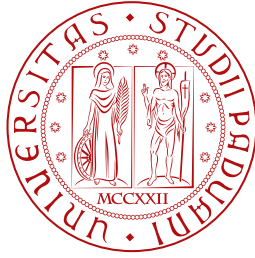


1222 • 2022  
**800**  
ANNI



**UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA**

**Free your future**

**Inauguration of the 801<sup>st</sup> academic year**

---

*February 13, Aula Magna, Palazzo del Bo*

Madame Minister, Anna Maria Bernini, civil, military and religious authorities, visiting rectors, distinguished guests, faculty members, colleagues of the administrative-technical staff, students, and those watching online

Today, we symbolically conclude a time in which we retraced and celebrated 800 years of our University. It is not easy to judge events in their proximity, without the detachment provided by the passage of time. I think it is safe to say that it has been an exciting year, full of different emotions held together, at least personally, by a solid common thread: the pride that comes from the sense of belonging to this glorious (certainly not perfect, but I assure you illustrious) University.

Of the various events that have accompanied this particular year, allow me to point out the extraordinary participation, not only of those who live within our academic community but of those from the surrounding towns. We have been given the chance to speak and we have confirmed ourselves as a university that has always made its roots in the territory a distinctive feature.

A number above others: for the first time our large and varied museum and cultural heritage, disseminated not only in Padua but in all the branches of our university, has exceeded 300,000 visitors. The “great beauty” of a culturally diverse heritage, which reminds us of the multidisciplinary value that underlies our appeal, has proven to be a universal language capable of attracting visitors from every corner of the planet.

A language that we want to continue to speak, with two legacies that must remain as concrete testimonies of our 800<sup>th</sup> Anniversary: in fact, this afternoon we will inaugurate the new Botanical Museum, with a completely revisited layout. These are botanical collections, among which the historical herbarium stands out as an extraordinary archive of plant biodiversity with close to 800,000 specimens of dried plants, algae, mushrooms and lichens. Almost 500 years after its foundation, the museum also presents the apothecary that doctor Francesco Bonafede had longed of becoming a reality since 1545. Today, that wish takes the form of the eighteenth-century pharmacy, donated to the University by Giuseppe Maggioni, a pharmacist who today is celebrated in the *Aula magna* with us his legacy, with instrumentation that spans at least three centuries of the history of pharmaceuticals and medicine, underlining the deep bond that has united and still unites, the world of plants and medicine.

The museum holds a worthy space for the ancient Pinali library, displaying volumes of work that have made the history of science and medicine, such as the first edition of 1543 of *De humani corporis fabrica* the work of the Flemish anatomist, student and then professor in Padua Andrea Vesalius or, those who revolutionized the study of medical science right here in our University. The work behind the museum displays an exceptional collective effort and participation, and for this, I sincerely thank Professor Elena Canadelli and all those involved.

Today, we announce that the Museum of Nature and Man will open its doors at Palazzo Cavalli on 23 June, standing as the largest university scientific museum in Italy and one of the largest in Europe. Mobilising the collections of Mineralogy, Geology and Palaeontology, Zoology, and Anthropology, the Museum will allow visitors to admire a selection of over 300,000 artefacts, showcased in a spectacular setting accompanied by videos, projections, multimedia and interactive exhibitions. A scientific museum housing 44 exhibition spaces across more than 4,000 square meters, but above all, it will be a place to welcome school groups, tourists, and the local community on an exciting journey that retraces the entire evolutionary history of man.

Citing just one name, that of Professor Telmo Pievani – who will cheer us up shortly with his *lectio magistralis* – I want to thank all those who have contributed to the creation and setting up of the museum: it was a great financial commitment but above all of an extraordinary collective effort that offers a tangible legacy for our region.

The legacy we leave is not only a way to remember our eight hundred years, but also a way to give back: unveiling a new museum, as well as for many other initiatives of our University, for example, the restoration of numerous spaces, including this space, the *Aula magna* of Palazzo del Bo, and the contribution of 2,200 donors. To the institutions, companies, and local citizens: your generosity has brought over two million euros towards our initiatives, solidifying that participatory construction of knowledge which, if we think about it, is the ultimate goal of every university's Third Mission.

Thus, our university is even more deeply rooted in the community that hosts it, and it does so by pursuing the objective of sustainability with ever greater determination, under its three main forms: social, environmental and economic. This is not the context to offer you the long list of actions implemented for sustainability: therefore, I hope the results held in the first international ranking that tested the sustainability rate of universities in depth will suffice to illustrate our commitment, siting us first among the Italian universities and in the first hundred positions in the world rankings. Very often these rankings can be random, but in this case, I believe such excellent results accurately certifies the unceasing commitment and constant attention that the University of Padua places on sustainability.

Inclusive, equal, respectful of the environment, in a word fair: this is the only future we imagine for our university.

In terms of social sustainability, I would like to underline how the University of Padua has increased its actions to protect the physical and mental health not only of the student community, the academic faculty and of the technical and

administrative staff, but also of its citizens. We did this thanks to a substantial series of initiatives focused on well-being, and thanks to the University Centre for university clinical and psychological services and in synergy with the University Hospital of Padua. Taking care of a community's well-being has been, and will continue to be, a fundamental objective as a result of the competent work of those involved. Well-being as part of sports: let me highlight the increase in incentives for the student-athlete dual career and, in 2022, the creation of our sitting volleyball team in collaboration with the University Sports Centre as an inclusive sport par excellence, the first national team at the university level of its kind.

The inauguration of the academic year is also the best time to briefly outline what has been implemented in terms of the right to study. A fundamental issue for us, especially in recent months which has seen a profound housing emergency and the return of the figure of suitable non-beneficiaries for students, concerning regional scholarships. In the last 5 years, the University of Padua has allocated over 25 million euros for the right to study: by far the largest economic commitment among Italian universities. This year, we also allocated more than 7 million euros to supplement the disbursement of regional scholarships to those who are entitled to them and, with around 10,000 students received a scholarship.

We have also raised the ISEE exemption quota to 25,000 euros and increased the facilities provided for students with ISEE from 25,000 to 30,000 euros. To put it in numbers: one out of seven students are completely exempt from paying tuition fees, and one out of five will see a significant reduction.

In collaboration with ESU, we have developed a plan to recover housing dedicated to the student community. The guidelines for the alias career have also been redesigned, an issue on which our university has always been a forerunner, we have opened new study rooms, bringing the available places to 3,500 and guaranteed basic medical assistance for those studying away from home.

We pay great attention to those coming from places where the same freedom that is so dear to our university is not guaranteed: 130 scholarships have been awarded to students from Ukraine, Afghanistan, Myanmar and other countries.

I'll stop here, but I could go on. It may seem presumptuous to you, but I challenge anyone to argue that the University of Padua does not care about the right to study. We will continue to invest resources, but please note what we have done and what are doing.

Students are attracted to our University thanks to our innovative and regularly updated academic offering that reflects the needs of society and the changing workforce. But this was also the year of the complete return to in-person activities. The interaction between teachers and those following courses renewed the possibility of discussion between students is an essential and indispensable observation for personal and cultural growth. Seeing how you have revived and how you revive the lifeblood, not only Padua but all the locations of our university, pumping back into the community was, for me, one of the most exciting moments of 2022. A University cannot exist without those in attendance. We currently offer 204 degree courses, with an increase of 12% in the last five years, of which 53 are taught in English (also in this case with a strong increase, actually doubling, in recent years). In the last academic year, we delivered 6,643 courses and I like to underline how 58.5% of these relate to at least one of the 17 sustainable development goals of the United Nations 2030 Agenda. Increasing enrolment this academic year with more than 23,000 registered students. The international student quota covers 11% of enrolled students, a figure that exceeds the national average by 4 percentage points, among other things in a general period of university enrolment crisis that has not affected us. We are approaching the quota of 70,000 students enrolled which are added 2,960 postgraduate and 2,000 PhD students.

The number of students with disabilities and specific learning disorders who have chosen to study in Padua and the number of personalized admission tests has

increased, as well as new quiet room spaces dedicated to those with special needs. We are actively intervening to create a stronger gender balance: for example, the presence of female students in STEM courses is constantly growing, which currently stands at 32%. Confirming the attractiveness of post-graduate training, saw an increase in applications from international students for doctorates and specialization schools and a considerable general increase (+25%) in enrolments for masters and advanced courses. High-quality professional courses that correspond to what students are looking for: *Almalaurea* data certify that 9 out of 10 enrolled in masters would take the same course again, which is considered effective for their work or for looking for employment. Additional news is the excellent quality of our postgraduate training: the equivalent of the diploma for those who complete the course of our Galilean School of Higher Studies with the title of second-level master.

One of the most ambitious challenges of the past year was to intercept the resources of the PNRR. Noting that our high-quality research output and ability to produce innovation have been highly rewarded: funds obtained in one year are unprecedented in our history. PNRR research projects amount to a total of 151 million euros and the involvement of 492 professors will allow us to recruit 133 type A researchers and 155 PhD students.

Further evidence of the high quality of our research is the national research centre “development of gene therapy and drugs with RNA technology”, financed by the MUR with 320 million euros, and the “iNEST Innovation Ecosystem - Interconnected Nord-Est Innovation Ecosystem”, financed with 110 million euros. These initiatives elevate the University of Padua as the leader in coordinating large networks of institutional, academic and private partners. Initiatives we are proud to contribute towards, thanks to our skills, the recovery of our country. It was also the year of the departments of excellence: once again we excelled at the national level. As many as 29 of our 32 departments met the ministerial selection criteria, 11 of these, out of 15 presented, were selected, with funding of more than 88 million euros.

The results achieved are also the result of a forward-looking investment plan in recruiting researchers of excellent quality. We have steadily increased the number of Assistant Professorships and Tenure Track Assistant Professorships in the recent past, which today has exceeded 600 overall: these are the people who are changing the face of our departments. In the last year, more than 300 researchers have joined our academic community. The average age of entry into roles has steadily decreased with an almost perfect gender distribution for professorships and a value that stands at around 40% for the female component. At the same time, there is an increase in foreign researchers who choose Padua with a percentage for Assistant Professorships close to 5%; they are the forerunners of an internationalization process which we hope will soon involve the entire academic body. The youth that constitutes for us the most precious legacy of energy, intelligence, and enthusiasm, today is a reflection of what the face of our University will look like tomorrow.

In conclusion, I am addressing you, the students of our University. I know it hasn't been an easy year, despite our growing and significant commitment to the right to study. But in the words of Nelson Mandela: "Sometimes it falls upon a generation to be great. You can be that great generation. Let your greatness blossom. Of course, the task will not be easy. But not to do this would be a crime against humanity, against which I ask all humanity now to rise up."

I urge you to choose your battles wisely. Face problems with a critical and constructive spirit, and distinguish what a right and what instead is a mere claim. In the words of Rita Levi Montalcini: "Think of the future that awaits you, think about what you can do and do not fear anything."

With an eye towards the future, with the awareness of being able to build it together with passionate, competent and free people,

I declare the opening of eight hundred and first academic year of the University of Padua.



*20-year-old is the youngest university graduate in Italy*

*Student found dead, hadn't taken exams for months*

*Set of quadruplets who graduated at the same time, say maintaining a sense of health competition was their secret to success*

*university student commits suicide: lied to family, there were no exams*

*23-year-old medical doctor "for me, sleep is wasted time"*

*awarded five university degrees in six years, record-setting student shares ingenious method*

*19-year-old university student leaves suicide note "my life is a failure"*

Dear fellow students, Magnificent Rector, Minister Bernini, Authorities, and all those of the University of Padua community,

I think the profound contradiction of the media's narrative towards universities is evident to all. The picture they paint portrays a painful reality.

They celebrate extraordinary outcomes of excellence by making them seem ordinary, by making us believe this is normal.

We feel the weight of a suffocating expectation. They cease to consider the human need to proceed at one's own pace, in one's ways.

We are tired of mourning our peers. We demand that those here today, political and policymakers make themselves available to us. We can only take action in response to this emergency if we are united; it takes courage to question an entire meritocracy and competitive system.

What kind of courage does it take to slow down? They teach us that being slow means disappointing the social construct, and often, the expectations of our families. Slowing down means being left behind.

Since when did studying become a competition? When did learning become secondary to achieving? We know that a good life, a dignified life, is not a given right, but it is something we must earn.

Notoriously, merit is understood as a factor guaranteeing a fair path for all, capable of smoothing out differences in the name of personal commitment that is recognized and rewarded. Therefore, failure to achieve results is the exclusive fault of the individual for not having "committed enough."

However, we must remember that many of the obstacles we encounter in our academic careers are structural. Not being able to afford to live away from home, not being able to attend classes, and not receiving a scholarship. It is cowardly to ask individual students to take responsibility for finding a way to reach the end of their academic path unscathed; overcoming such obstacles is the burden of institutions to remove.

In Padua this year, more than 2400 students who had been entitled to funding never received its disbursement. Can you imagine going through your university career serenely only to find that your main concern is how to support yourself financially? How can we trust our university, how can we trust our policymakers, when we see our constitutional right to study denied?

Such questions require answers. I turn to ask you directly, Councilor Donazzan, how is it possible that we lack the scholarships that our Region has continued to ask for over the years? Why have we not seen any real action taken for implementing public student housing?

Negligence and disengagement of policies only distress those who are already in precarious conditions, especially students who have not been able to adapt to a real estate market that speculates on the public's shortcomings.

Housing and economic issues are real emergencies that we must address. Since 2018, our University has been committed to advancing the funds intended for scholarships that the Region has failed to allocate. By recognising the importance of guaranteeing the right to study, we expect that the allocated PNRR funding sustain its commitment.

When we are unable to enjoy our right to study, devoured by a constant corrosive sense of competition, the subjective reasoning behind controlling our psychological well-being rests on our shoulders. Where can students turn for help, and who will listen? Not all universities offer assistance, and for those that do, what will happen when they become underfinanced? We must demand access to basic psychological care.

Even when we feel well, we must remember that neither our exams nor marks define who we are. We must remember that asking for help and expecting an adequate response is justifiable to the human experience.

The laurel wreath is not a symbol of excellence or unbridled competition; rather it marks the end of a personal path. The wreath is a crown of liberation adorned through knowledge. We have embellished it with a green bow as a reminder of our well-being. We must remind ourselves of those who were unable to achieve its adornment, without forgetting to include those who ever doubted or who doubts its confirmation.

Being unwell should not be normal.

For those committed to continuing their academic career, please note what the value of education and research constitutes in Italy, nearly 55% of Italian PhD students are unable to save 100 euros a month.

And once they have obtained their degree, only uncertainty awaits them. Living paycheck to paycheck, without the dignity of basic workers' rights, like maternity leave. Being ineligible for a mortgage, difficulty in maintaining financial independence while living in any of Italy's main cities. Outside of Italy, being a researcher is seen as a profession. The so-called "brain drain" is a way of placing guilt on those who refused to endure the precarious pursuit of an academic career in Italy.

A few months ago, Minister Bernini reported to the Chambers that an employment contract would limit the freedom of a researcher. On the contrary, the absence of safeguards is what limits freedom, thus preventing researchers from following a stable life project under current conditions.

In this sense, the one-year extension of research grants should not question the need for a timely reform of the pre-role that guarantees stability and a future in our country for researchers.

In this precarious context, we must excel by any means possible, whatever they are, inside and outside the University. More and more, better, faster, never stopping, never slowing down, not even in the face of difficulties. When there is a will, there is a way, right?

Is it true that we can get anywhere and achieve anything? Can we accept that the answer, as scary as it may be, might be no? Not until we focus on building a society free from prejudice, a society that embraces differences as a means to level out inequalities.

We are faced with a government that deliberately chooses to ignore the alarming cries of its youth. When we ask for more funds for public education, we see the budget law increase funding for private companies. When the youth express civil disobedience and peaceful protest in reaction to climate change, they receive little attention.

We measure a civilization and the strength of its State by how it treats those marginalized by society.

How dare they lie, telling us that they will not touch the right to abortion? Are you not afraid of what will happen after those three-legislative bills challenge it?

What about the 84 suicides of prisoners in 2022 and the silence of the Italian institutions responsible for their incarceration?

The persistence towards the trampling of civil and social rights are attitudes that belong to one of the darkest periods in the history of our country. It was from this rubble that our Constitution was created, built on the foundations of democracy, equality, and freedom. Principles that today we owe to the courage and sacrifice of the younger generations, including students like us, who fought against the oppression of the fascist regime.

The same courage that awarded the University of Padua with the Gold Medal for Valour and its role in the Resistance to Nazi Fascism. Noting that on this day, exactly eighty years ago in 1943, Rector Concetto Marchesi took a clear position by expelling the fascists from the inauguration ceremony of the academic year in the name of Patavina Libertas.

Freedom and courage will continue to be the principles on which our University was founded. I would like to conclude by addressing my fellow student community:

The present is not easy. Have faith in the future. Perhaps the greatest challenge consists not of adapting to what is granted to us, but of demanding more.

The only way of doing this is by putting individualism aside, with a view to solidarity.

As Marchesi said, “For the faith that enlightens us and for the indignation that inflames us.”

Enjoy the inauguration of the 801st academic year.

Magnificent Rector, Minister of University and Research, Authorities, Colleagues of the Academic Community, and students

While we move beyond the eight hundred years since its foundation, the University's forecasted income statement also exceeded 800 by reaching figures closer to 831 million euros, an increase of 16% compared to 2022 and 30% compared to 2021.

This important figure is an effectively concise reflection of our growth of research, teaching, and Third Mission activities. The increase of 117 million compared to the forecast for 2022 mainly echoes the planning behind the National Recovery and Resilience Plan. A plan that sees an increase in ministerial contributions, thanks to the excellent results obtained in the bonus portion of the Ordinary Financing Fund, disbursed based on the quality of research and recruitment. Within this parameter, the University of Padua has obtained some of the best results in proportion to its size.

The 2023 forecast of nearly 900 million euros does not represent a goal, rather it moves beyond expectations. This forecast includes the addition of all the PNRR

projects in which the University of Padua is involved and its adjustment according to the funds recently obtained thanks to the “Departments of Excellence” guidelines for which we have achieved. Over the next 4 years, the impact of the PNRR and the Departments of Excellence on the university budget can be estimated at around 300 million euros.

These resources will be used to carry out submitted projects and will produce an increase in personnel and investments, reinforcing the growth in expenditure already underway, due to wage dynamics and the increase in energy costs, goods and services. Therefore, in the next three years the university - net of unforeseeable exogenous shocks - should move in a situation of substantial economic and financial equilibrium, with no significant margins.

The impact of these new projects requires an effort of implementation that is in harmony with regular programming and supported with adequate tools.

“Bringing out aspirations, providing support to the structures and removing those bureaucratic barriers as obstacles” is the phrase that describes the iconic mission of the university’s technical and administrative services, but in this historical moment, it is also a necessary condition for achieving expected results within the required time frame.

“Bringing out aspirations” offers a positive interpretation of the challenge of change and modernization to which the entire country is called upon while maintaining awareness of the pitfalls along the way. The growth in the number of enrolled students, the almost 800 research doctorate scholarships that the university makes available in the academic year 2023/2024, almost 200 more than the current ones, and the growing degree of internationalisation, so that



today one out of ten admissions is an international student, and 5% of new recruitments concern researchers who carried out their activity abroad, the organizational climate that improves as a whole, are data and facts that are important within themselves.

More profoundly, what does it mean to bring out aspirations in the “age of sad passions,” to use the definition coined by Miguel Benasayag and Gérard Schmit, characterized by the fact that, especially among the youth, we tend to consider the future as a threat rather than a promise? The prevalence of concern for what happened yesterday, rather than invoking enthusiasm for tomorrow, must lead us to ask how schools and universities can better fulfil their role. We must push ourselves towards finding concrete answers by carrying out initiatives in which the investment, especially when it is made in debt, is well aimed and the value created for the younger generations is real and greater than the costs incurred. In short, to ensure that it has all been worth it.

To generate confidence, it is necessary to be fully aware of the task that awaits us. We must be devoted to such a commitment and hold the competence to bring it to fruition. This means making available the organisational, logistical and technological tools necessary to study, carry out research, teach, and fulfil our Third Mission so that it is easier to exercise the responsibility of designing the future.

We have important recruits at our disposal, which the university has been working on for some time, which will fully mature in the next few years. The 2022/24 personnel plan, already operational, allocates around 450 staff points to the recruitment of professors, researchers, and technical and administrative personnel. In concrete terms, this means creating 850 stable positions, with

overall potential growth in personnel estimated at 500 individuals, half of whom will be technical and administrative personnel. To these resources, we will add fixed-term staff who will be hired under the PNRR and other special projects financed externally and from the university budget.

This strong and sudden growth raises a question about logistics. The building of a master plan, already underway, includes the construction of an additional 54,000 square meters, with an increase in the available surface area of around 10%, bringing us closer to the threshold of 800,000 square meters. Witness to this greatest increase is seen in teaching and study spaces (+30%) and research and laboratory spaces (+15%) within and outside Padua. The planning also concerns the redevelopment of existing assets, committing the university for almost 200 million euros in the three years 2023/25 and for at least three years following. These investments require time and commitment and must be accompanied by the growth of collective responsibility in the use of the spaces already assigned. As required by the university plan for containing energy consumption, our ability to modulate energy use according to actual needs is to avoid uneven situations of saturation and under-utilisation. We must view this as both a managerial and cultural challenge: classrooms and laboratories are public assets that must be used to the fullest of their operational capacity, and adequately distributed throughout the day and week.

The availability and use of digital infrastructures and the integration of information systems are growing and must grow further. Consider the strengthening of our eduroam hotspot network, which is also available within hospital structures, providing access to virtual laboratories, and the migration from fixed telephones to portable phones integrated with videoconference and chat services. All within a framework of overall growth in performance, without neglecting the safety of our infrastructures.

The excessive complexity, vastness and variability of the reference regulatory system, which regulates the action of public universities, is a problem that must be addressed. Knowing this, we cannot use this as an alibi that pushes us not to use all the margins of action that are permitted, rather we must “remove those bureaucratic barriers that are obstacles.” We must strike a greater balance between the needs of administrative compliance and the effectiveness of results, pushing ourselves towards greater effectiveness. The simplification operations in progress, such as direct access by researchers to accredited electronic markets for purchases of less than 5,000 euros, is a move in this direction. Concerning personnel recruitment, it remains necessary to activate methods that are more attentive to assessing talent than the cliché. Career management must be less rigid and uniform and the excessive limitations on rewards and incentives must be reviewed by following the necessary negotiation procedures because in some cases they demonstrate that they are no longer adequate within the urgencies of time.

But it must also be emphasized that some external constraints put us in difficulty. Actions must be taken to ensure the possibility to bring out aspirations and give support to the structures. Let me underline three main actions.

The first concerns the requirement limit, i.e., the limit on annual payments, which is lower than the ordinary transfers received from the State, so it is not possible to use them entirely. This is a complex issue that pertains to the entire structure of Italian public spending, but, combined with spending constraints for the purchase of goods and services, it has a severe impact on development and creates procedural rigidity due to the consequent controls. At the very least, making it is necessary to exclude the expenditure for the grants of doctors in specialist training from the limit of requirements, also in consideration of the fact that the number of doctors in training is established by the Government and

by the Regions and is a national emergency.

The second external limit concerns the incentive funds of contracted personnel. The law and the national employment contract provide that the remuneration of contracted personnel has a variable part linked to results. But the resources needed to feed the variable part are limited to 2016 levels so that a public organization that hires, even if under development programs of national value, obtains the paradoxical side effect of also decreasing the average level of the resulting pay of all its personnel. A decisive intervention is needed, as has already happened in other sectors of Public Administration.

Finally, I draw your attention to the issue of the right to study. The PNRR's objective of having a greater number of young qualified researchers is not sustainable if equitable access to university studies is not successfully supported. This is especially true if one considers the demographic dynamics, after 2026, we foresee a progressive and substantial decrease in the population aged between 18 and 24 years, therefore making it necessary to further and steadily increase funding and services to support student access to universities. The university invests a great deal in this sector but does not have the resources to replace the action of the other institutionally responsible subjects.

The goal of stimulating aspirations, ensuring adequate training and equitable access to education, carrying out advanced research and transferring its results, and recruiting young people based on talent, can only be achieved if there are adequate and motivated organizations. Noting that the constraints mentioned are obstacles to such goals.

But, when people believe that what they do can invent the future and institutions

work to enable it, challenges can be overcome. With this spirit, we want to build the university that awaits us, the *Universa Universitas Patavina Libertas*, after 800 years of history and at the beginning of the first of the future.

Thank you all for the results you have achieved and for the commitment that we will put together on the journey ahead.

**Nature, science, and us: in praise of fragility**

Madame Minister, dear colleagues, technical and administrative staff, students, visiting rectors, civil, military and religious authorities, and to all those gathered today at the inauguration of the first academic year following our 800th year. Please allow me to take this moment to sincerely thank our dear Magnificent Rector for the honour reserved for me to give this Inaugural Lecture.

I am taking a wager today by offering you an evolutionary look that is a little wider than usual in space and time, the phenomena happening to us during these turbulent times. It all began with a little boy who didn't want to grow up. Seems like the beginning of a fairy tale, yet instead it is human evolution. Indeed, we enjoy a rather unique trait within our nature: an unusually long childhood and adolescence. Not only have we slowed down development, but we also retain some juvenile traits throughout life. We have evolved while maintaining in maturity what in our ancestral species were only infantile characteristics, for example the close integration between different areas of the cerebral cortex. The hairy muzzle of an adult chimpanzee is very different from ours, with that sloping forehead and jutting jaw, but if we look at the round head, large eyes and flat face of a baby chimpanzee, it will look almost human to us in an unsettling way.

We are the infant monkey; we are fragile animals. How is this possible? It is indeed a steep and dangerous adaptation. If the infants of our ancestral species had remained helpless and totally dependent on their parents for years rather than months, the risk of being preyed on increased, not to mention the social costs

of such prolonged parental care. The big African cats knew this well. In fact, other animals subject to predation, such as herbivores, do the opposite. A young gazelle or giraffe, shortly after giving birth, with the amniotic fluid still on it, can rise up on its legs and after twenty minutes is seen with its newborn trotting behind its protective mother.

Instead, we have taken the path of fragility. Walking upright implies that the birth canal cannot widen much, but meanwhile the skull swelled during the evolution of the *Homo* genus: the only way to resolve this contradiction was to shorten the gestation and deliver premature babies. If we are here to talk about it, frailty evidently offered our ancestors advantages of another kind: social and mental advantages. If the group to which they belong is cohesive and well organized enough to allow itself to cultivate such weak offspring within itself, then new and extraordinary possibilities are released. Two-thirds of the human brain develops after birth, it is a sponge that absorbs and amends experiences, teachings, images and stories. More years of childhood and adolescence mean more time for learning, imitation, play, free experimentation and invention, leading to creative improvisation. We are human thanks to infancy and education; we are the children of an original fragility.

We don't know exactly why this happened. Perhaps, like bonobos, we have domesticated ourselves, that is, social selection has favoured the reproductive success of the more docile and less aggressive individuals. In fact, the genetic traces of this progressive refinement have been found in *Homo sapiens*, one of which is precisely the "neoteny", the retention of juvenile features for life. Of course, the result was not optimal. After all, we are a collection of imperfections that work. Bipedalism condemns us to a thousand ailments and back pain, but it frees our hands and lets us explore the Earth. Food can end up in the trachea, suffocating us, but it is the price to pay for the evolution of articulate language, another human marvel. Childbirth is painful and dangerous, but it delivers children into the world who, although immature, are a prodigy of curiosity.

It may seem strange, but fragility is the secret of our evolution. The most creative systems, such as the human genome and brain, are fragile, in the literal sense that can shatter under an existential trauma. But it is by virtue of that vulnerability that they also manage to innovate continuously. Precisely thanks to that malleable brain we have learned to make abstractions, to fantasize, to imagine worlds that do not exist outside our minds, to tell stories, to question ourselves about the regularities of the nature that surrounded us, as the first embryo of science. And so, we have also become aware of our own fragility, we have become a species that aspires to infinity and eternity, but finds itself aware of the finitude of all things. For this reason, fragility should not be idealized: as it also means suffering, fear, discomfort, insecurity, and the tragic awareness of one's own irredeemable finiteness.

The pandemic, which we are now scrambling to eradicate, was an epiphany of our vulnerability. A nature indifferent to human fate and unpredictable has raged in the form of a virus. But how unpredictable? We know that the pandemic was predicted in detail by experts. The history of the plague, in its recurrence, is always new and always the same, it is a paradigm of the fragility of a human nature exposed to pathogenic agents. Thankfully, we, as infant monkeys, invented science, which has given us vaccines. But this alleviation is not enough, many viruses continue to circulate, jumping from one species to another, made more likely when we interfere with the habitats in which carrier animals live. The pandemic is also an ecological issue. It will take a good deal of imagination to understand that as a fragile and overbearing species, to avert other similar tragedies, we must make peace with the nature from which we come and to which we belong. Yet our arrogance persists: we have only vaccinated parts of the world that hold wealth and we are doing nothing to reduce the chances of it happening again.

The new vaccines are the result of discoveries and techniques that were simply unimaginable twenty years ago, such as genome editing and the use of messenger RNA. They are the best result of that mixture of qualities that make up the



scientific experimental method, which finds its roots here in Padua: imagination, rigor, determination, intuition, sacrifice. The creativity of this method often manifests itself serendipitously, that is, in that beautiful phenomenon whereby scientists are looking for something and find something else entirely. They plan an experiment, ask themselves a certain research question, but then in the course of their work they come across completely unexpected, and usually important, pieces of evidence. Serendipity teaches us, as Karl Popper wrote, that data alone is not enough, it must be interrogated against a theory, and that true ignorance is not the absence of knowledge, but the refusal to acquire it. Scientists, the more things they know and discover, the more they realize they don't know. And that's not enough: not only do we know that we don't know, that is, we have the intellectual tools to understand how ignorant we are - for example on the number of species that inhabit the Earth or exoplanets that could host life - but sometimes we see that we didn't even know that we didn't know.

The core of this serendipitous enterprise, which is science, is contained in a fruitful and fragile paradox: marked by questioning one's own and others' presuppositions, the force of criticizing each other, of mutually checking results, of comparing hypotheses and theories, knowledge does not go into crisis but, on the contrary, it increases. Criticism makes you grow, error is generative. This is the systematic, rational and constructive scepticism of science, the exact opposite of the prejudicial, destructive and obtuse scepticism that fuels fake news and conspiracy theories. This is why the freedom of science is an antidote against all authoritarianism, dogmatism and totalitarianism. In short, the scientific enterprise is an exciting adventure of knowledge in which the question marks increase rather than decrease over time. It is the humility of saying "I don't know, yet" and of challenging the unknown.

Serendipity means that in the eyes of our students there are ideas and discoveries that we, today, cannot imagine. As the Polish poet Wisława Szymborska said in her 1996 Nobel Prize in Literature speech, "I value that little phrase "I don't know"

so highly. It's small, but it flies on mighty wings. It expands our lives to include spaces within us as well as the outer expanses in which our tiny Earth hangs suspended. If Isaac Newton had never said to himself "I don't know," the apples in his little orchard might have dropped to the ground like hailstones, and, at best, he would have stooped to pick them up and gobble them with gusto. Had my compatriot Marie Skłodowska-Curie never said to herself "I don't know," she probably would have wound up teaching chemistry at some private high school for young ladies from good families, and have ended her days performing that perfectly respectable job. But she kept on saying "I don't know," and these words led her, not just once but twice, to Stockholm, where restless, questing spirits are occasionally rewarded with the Nobel Prize." Many restless souls have passed through Padua, from Andrea Vesalio to Galileo Galilei, from Elena Cornaro Piscopia to Concetto Marchesi, and many others.

It is within this spirit that we planned the celebrations for the 800th anniversary of our University, which has come to a conclusion today. It was understood to be a collective mobilization of all components of our community and it was, with more than 700 organized meetings. Destine to leave a concrete and permanent legacy through series of historical research and children's books, a widespread network of collections, historic sites that in 2022 were visited by more than 300,000 people, prestigious art installations, and above all, in 2023 the addition of two new Museums open to everyone. Nothing ephemeral, no self-celebratory rhetoric and no "event factories." For this, I sincerely thank the colleagues and technical administrative staff who have done a passionate and dedicated work for the 800th Anniversary Committee. Our task ends here and it was an honour to share it with you.

Like the more than ten Nobel Prize Laureates as guests and numerous other great figures who have paid homage to our anniversary have told us, the truth in science is asymptotic, it is never fully grasped, there is always a new question to ask, to pursue. The Nobel Prize-winning biologist, Peter Medawar, whose studies on the immune system paved the way for organ transplants, including the

pioneering ones conducted right here in Padua, wrote: “Science will persevere just as long as we retain a faculty, we show no signs of losing: the ability to conceive — in no matter how imperfect or rudimentary a form — what the truth might be and retain also the inclination to ascertain whether our imaginings correspond to real life or not.”

Imagination, audacity, care. Yet, during and after the pandemic, this fragile marvel of scientific knowledge has not been adequately communicated and shared with public opinion. Some have thought of setting themselves up as representatives of the entire scientific community, have spoken out on issues far from their competence and have given in to the pressing demands of politics and society to have certainties and forecasts, when the best answer would have been simply: “we still don’t know”. Others have thought of disseminating or staging the scientific debate on television talk shows or on social media, which are not appropriate venues for doing so, because they follow different rules. When communicating science, one must not communicate oneself, but science. We have forgotten that when science is communicated, it is not enough just to speak about its products, numbers, results: above all, we must share the process of science, the method, the approach, the empirical and rational attitude with the public, under all its uncertainties.

Let’s think about this. The most important civilizational achievements, to which our University has contributed over the last eight centuries, are all fragile, requiring constant maintenance and care: scientific progress; democracy; freedom of research, of teaching, of expression, of movement; civil rights; the secular state; the ideals of justice, equality, peace. I would like to add a final dimension of fragility of our current condition and of our future, in the light of the data that science offers us, with growing alarm, on the environmental crisis, on global warming and on the destruction of biodiversity: I am speaking of the ever more fragile and precarious relationship between the human species, its development and consumption patterns and nature.

While a criminal war of aggression is bloodying our continent, while greenhouse gas emission increases, disobeying all signed international agreements, while climate insecurity generates instability, environmental migrants and conflicts for resources, while global warming approaching those points of no return that will further accelerate the process, we realize that for too long we have removed the awareness of our fragility with respect to the power of a planet that has no need of us.

That's why it's important to remember that nature is bigger than us. It is because its diversity, including that of microbes, is still largely unknown to us. In it are hidden active ingredients of extraordinary value for our health, drugs of the future, anticancer drugs, suggestions for eco-sustainable solutions, ideas for new materials, new sources of food, prototypes of circular economies, biochemical miracles to be imitated, such as photosynthesis. Nature is bigger than us because it is a web of relationships that envelops us, feeds us and sometimes overwhelms us. Nature is bigger because it takes a very long time, while we neotenic African mammals have been on this planet for two hundred millennia or so. We need nature for every breath we take, while with a shake she could get rid of us and thrive as and better than before. Nature is greater than us because it does not allow itself to be entangled in our mental categories: it is not a person, it is not an intentional agent, it does nothing for an end, it neither rewards nor punishes us.

Despite all this, we delude ourselves that we dominate nature, treating it as an inert resource, and not as a network of relationships of which we are a part. Or we idealize it in one of the many Golden Age versions. But virgin nature never existed. The human species has always interacted ambivalently with nature. The places where we still find the highest levels of biodiversity today are not those that are uninhabited and devoid of any human presence. On the contrary, they are those in which native communities have been slowly co-evolving with natural environments for millennia, ensuring their maintenance. The atrocious discrimination against indigenous peoples, even in these pandemic years, is an offense not only to the cultural diversity that has enriched our history, but also

to natural diversity. We need a humanist ecologism, which makes it clear that the interests of nature coincide with ours and with those of future generations, as is now also written in Article 9 of the Italian Constitution, which states that the Republic protects the environment, ecosystems and biodiversity “also in the interest of future generations”.

The Earth as an evolving system will be the narrative fulcrum of the Museum of Nature and Man that we will open on 23 June at Palazzo Cavalli. Together with the beautiful Botanical Museum that we will inaugurate this afternoon, this will be the most important permanent legacy of our 800th anniversary celebrations. The fusion of the precious Paduan historical collections of geology and mineralogy, palaeontology, zoology and anthropology will allow visitors to admire, in addition to the splendid Palm Hall of Fossil Plants that hold a selection of 300,000 artifacts, showcased in a spectacular setting and accompanied by videos, projections, exhibits multimedia and interactive activities. Thanks to an extraordinary economic and collective effort by our University, we are ready to welcome school groups, tourists and the public on an exciting journey, which offers food for the mind and for the eyes. The Museum will therefore be a place of communication, but also of teaching, of continuous research on the collections, of participation and inclusion. Another contribution from Padua to what his late friend Pietro Greco called scientific citizenship.

I have listed a few frailties that, surprisingly, have become our strength as *Homo sapiens*. The hope is that our University will continue for the next 800 years to cultivate that perennially youthful creativity that has made us human. The dream is that new, unexpected serendipities light up our path in this bizarre and interesting universe.

Thank you!

When asked to create a work for the 800th anniversary of the University of Padua, I appreciated that neither the theme nor the typology of the work was imposed on me. It was up to me to decide. Strengthened by this freedom - the freedom rightly granted to art and science - it was not difficult for me to recall that I had once lived in this marvellous city. Padua was my home for at least a year when I was very young, returning often and willingly for work or family reasons.

It was precisely in this Palazzo del Bo that I saw Galileo's rough and grandiose podium for the first time. I never imagined that one day I would be called to celebrate, with my freedom as an artist, the power of a man whose freedom had been enjoyed much less than my own.

I could not grasp it then, but his podium was calling to me as if the Pisan astronomer were scrutinizing me with his telescope, asking for reparations from all of us. I thought of his painful rejection - yesterday as if it were today - and immediately decided to cancel it: not to reopen weeping sores, but to heal the worst evil with a sign of art and love: the blindness of the world when it denies knowledge.

However, I am convinced that pure celebrations leave the time they find. It seemed appropriate to represent not only Galileo's certainty but also his doubts. Not because he had any, but because a sharp-eyed and mangy, not to say cruel, censorship creates doubts even in those who don't have any.

A risk that our democratic societies hold today is the danger that fear generates prudence, degenerating into a paralysis of human thought and growth.

I have tried to say all this with the language of art, the truth of which is clearly not objective such as science, but the subjective one of the artists, therefore a questionable source of discussion.

I must underline that Galileo, a writer of rare effectiveness, did not ignore the ambiguities and traps of the word in his *Dialogo dei Massimi Sistemi*. Nor can I forget that as a young man, an unexpected world opened up to me when I read *Considerazioni al Tasso*, where the scientist argues that it is physical reality itself that transports human emotion, starting with those of art.

To better serve him, the old scientist, I had to force my hand; and to betray him in order not to betray myself and the darkest reasons of human creativity.

I'm sure Galileo would have understood. Because today the forces most necessary for our survival are threatened by obstacles and censorships of all kinds - above all freedom of the heart and the truth of the mind, without which the world is lost.

**Free your future**

[www.unipd.it](http://www.unipd.it)