English, based on data analysis and quickly publishable in cited journals). Publication in specialised journals as a key element for measuring research quality is out of keeping with the pace and dynamics of humanistic endeavour, where the ideas and contributions with the greatest impact often occur outside the system of specialised journals and in timeframes that can be very slow and disjointed.
- C25. It is essential for research assessment systems to be developed that are capable of gathering the effects of experimental, creative, transparent and open research in all of its diversity of expressions. Impact is not synonymous with utility or performance. Impact is not a place in a ranking. Impact is to generate appreciable and necessary change in relation to shared problems, contexts and needs. If the university system ignores everything that does not generate value in a certain and highly restricted way, then all these activities depart the academic setting (for cultural institutions, social entities, independent institutes, and so forth) and it is the university itself that loses richness, diversity and relevance.
- C26. The main impact of the humanities is to link knowledge to the existing society, to analyse and explain changes, to raise and overcome problems and to interrelate differ-

ent social components. They are therefore essential for building communities and fostering mutual exchange.

What institutions?

- C27. Higher education institutions are institutions of knowledge that play a key role in society's development. The way they are valued by administrations and by society differs from one local context to another. But there is a general tendency for them to be abused by administrations and disconnected from society's interests. Universities are public and/or public service institutions and, as such, we must defend their social importance, in their different institutional formats, and ensure that that importance is respected in equal measure to their responsibilities. This commitment is the condition by which their value must be defended and, at the same time, the excessively utilitarian tendency that universities have been suffering in recent years must be reverted.
- C28. The balance between university autonomy and accountability to society is not easy to achieve. Universities need to have a sufficient level of autonomy in order to do their work in the best possible conditions, but they should also use this autonomy to meet the needs of the societies in which they operate. This balance has been increasingly tipped in recent years, along with a crisis of academic freedom around the world, even in 'consolidated' democracies, where the authorities have threatened to close institutions and restrict some areas of knowledge. That is why we must reaffirm the democratic spirit and values of higher education, but always under the umbrella of responsibility.
- C29. Universities cannot be closed environments. They need to operate as ecosystems of relationships and as cultural agents linked to their local and global contexts. They must host, support and continue communities of practices associated to shared problems, for example by fostering social innovation. This means demolishing the new ivory towers and putting an end to self-replicating complacency and moving towards porous, welcoming and reciprocal forms of institutionality. The relationship between the university and society has often been reduced to a relationship between the (often public) research system and its applications to the corporate world. This university-society relationship needs to be changed to include all those aspects that make this bond a collective right, of non-university stakeholders too, and ensure commitment to society as a whole.
- C30. Universities are also places of experience where the body, sensitivity and coexistence of the people that use them (the whole university community and its professionals) can partake in a learning and knowledge experience that affects and transforms their lives and their surroundings. This means that university and higher education centres in general have to be more student-focused, following the path that has already been taken at primary schools in many parts of the world, and must reorient their activities, spaces and dynamics towards a shared quest to find responses to their challenges and concerns.
- C31. The organisation of universities around the world continues to be dominated by the departmental, faculty structure, despite the exceptions and attempts at change. Horizontal collaboration between departments must be encouraged, by means of convergence strategies based on intellectual cross-pollination between peers. Rather than top-down changes to structures, it is important to lay the bases for a conceptual and epistemological negotiation that is bottom-up and between peers. This is how we can guarantee that the structural changes to our universities are made on solid foundations and have real effects on the ways that knowledge and experience are produced.
- C32. Interdisciplinarity (or transdisciplinarity) also means interinstitutionality (or transinstitutionality). One problem when it comes to a more humanistic approach to science and technology as a whole is that at universities it is generally very difficult to forge organised and on-going relations with other types institutions, despite the existence of rare but highly successful experiences. The humanities and the arts, on the other hand, are deployed in a very wide range of institutions (museums, theatres, libraries, cultural centres, small enterprises, cultural and entertainment companies, and others). In the context of the knowledge society, where knowledge is increasingly distributed, universities viewed as relational ecosystems must learn to work in a streamlined manner within the logic, timeframes and decisions of other institutions.
- C33. The international community, led by the United Nations, has pledged to work towards the 2030 Agenda and the Sustainable Development Goals. Many universities have adhered to these and are guiding their teaching, research and functions in accordance with the goals. This is an opportunity to position academic activity in terms of cross-cutting commitment, based on real

learning situations with inter-institutional and inter-disciplinary repercussions. However, we must ensure that such commitment to the SDGs is more than a mere statement of intent, as has been the case with previous goals set by international organisations, but is instead a path towards action.

C34. In the framework of a global and interdependent world, we need to strike a new deal between higher education institutions and societies that takes into account the dual nature of these institutions' commitments to the local needs of the societies in which they operate and to global challenges. We must recognise that higher education institutions are places where many and often contradictory demands coincide. As set out in HEIW6, the most appropriate approach involves an integrative vision: "Universities need to be key institutions at the regional level. They must seek to contribute to the development of immediate society through teaching, research and knowledge transfer, and involve themselves in establishing regional strategy in conjunction with local authorities, social agents and civic representatives. But they must also aspire to be globally engaged institutions that educate open-minded, critical and aware citizens, and whose research activity helps to define global lines of action leading to a fair and sustainable world"⁽²⁾.

What equality?

C35. Universities, as institutions, continue to have a serious problem with the participation of women in positions of senior responsibility and at the highest levels of decision. At a time when gender studies and equality plans are being intensely developed in much of the world, university governance structures also need to respond to the challenges raised by this turn in affairs.

C36 The role and presence of women in the university system has changed a lot in recent decades. In fact, studies tell us that there are many women working in the university system now and many female students are taking courses that do not always get them as far as they could. However, the presence of women is highly unbalanced in different local contexts, by areas of knowledge and in terms of status, decision and representation within the

2. Adapted from the introduction to the abridged version of Higher Education in the World Report 6 - Towards a Socially Responsible University: Balancing the Global with the Local. page 53 <http://www.guninetwork.org/report/higher-education-world-6>

system. The further we delve into the hierarchical structure of the system, the fewer women we find. The barriers to such promotion are mainly organisational and social, and start to brew during childhood, through social references that are often transmitted subconsciously.

C37. The meaning of feminist struggles is no longer solely about equal rights, salaries and recognition, but also the need to readdress the relationship between life and work, the value of caregiving and the value of a working career. Many women could but do not want to carry on the same life they have had until now and that many of their male colleagues continue to have, while many men are beginning to reappraise their own relationship with the different spheres of personal and academic life. The pursuit of effective equality today therefore means reappraising the conditions of an academic career, one's relationship with life (which is not only about balance with family life) and the sense of ambition. Change of to these mind-sets is also an academic task in which all disciplines must be involved.

C38. There is no equality without social justice. Universities have historically oscillated between being elitist, segregating institutions and becoming spaces for the democratisation of knowledge and contributing to greater equality and social justice. We currently perceive a worrying new wave of segregation and elitism among universities, with differences depending on local contexts. In increasingly more complex and unequal societies, universities committed to the task of making a pensive, critical and emancipatory knowledge system possible need to serve as agents responsible for working towards greater equity and justice.

C39. The problem of equality also involves a cultural aspect that is affected by the linguistic hegemonies of each era. Culture has always been developed in a context of tension between *linguae francae* (such as Latin, French or currently English) and the diversity of the languages that have forged the different cultures and their social ties. The *lingua franca* must not be a language of domination and hierarchisation of knowledge, nor must it impoverish the epistemological and cultural ecosystems of each setting. That is why universities must safeguard non-invasive coexistence between the use of languages for communication and fostering the use of local languages as drivers of academia and culture at the highest level.

C40. The environment is an intrinsic part of social justice. The climate crisis and the radical alteration of ecosystems,

with the extinction of species, the draining of resources and the devastation of habitats not only require technical responses but also an endeavour shared by academics, people of culture, companies, administration and civil society in general in order to resituate ourselves in relation to the world in which we live.

What professions?

- C41. The university system must educate creative, thoughtful, critical and committed professionals who are capable of perceiving the relevance of their research in relation to its contexts and other opinions, and who are competent enough to foster the changes required on a personal and collective level. To do this, the professionals working at universities (lecturers and researchers) must also meet these conditions, and pass them on to new professionals. That is, they must also be creative, thoughtful, critical, committed and self-changing, and be aware of the need for trans-disciplinarity and trans-institutionality.
- C42. One of the challenges of the modern university system is to prepare and train people for professions that do not yet exist. It is not enough to have good applied or technical training, as students must also be provided with tools to redefine their skills and abilities as necessary throughout life. The consequences of this for curricula, the attitude to be transmitted and the skills to be developed are much greater than universities have been assuming until now. In many cases, this challenge is only reflected in the capacity to adapt to a changing, flexible labour market. But we need to go further and train people with a critical capacity and an understanding of the world in which they will be developing their personal and collective projects, and help to decide on the direction that this future is going to take. The humanities, as a diverse production of the meaning of past and future human experience, are an indispensable tool.
- C43. The other major challenge for universities in the current scenario of global capitalism is the increasing loss of jobs, linked to radical changes in the methods and means of production and distribution, due to the digital revolution and robotisation, and the declining importance of labour as a production factor and generator of value. There is talk of 'workless' capitalism, which does not mean a system where everyone works less, in equal conditions, but rather the expulsion of a large part of

the population from all walks of working life and condemning them to a residual role. The world's universities need to tackle this situation from their local and global conditions and work to reappraise the sense and value of the knowledge and professions that they teach. Moreover, serious thought needs to be put into the meaning of an active life beyond identity-employment and the new forms of income, solidarity and justice that will be needed in the world that is being shaped right now.

- C44. Meanwhile, the present of the global university system is one of increasing and already structural instability of a large part of faculty, meaning both teaching and research staff. The realities of this instability are highly diverse depending on local contexts, but the trend is widespread and is conditioning long-term academic careers. In the field of the humanities, where sources of finance are more limited and there are fewer external resources, this situation is making it especially difficult to work beyond the short term and to make long-term plans. This is also severing intergenerational links and access by social classes that do not have resources of their own with which to get by in such insecure circumstances.

What ethics?

- C45. Universities cannot ignore the need to awaken ethical awareness among future citizens and professionals in every field. The most technical and scientific professions also have ethical implications that should not be ignored or delegated. Technologies themselves have consequences for ethical action and implications. Moreover, new technologies based on biomedical engineering, artificial intelligence, data science and biotechnology have immediate consequences, a high impact on everyday life and a scope that is hard to assess in real time. Ethics, therefore, must not be treated as a complementary subject but as a present and necessary condition throughout any kind of education.
- C46. In order to sustain an ethical view of any scientific or technological activity, that view needs to integrate human experience in all of its dimensions and place it in continuum with the natural world and the artificial universe. We are constantly making decisions that affect human beings and our links with other natural or artificial beings. This seems obvious today in such fields as medicine, which has reached extraordinarily high levels of patient depersonalisation and where there are urgent calls for new reflection on the human condition and on

life and death. But the same goes for other scientific activities, including the social sciences, where human behaviour ends up being reduced to disincarnate and non-implicated objects of study. There can be no ethics without context and decisions are never responsible if they do not deal with the consequences outside of their own delimited space.

C47. An ethical life also requires emotional implication. Universities have generally turned a deaf ear to the emotional lives of the communities around them, and all studies show that the most important ideas and decisions arise from highly specific emotional states. It is therefore important for academic activity to also be viewed as an activity that alters and transforms our emotions with epistemological but also ethical and political consequences for our surroundings.

The report has sought to inspire and guide debate on the present and future of the humanities and the synergies between the humanities, science and technology in the context of higher education in the world. It is based on the notion that we are at a crucial time of major global changes in which the world's education systems are confronted by a process whereby their roles in and contributions to society are being redefined, both locally and globally. The report, and these conclusions, should not be regarded as closed documents but, quite the contrary, as open documents that are expected to serve as a starting point for fostering urgent debate of its issues around the world, within each reality and each specific context.

Throughout these conclusions, a series of questions have been addressed and 48 main conclusions have been listed. This number is by no means definitive and readers will probably be able to draw other conclusions. The report has also fed on practical experiences and innovative initiatives from institutions, academics and practitioners around the world. We are well aware that each institution works in a given context, so we are not insisting that these experiences have to be adopted, out of respect for the richness of cultural diversity and contrasting ways of perceiving the world, but we do believe that they can serve as a source of critical analysis to inspire everyone with an interest in advancing towards an integrative concept of knowledge to work together to establish the synergies required for higher education to achieve its utmost humanising capacity.

Higher Education in the World 7

Humanities and Higher Education: Synergies between Science, Technology and Humanities

Higher Education in the World (HEIW) is a collective project that considers key issues and challenges facing higher education and its institutions worldwide.

Societies are witnessing profound changes with clear implications for the future; these environmental, scientific, technological, cultural and social transformations are presenting transcendental challenges in terms of thinking and rethinking the meaning and value of human experience, and even of what it means to be human. These challenges can only be tackled through a holistic approach involving the humanities, science and technology. Together, they must necessarily play their part as both drivers and critics within the framework of these transformations.

With contributions from 130 experts from around the world, the 7th Higher Education in the World Report *Humanities and Higher Education: Synergies between Science, Technology and Humanities* aims to provide the academic community, policymakers and decision-makers within higher education and wider society with a diagnosis and analysis of the current state of affairs, and offer proposals that can broaden our horizons towards a much needed integrated approach to knowledge.

Beyond protectionist nostalgia and catastrophism, the HEIW7 Report clearly advocates reappraisal and transformation, these being the two keywords that best describe the conceptual framework of the project. Far from being a speculative exercise, it addresses active members of the academic, cultural and institutional community around the world to find out what is happening, what changes they perceive, what their limits are and what their potentialities are. In summary, this report should be viewed as the open expression of a commitment shared by many different voices and as an open document that is expected to serve as a starting point for fostering urgent debate of its issues, within each reality and each specific context.

Complete open-content report available at:
www.guninetwork.org