The Conditions for Higher Education Institutions to Meet the Social Challenges Ahead

Yves Flückiger  
*Rector, University of Geneva, Switzerland*

Email: Yves.Flueckiger@unige.ch

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The Conditions for Higher Education Institutions to Meet the Social Challenges Ahead

Abstract
Universities are among the oldest institutions in the world. They have a history, forged through wars, religious conflicts and all the revolutions they have always survived. They also make history and build the future. Today, they are more essential than ever. Secular, they have a trajectory oriented towards the future; it is to them that we turn to respond to the issues and challenges that our societies must face. Through dialogue, the creation of knowledge, the transmission of culture, they are the place of freedom of thought, of the search for truth, even if this search sometimes contradicts established convictions and too easily accepted ideas. Universities are the antithesis of all fanaticism. In this sense, they remain one of the most precious constructions of humanity. In order to achieve this status, to continually reinvent themselves without losing their soul, without losing sight of their primary missions, linked to teaching and research, universities have had to be innovative, again and again. They have been able to adapt because, precisely, through teaching and research, they are constantly questioning the world, participating in and anticipating its transformations. In order for them to continue to play this role, some conditions must be met. Let me present them one by one before I can share my dream, that of an academic world capable of offering all its potential to ensure sustainable development to all our societies for a fairer world.

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*Corresponding author’s email: Yves.Flueckiger@unige.ch
Academic Freedom

Academic freedom is one of the cornerstone of this achievement. A necessary condition for innovation, not only for universities but for society as a whole. Indeed, the knowledge developed in academic institutions is disseminated in the community and is the source, in the long term, of the creation of value and wealth in our societies. This is obviously true for direct applications of research, but it is even more true for fundamental research, particularly in the humanities. The most important discoveries, the major innovations, those that we do not expect, those that we do not anticipate, those that upset our ways of thinking or acting, are always the result of disinterested research, research that is open to the unknown, open to the most complete unexpected, research whose sole purpose is to understand the world around us. To create, to really innovate, you have to explore unknown territories. It therefore requires freedom. The academic world is currently undergoing several major upheavals. We are participating in them, accompanying them and anticipating them.

Autonomy

Autonomy is a second very important condition for excellence in research and teaching. And excellency in research and teaching is a fundamental condition to maintain autonomy of universities. In concrete terms, to be autonomous, universities need to have all the levers at their disposal to organize their education programs, according to the needs of their students and the employment situation, to develop new niches of scientific excellence, to recruit high-level researchers, to enhance the commitment of their staff, to create foundations, to develop cooperation with companies and to be more reactive on the international scene.

Autonomy means more freedom but at the same time more responsibility for universities. Autonomy frees their energies, strengthens their reactivity and gives them more legitimacy in the eyes of their partners: they can build an institutional project, make strategic choices, conduct a real recruitment policy, manage a global budget, ensure a new mission of professional integration of students.

In recent years, many countries have changed their approach to university policy. Universities have become more autonomous in making strategic choices. In return, the state has put in place control mechanisms to ensure that the resources allocated are used efficiently. Universities have been granted greater autonomy with global budgets and contractual management (performance-based funding), and subsidies have been systematically aligned with objectives (performance orientated). The trends of New Public Management are largely responsible for this development. Many empirical researches have shown that greater autonomy and new funding mechanisms for universities have indeed translated into better performance. According to the available literature, increased autonomy does not only lead to higher quality, but also to higher technical efficiency due to its positive effects on motivation.

I am convinced that the quality of my university, the University of Geneva, its excellence, has been further strengthened by the autonomy conferred on us by the law on the University which came into force almost 12 years ago. If the results we are able to draw today are so positive, it is because this law is based on a tacit agreement with the State: let us make decisions as close as possible to our needs, let us evaluate the academic quality of the colleagues we hire, and we can strive for excellence.
Competition

Competition for research funding based on peer-reviewed grant submissions is commonplace across many countries, as it is held up as the best way of distributing scarce research funds (and in many cases, public money) to the highest quality research. This mode of funding is a critically important element in driving forward personal research excellence. It is very demanding to write a grant that competes at the highest level, but in doing so, the quality of thought, preparation, methodology and preliminary data must all be in place, together with a carefully laid out research plan, prior to funding being ultimately awarded.

In many fields, this drives individual researchers to either acquire or develop the most advanced research methodologies that then allow them to tackle the more interesting and complex problems. This competitive nature of research funding inexorably drives quality upwards across the entire research endeavor. It is clearly not a prerequisite for research excellence, but it certainly helps to drive it forward on a system-wide basis.

This is why for a small country like Switzerland it is so important to be part of the EU research programs as an associate country. To sustain a high quality of the research done in our country, our researchers need to compete with their colleagues from other EU countries. The ability to attract excellent European researchers as well as access to European projects and funding has helped Swiss universities to be what they are now, 4 to 5 of them belonging, year after year, to the best 100 universities in the world according to Shanghai ranking.

Switzerland’s most precious raw material is grey matter. One in five jobs created is in the specialized and scientific field. We benefit greatly from this. The quality of life of the Swiss population (education of young people, medical advances, creation of new jobs) is closely linked to this. The strength of our economy also guarantees the sustainability of the social state and constitutes the indispensable foundation for the development of a more sustainable, more social and more equal society.

Our educational, research and innovation institutions are envied, known and recognized worldwide. Our stability and living environment are held up as models, making our country attractive and prosperous, and attracting the best students, teachers and researchers. Talents from all over the world participate in the training of young Swiss people, guaranteeing a transfer of skills that is essential to the economy that characterizes our country.

Culturally and geographically, Europe is our natural partner. The success of our FRI policies is based on this reality. Almost 50% of the partnerships of Swiss research groups are established with Europe. For more than 30 years, Switzerland has been participating in the Research Framework Programs (RFP) with the European Union, and since 2004, the bilateral agreement on research with the EU associates Switzerland as a full partner in the RFPs. While Switzerland was fully associated with FP6 and FP7, between September 2014 and the end of 2016 it was temporarily excluded from FP8, following the acceptance by the Swiss population of the "Against Mass Immigration" initiative whose repercussions are still being felt today.

Internationalization

Internationalization is more than ever a condition for building and maintaining successful universities. For many reasons. First of all, because for many domains in research, the investment needed in equipment and infrastructure is such that it is no more possible to do it at the level of one
institution or even of one country. Taking the example of quantum physics or quantum computers it is clear that the competition is at the level of US, China and Europe and no other countries alone can compete at this level. During this pandemic, it has been made clear also that there was a strong need for open science and open data in order to share knowledge, information and data between researchers located in different countries.

Higher Education Institutions are now not only globalized but also globalizing entities. This evolution has gradually formed over the last three decades changing very much the landscape of academic institutions around the world. Academic globalization has become a commonplace in political discourse (Flückiger & Berthet, 2020). In its most common acceptance, it refers to the increasing openness of universities to exchanges, student and researcher mobility, the multiplication of strategic partnerships and the harmonization of curricula and degrees. We must be aware that that this globalization increases the dynamics of inequality and reinforces the logic of competition. It is the bad side of the medal that needs to be considered, in different ways, by higher education institutions.

At the university of Geneva, we have tried to put into places different programs that were thought to create a more equitable world. Thus, in keeping with the spirit of Geneva, our university was quick to set up a program dedicated to refugees to open up the perspectives that are indispensable for their successful integration into the host society by offering them an Academic Horizon, which gave its name to this program. Since the last 5 years, many refugees have regained the hope shaken by their often-tragic fate are now sitting on the benches of our university, taking French courses, accompanied by our student associations and tomorrow will be enrolled in demanding academic courses.

Education is no longer just a basic human right. It is a response to a real humanitarian need. From this point of view, the "Academic Horizon" program echoes the InZone project implemented in refugee camps around the world. More fundamentally, the reception of refugees within our walls is also part of a wider strategy and a deeper conviction, that training is today more than ever the best bulwark against any form of fanaticism, the indispensable support for democracy.

Weakened populations throughout the world or those deprived of access to training, here or elsewhere, health professionals in remote areas that we reach through our RAFT network for telemedicine, people eager for knowledge that we reach with our MOOCs program, etc. It is by opening up to new audiences while remaining ambitious about the knowledge transmitted that our university reinvents itself, transforms itself, while cherishing its missions and founding values, contributing to the fight against inequalities which is one of the SDGs.

Teaching Based Research Integrated in Comprehensive Universities

Never before have we lived in such a fast-moving world. According to Moore's Law, computer performance doubles every 18 months. In three years, the time it takes to complete a bachelor's degree, it has already increased fourfold. In six years, by sixteen. In twenty years, the time of a generation, by 10,000. Today, the digital world is shaping our societies. It is changing our relationship with knowledge and experts. It is profoundly changing our social relations, our political dynamics, our civic commitments and the world of work. It promises us increasingly powerful artificial intelligences that will undoubtedly compete with our human ones in many areas.

Today, therefore, digital technology is no longer just a question of technology. It is a question of civilization. What role should a university play in this changing world? What knowledge should it...
transmit at a time when information is available at all times and everywhere? How can it train the professionals of tomorrow? And for which professions? How, in other words, can we best understand this elusive present in order to prepare the future we want?

In order to address all these challenges, we need comprehensive universities embracing all domains of science. As the only comprehensive university in French-speaking Switzerland, we have the opportunity and the duty to bring together the many disciplines taught here, to cross the different perspectives, and thus to enable our students to understand the digital world not only in its technological dimension, but also in its other cultural, economic, legal and social aspects.

We need also universities which combine research and teaching which need to be developed. Research is indeed a vital component of undergraduate and graduate education. It should play a key role in students' learning, their higher education experience, and the development of general skills.

We need also to implement research led teaching. It means that students should be engaged in research and inquiry within their main discipline and across different disciplines. An essential condition for research teaching is that the procedures adopted should be both scientific and educational. In this approach, the students acquire knowledge of the discipline by undertaking their own research. The teacher than passes from being an information transfer agent to being a mediator, challenger, and supervisor, developing knowledge by adopting the attitude of being a permanent researcher, together with the students.

The literature shows that the process of teaching through research motivates the student to develop an investigative attitude and can create opportunities for acquisition of knowledge in a conceptually consistent way, in addition to the development of important skills. Research led teaching may also involve designing curriculums and policies to support development of researchers. Not only: how we can make our research applicable to teaching and learning but also how we can make our teaching applicable to research. Research led teaching should not be reduced to making research fit our teaching and learning needs. Research led teaching should also affect development of researchers.

A good example of such links between teaching and research is given by the parallel development of MOOCs and MOORs at my University (Achard & Flückiger, 2016). After developing MOOCs, we launched at the university of Geneva MOORs (Massive Open Online Research), which make it possible to forge new links between research and teaching by taking advantage of the appeal of online courses to feed research.

Commitment

To achieve all this, we must count on the commitment of each and every one of us to make our institution's commitment a reality. It is only by combining the two that we can have the ambition to shape the future. Commitment is demanding. It requires us to risk what we have, or even what we are. It puts you at risk, it throws you off balance. But it is precisely through this imbalance that it generates movement.

Individual commitments strengthen the commitment of institutions. Today, our institutional commitment is particularly evident in our desire to meet the challenges posed by the digital revolution. Digital technology is considered not only as a tool that will fundamentally change our teaching and our way of working, but also as a means of opening up new fields of research, a research subject in itself.
But let’s make no mistake. Excellence and exemplarity must be found at all levels of our institution: in behavior, respect, tolerance and solidarity. We are therefore counting on the commitment of all of us to achieve this and to accomplish our mission. Our institutional commitment is to support this change, in particular by offering continuous training and thinking about teleworking, to help them overcome what may seem like barriers today but will be opportunities tomorrow. Our commitment is to ensure that our employees can face these challenges calmly and confidently. We are delighted that students are taking their education into their own hands, challenging the institution in a constructive way and participating in the life of the association. We hope that tomorrow this participation will be transformed into a civic commitment here in Geneva, in Switzerland or elsewhere in the world. If the University offers intellectual tools, it is the students who use them to change the world.

**Links Towards the Society**

Universities should not cultivate their excellence for its own sake. They must nurture it for the students they educate in order to give them the best possible chance in the job market. They also owe it to the community and the taxpayers who fund them. Financial resources should therefore be used as sparingly and efficiently as possible. From this perspective, universities have a mission to the community to help policy makers develop efficient public policies and respond to the challenges facing our society. The example of the recent pandemic is emblematic in this regard. Universities are not and should never be ivory towers. They are in touch with the world around them. They cultivate these links and will continue to develop them, both with the local socio-economic fabric and with the international community.

These links are often made through the creation of platforms. I would like to share some examples coming from my university. In recent years, we have set up the Geneva Creativity Center, the Advanced Technology Laboratory as well as the Institute for Applied Research in Economics and Management, all in collaboration with the University of Applied Sciences Geneva, which illustrate the close links that exist between our university and the firms located in the region. We also launched the Media Innovation Initiative, with three other academic institutions (EPFL and the universities of Lausanne and Neuchâtel), and media enterprises such as Swiss Radio and TV Broadcast and a private editor Ringier. More recently, we created the Geneva Science Policy Interface, in collaboration with LERU, the League of European Research Universities, the University of Zurich, EPFL and The Graduate Institute in Geneva. This interface connects international organizations and academia to provide the former with the latest knowledge, technology and insights to address the complex challenges of global governance issues.

It is by exploring uncharted territory that real innovation is achieved and the societal, environmental and scientific challenges of today and tomorrow are met. It is also thanks to the inseparable links that exist within our university between fundamental research and training, which cross-fertilize each other. It is no coincidence that the University of Geneva has been consistently ranked among the top 100 universities in the world. Today, we are ranked 59th in the Shanghai ranking and even 17th if we refer to the study of a French researcher who weighted this ranking by introducing the budget obtained by each institution.
**Higher Education Institutions & Social Challenges**

**Taking Risk for Being Innovative**

In a world where uncertainty is now the only certainty, an institution such as ours must think far ahead. Not simply to follow the general trend, to copy what is done elsewhere, but to invent, to reinvent itself constantly. To not only train students to master current knowledge and technologies, but to put them to work designing what will be or could be, what is yet to come, what will be necessary to meet the challenges of tomorrow. To achieve these goals, we need to take risks in order to be really innovative.

If uncertainty is a constant, then it is our duty to educate our students about the unknown. In this context, it would be an aberration to think of the university as a factory for transmitting formatted knowledge. Our students are not only eager for new ideas, but they need new models to innovate and change the world around them.

It is time for the laboratory, for trial and error, for experimentation, for openness, for exploration in all directions, for de-compartmentalization of disciplines! If the humanitarian emergency remains sadly present all around the globe, it is our duty to focus our concerns not only on the immediate, but also on the longer term, on the sustainable. Looking further ahead is our watchword.

This spirit of innovation does not only concern new audiences. It also affects all our students. For example, the Law Clinics allow them to confront real legal situations, while the "virtual patient" allows medical students to try their hand at medical diagnosis on the equivalent of a "flight simulator" for apprentice pilots.

For their part, the Citizen Cyberlab and the Geneva Creativity Center have launched several hackathons, these innovation marathons that bring together multidisciplinary teams around a problem to propose solutions. Our founding fathers had the ambition to create a university that mastered the knowledge of their time. Today, science is so abundant that it defies human capacity to comprehend it all. Even the most eminent specialists in their field can no longer claim to encompass all the knowledge, all the knowledge that is constantly being aggregated in the course of academic exploration.

Science is a co-construction that must be carried out by bringing knowledge into dialogue. Because it is a polyvalent university, the University of Geneva can simultaneously pursue knowledge in all its dimensions to push back the limits of knowledge within disciplines, and encourage the emergence of transdisciplinary projects, to meet current and future challenges. It allows students to have a T-shaped profile. A subtle balance between a broad understanding of problems and a deep specialization that allows them to find unique solutions.

To achieve this, we must continue to engage in a constant dialogue with other actors. First and foremost, in the academic field. But also, with other partners, in particular international organizations, both governmental and non-governmental, and civil society.

It is this deep conviction that leads us today to launch a partnership between our University, one of the best in the world, the International Geneva, so dense and diversified in our canton, and Tsinghua, the best Chinese technological university, which, in addition to its main campus in the high-tech district of Beijing, has another campus in Shenzhen, the place of Chinese start-ups.

This ambitious project combines innovative teaching programs with the development and exploitation of original solutions aimed at implementing the United Nations' sustainable development objectives. Each part of this project has been thought out and designed to allow a transition towards concrete applications that will lead to technological, economic and social...
innovations. It responds to a deep aspiration of many students to contribute to the resolution of some of the major challenges of our societies and it allows us to immerse students in two cultures, International Geneva and Entrepreneurial China, to teach them to think and act outside their intellectual comfort zones.

Cohesion

Universities need to situate their action in their capacity to contribute to the cohesion of the community to which they belong. The pandemic has shown the crucial role played by scientific expertise in the development of coherent policies. University professors were often called upon in the media and by political circles to shed light on the state of knowledge about the epidemic and the best way to combat it, with all due rigor and transparency. This renewed dialogue between science and politics is sometimes complicated, since science needs a long time to verify and consolidate its knowledge while politics must be able to take quick decisions, but it is a fruitful and necessary dialogue that we must constantly nurture.

The involvement of experts is essential in the fields of medicine and life sciences. But it is also essential in the humanities and social sciences. Science can help us anticipate future developments and understand phenomena before they engulf us. In recent decades, enormous progress has been made internationally to reduce poverty, facilitate access to information and education. However, the pandemic has revealed other cracks in our societies that were previously barely visible.

Geneva, this rich city in a rich country, has discovered islands of precariousness that were never suspected. Our researchers immediately mobilized to question these new phenomena and to provide answers that will help, I hope, to develop effective social policies.

The crisis has reinforced inequalities and has also served as a screen for an upsurge in human and environmental rights violations in many countries. These violations affect all sectors of the population and we must more than ever affirm, along with our trust in scientific expertise, our unwavering commitment to the values of social justice and human dignity. Universities must contribute to the development of a more sustainable and equal society. Social cohesion is a crucial condition to generate a sustainable growth.

Final Words

More autonomous, more international, more connected, more competitive, universities must redefine their priorities and, above all, understand how to serve new audiences with ever more precise and varied expectations. To provide teaching that is as close as possible to the individual needs of students. To invent a science 2.0 that integrates citizen participation. We need to be one step ahead and anticipate rather than react. Universities need to know how to take risks to seize opportunities. Institutions of higher education need to develop the dialogue with the society around them to understand the scope and complexity of the problems to be solved. Universities have to innovate to provide solutions to current challenges, remaining open to the world to be stronger rather than building walls as only those who doubt themselves do.

Let me share my dreams and hopes for all those who make our academy what it is today. Our students, first of all. The UNIGE has a duty to provide each and every one of them with the optimal conditions for their success. I dream of a university capable of using new technologies to anticipate failures, to offer individual courses differentiated according to each person's strengths and according to personal constraints such as family or employment, by offering more immersive experiences. I
find myself imagining a university that would bring about the advent of truly personalized teaching, a university that would favor not only access to knowledge but, above all, direct contact with teachers.

Above all, I dream of a university that allows everyone to reveal the best of themselves, to blossom through contact with an education that is in tune with the questions that humanity is asking.

Let me then share with you my dreams and hopes for our researchers and staff. Offering attractive conditions is no longer enough. Our University must assert itself as the center of attraction for people motivated by the greatest intellectual challenges, where you come by choice, because you know that this university will push you to excel.

A university where everybody enjoys working and living. A university that facilitates international mobility for all, allowing for a constant renewal of ideas and experiences. A university where administration is simplified. A university where young researchers, and especially young women researchers, can find the support they need to pursue their scientific careers.

I dream of a university that remains open to its city, its schools, its citizens, and that invites them to co-construct new knowledge, to enter the era of participatory science. A university that fosters increasingly close interactions between academic, political, social, economic and artistic circles and that acts on an increasingly global and international level. A university recognized locally for its ability to inspire new initiatives. But also, a university recognized worldwide for its ability to tackle global problems with a wide range of disciplinary approaches, in conjunction with other universities throughout the world and with international organizations.

A university, in short, recognized for its ability to make people dream, to make them think, to motivate everyone to build a future together. A university that is fully involved in the technological revolutions underway, that not only uses them, but allows them to be thought through.

I open my eyes and I see students, researchers, collaborators, representatives of the authorities, future graduates, former and future members of our community, academic and non-academic partners from all over the world, citizens. And I say to myself that, thanks to all of them, this dream, if not yet tangible, is already, to some extent, a reality. Together we will succeed in bringing it to life.
Flückiger, Y.

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Professor Yves Flückiger was born on 2 November 1955 and holds a degree in Economics and Sociology, as well as a doctorate in Political Economy from the University of Geneva. He has served as a research fellow at Harvard and Oxford, has been a visiting professor at the universities in Fribourg and Lausanne, and a senior lecturer at Australia’s Deakin University. He joined the Faculty at the University of Geneva in 1992, directing the University Employment Observatory and the Leading House center of excellence in Education Economics. He has authored numerous books as well as more than 120 articles in international peer-reviewed journals.

Prof. Flückiger’s teaching at the University of Geneva focused on labor economics, industrial organization, and public finances. He has directed numerous projects supported by the Swiss National Science Foundation on themes related to migrations, wage discrimination, sexual segregation, new forms of employment, and child poverty. As head of the University Employment Observatory of the University of Geneva, he has also conducted multiple research mandates funded by public and private organizations. He was a member of the Competition Commission from 1996 to 2007, Vice-President of the same Commission from 2003 to 2007 and scientific advisor to the Swiss National Science Foundation from 1998 to 2008. From July 2007 to July 2015, he held the position of Vice-Rector of the University of Geneva in charge of finance, international relations, the strategic plan and the agreement of objectives concluded with the State Council.

Since 15 July 2015, Prof. Flückiger is the Rector of the University of Geneva. SWITZERLAND. In February 2020, the plenary assembly of the swissuniversities elected Yves Flückiger, as President. He will hold this office from February 2020 to January 2023 in parallel with his activity as head of the University of Geneva.

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