UMBERTO VERONESI

A powerful man of science who never surrendered

Articles by Paolo Veronesi, Fondazione Umberto Veronesi, Sultana Razon Veronesi, Emma Bonino, Roberto Orecchia, Aaron Goldhirsch, Francesca Morelli, Franco Cavalli



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Introduction

A few years have gone by since Dad passed away, but the wish to keep his memory fresh still burns like a flame in many. When Banca Popolare di Sondrio (SUISSE) asked the Foundation to collaborate on the production of an insert dedicated to him in its 2018 Annual Report, I appreciated the Bank's determination to showcase his scientific work through a publication which, at first blush, might seem to concern a select community. The following pages relate the main stages of Dad's life: the contributions he made to research, the struggles he led for civil rights and the most important results he achieved in his long career as a doctor. What emerges above all is his original contribution to the development of a new approach towards cancer, an approach that wasn't only clinical but also involved empathy and closeness to patients.

Here, on the other hand, I prefer to write a few lines about my father. It's a pleasure for me to remember those most wonderful years spent together, when we were children and he would come home on Sundays after visiting patients at the hospital: he would bring a huge tray of biscuits, and my siblings and I would compete to see who could eat the most. Or in the 1970s, when he became a motorcycle enthusiast: he would take me with him on the back, cruising the roads around Lake Maggiore that he loved so much. For me, Umberto Veronesi was simply a father up to a certain point in my life. Then, because of my choice to follow the same career, he also became a role model at the professional level. The greatest legacy he left to me is to see in everything I finish the start of something new. That's the lesson I learned from him: once you've reached an objective, you immediately need to think about how you're going to tackle the next challenges. The establishment in 2003 of the Foundation that bears Dad's name marked the fulfilment of a wish he had. He wanted to create an entity for the purpose of supporting scientific research at the national level and implementing projects intended to educate people in disease prevention. That's what we continue to do, in order to give hope to all the patients who still struggle against illnesses today and who look forward to the future built on the ideals of science and peace that Dad always pursued.

Paolo Veronesi

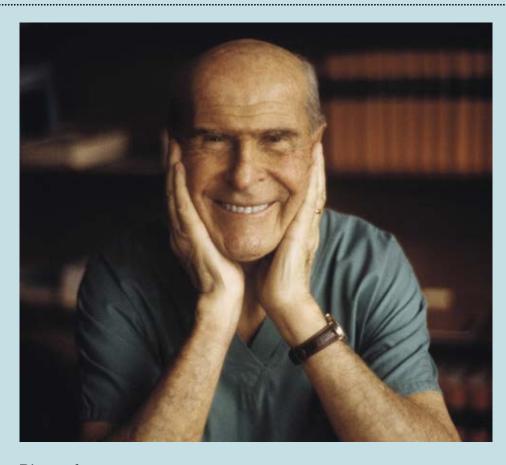
Chairman of the Umberto Veronesi Foundation

On page I: Umberto Veronesi at work in the lab, Milan, 2010.

Left: Together with his son Paolo at the Umberto Veronesi Foundation's 10th anniversary dinner, Milan, 2013.

Umberto Veronesi

In his office at the European Institute of Oncology, Milan 2013.



Biography

Umberto Veronesi was born in Milan on 28 November 1925 into a family with four older brothers and a younger sister. As he recalled some years ago in an interview with the journalist Giovanni Floris:

«My father was a tenant farmer on the Lombardy plains. We lived outside of Milan, though not too far away. We saw it as the grandest of destinations for those who live in the outskirts. Our great hope was to become "city folk". We walked four or five kilometres to school every morning in shorts, in winter as well – part of that natural upbringing of the agricultural world. Winning the city was slow but deeply gratifying, like all the great forms of emancipation.»

Memories of a life

His father died while he was still a young boy. Partly for this reason Veronesi always remained very close to his mother, Erminia Verganti, to whom he dedicated the book *Dell'amore e del dolore delle donne* ("On the Love and Sorrow of Women"), Einaudi, Turin, 2010. The same year, in an interview with the daily newspaper *La Repubblica* he noted:

«To me my mother was also a father, a big sister and a travelling companion because I lost my father when I was six. A child needs a guide and it was my mother who showed me the way. She was a deeply religious person who taught me two important things. One was tolerance and the other was to look for the cause of events».

His mother was a practising Catholic, his father a socialist reformer. It was the latter, despite the few years they spent together, who taught Veronesi the secular freedom of choice that would mark him for life. "When I was barely of age, even though I didn't want to go and fight, I was rounded up and found myself wearing a uniform that had no value for me, armed to kill other young men just like me in every respect except for the different uniform they wore," he wrote in his book *Il mestiere di uomo* ("The Business of Being Human"), Einaudi, 2014).

«I was fully exposed to the senseless violence of the Second World War, especially during the long period of clandestine fighting known as the "Resistenza". I was seriously wounded and one of the few who survived the explosion of a mine I stepped on while escaping an enemy ambush. Apart from the carnage of the battles, I had first-hand experience with Nazi madness and couldn't help asking myself, like Hannah Arendt and Benedetto XVI, where God was in Auschwitz. My decision to become a doctor was closely bound up with a search for the origin of such evil that the concept of God couldn't explain. From the beginning I wanted to study psychiatry, to understand in what part of the mind gratuitous madness can take root and cause the horrors I was witness to. But as I got into medicine, I was caught up in an evil even more inexplicable than war: cancer. Thus, defying the resignation that prevailed at the time, I made up my mind to investigate whether through consciousness and knowledge it was possible to vanquish that absurd, formidable scourge. To me it had become proof, like Auschwitz, that God didn't exist.»

Research, clinical work and political commitment for the good of patients

After graduating from medical school in 1951, Veronesi soon began working at the National Cancer Institute of Milan at a time when oncology was looked down on as the poor relation of medicine, given the scant resources available to doctors for fighting cancer. In 1965, after gathering donations from affluent industrialists in Milan and replicating a model imported from the United States but as yet unknown in Italy, together with Giuseppe Dalla Porta and other doctors at the Institute, he founded the Italian Association for Cancer Research. Initially envisaged as a small organisation that was supposed to raise funds to support the National Cancer Institute, it has since become Italy's largest charity and is helping make the country a front-runner in oncological research. From 1976 to 1994 Veronesi served as scientific

Together with businessmen Diego (left) and Andrea Della Valle (right) at an Umberto Veronesi Foundation gala dinner, Milan, 2012.

director of this same institute which had seen him take his first steps in medicine. He was also responsible for the establishment (in 1994) of the European Institute of Oncology (E10), where he was scientific director from the outset to September 2014 with a break from 26 April 2000 to 30 June 2001 (the period when he served as Minister of Health in the second Amato government). "You can't criticise politics without contributing something. I was a minister and senator for one parliamentary term, which wasn't easy for me because party politics is highly conformist," he stated in an interview for "Sette" in 2014. "We're supposed to stick to the guidelines drawn by the secretary and I didn't follow them. I always maintained my independence." In another interview with Massimo Gramellini, he said:

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«Let's make it clear: as minister I didn't accomplish a lot. I had a plan for the ideal hospital, because these days you can't keep going with 12-bed rooms and a single toilet at the end of the corridor, with relatives permitted to visit one hour a day. Like in a prison. Besides that, I required doctors to continue studying throughout their careers, with the fifty training credits per year. And I gave more money to research, that's all».

Apart from his own above-mentioned initiatives, Veronesi the minister is remembered for his battle against smoking and for an anti-smoking bill that he was unable to pass personally due to the government's fall. Yet the law that was finally pushed



through Parliament in 2003, by the new minister Girolamo Sirchia, strongly resembled Veronesi's groundwork and is still one of the most advanced in Europe. From 29 April 2008 to February 2011, Veronesi was elected to the 16th term of the Italian Parliament as a Democratic Party senator. Throughout his long, multi-faceted career as a man of science, policymaker and thinker, however, he never ceased to be a doctor who visited and operated on patients, insisting that his main duty was not only to make cancer - particularly breast cancer, on which he was one of the greatest experts - more curable but also less of a trauma in the lives of afflicted women. Veronesi died at home in Milan on 8 November 2016.

Doctor and scientist

The career of Umberto Veronesi was highlighted by many of his innovations in the treatment of cancer, innovations which in the past sixty years have radically changed the disease's prognosis. At the time Veronesi graduated, in 1951, the outlook for most women diagnosed with a breast tumour wasn't hopeful. However, according to Asco (the American Society of Clinical Oncology), by the end of his career the proportion of patients who could expect to live another five years had reached 90%. For an expectation of 10-year survival the proportion is now 83%. And if the tumour is localised and hasn't developed metastases, the 5-year survival rate is now over 99%.

A pioneer of damage reduction

In 1969 Veronesi, who was then working as an oncologist at the Milan Cancer Institute, proposed at a meeting hosted by the World Health Organisation (WHO) in Geneva that radical mastectomy (at the time the most widely used treatment by far) should be compared with quadrantectomy (a conservative form of surgery that eliminates only the quadrant of the gland containing the tumour). The latter operation moreover by default included the need to remove the axillary lymph nodes and the use of post-op radiation therapy to prevent a relapse. As Veronesi noted in the years that followed:

«There was considerable opposition to the study. The conservative operation, with variations on the technique used in Milan, had already been proposed and tested in the United States but then practically abandoned for fear of increasing the mortality rate. Radical mastectomy was considered a necessary price to pay to ensure survival. In the end, however, the motion passed and the study was initiated in early 1971 with a few preliminary assessments.»



Hard at work at the European Institute of Oncology, Milan, Millennium years. The first patients were operated on in 1973 and the experiment continued until the end of the 1980s. The results of the Halsted radical mastectomy (Halsted invented the demolitive technique, considered standard practice) were compared with those arrived at with the results of the Milan protocol.

Innovation in surgery

The initial findings of the quadrantectomy study, based on data on 701 patients and published in 1981 in the highly regarded New England Journal of Medicine, showed that the women treated with the conservative approach had the same survival rate and the same risk of relapse as those treated with demolitive surgery. Twenty years later a long-range follow-up was also published confirming the preliminary data and establishing quadrantectomy once and for all as the standard treatment. Veronesi's intuition had an extraordinary impact, not only on patients but also on healthy women, which helped to spread the practices of screening and early diagnosis. Still in 1973, just a few years before he became scientific director of the National Cancer Institute and concurrent with the quadrantectomy survey, Veronesi took part in the first study on adjuvant chemotherapy. For the first time, a group of patients with a high risk of metastatic development were treated after breast surgery with chemotherapy aimed at reducing the probability of a relapse. Here again, the results were very good: the tests demonstrated that post-operative chemotherapy is able to improve the prognosis significantly, reducing patients' incidence of relapse and prolonging their lives. A subsequent study showed that it was possible to reduce the number of therapy cycles from twelve to six, since the results are the same with lesser toxic effects.

Minimal effective treatment

These large clinical studies that Veronesi and his colleagues conducted in the 1970s and 1980s changed the therapeutic approach to melanoma and breast cancer completely and further confirmed the

scientific hypothesis that the prognoses for such tumours (as for many others) depend on the presence or absence of distant metastases and not necessarily on the primary tumour. It is for this reason that changing the local treatment has no impact on the survival rate. Thanks to these studies, Veronesi promoted the principle that in treating breast tumours (and all forms of cancer) there is no need to apply the "maximum tolerated treatment" and that the "minimum effective treatment" should be applied instead. He also played a pioneering role in the development of controlled clinical trials methodology in oncology, encouraging transparency in the designing of tests and the gathering and analysis of data. His curiosity also turned to the study of radiation therapy, where he contributed to the development of certain processes for its interoperative administration (a practice which in some cases can help women who don't have easy access to post-op radiation therapy facilities) and adjuvants (which are geared towards reducing the incidence of relapse). In 1996 Veronesi was presented with the Brinker Award by the Komen Foundation (the largest breast cancer research foundation in the United States), "for his crucial studies on assessing both the need to remove the breast after conservative surgery and the removal methods that display the best therapeutic efficiency."

A multidisciplinary approach

By establishing the European Institute of Oncology in 1994, Veronesi was able to bring together under one roof medical care, clinical research and basic research - a combination that in his view was the only way to find a final cure for cancer. The EIO also gave concrete expression to his own idea that scientific research, securely in the hands of researchers and academics (who have possession of the data) and backed by a partnership with industry, can pave the way from theoretical research to the development of a treatment. In Veronesi's opinion, the tight (but controlled) relationship between academic research and industry is particularly important for patients with early-stage cancer, in which case excessive treatment and collateral effects are fundamental issues. These account for the majority of situations where commercial interests and the interests of patients diverge and where processes should stay firmly under the control of independent researchers and doctors.

A scientific policymaker

Not content with having innovated the scientific approach to treating cancer, Veronesi further assumed responsibility for encouraging its dissemination. In 1982 he helped set up the European School of Oncology (Eso), a non-profit foundation that provides free training courses to oncologists across Europe and particularly in low-income countries. Since then Eso has played an important role in practical training for thousands of oncologists from Europe and elsewhere. The same spirit infused his other scientific initiatives, such as founding the European Society of Mastology (EUSOMA), the first oncological science association in Europe that brought together figures ranging from heads of clinics to radiation therapists and from surgeons to oncological nurses. Veronesi also greatly contributed to the treatment of melanoma by setting up and directing the Melanoma Group of the World Health Organisation. The essential role he played in promoting patients' autonomy and supporting their rights was less publicised. Deeply moved by the successes achieved in treating AIDS victims and by the rise of the breast cancer survivors' movement in the United States, Veronesi was convinced that a similar organisation could improve the quality of oncological treatments in Europe. For this reason, he backed the establishment of Europa Donna, the first pan-European advocacy group for breast cancer patients, and the spread of breast units: multidisciplinary treatment centres combining all the players who ensure a better level of treatment for women. Europe Against Cancer, the project that placed cancer at the centre of government agendas throughout Europe, was also designed by Veronesi, together with the founder of modern radiation therapy, Maurice Tubiana, who then (in 1985) headed the Gustave

Roussy Institute in France. Their simple plan, summarised in one page that the two oncologists took the time to write and present at a meeting of the European Commission and the European Council, sparked substantial changes across the continent. These included the development of the European Code Against Cancer, the spread of anti-smoking regulations, the implementation of European guidelines for oncological screening, the development of large-scale epidemiological studies such as EUROCARE for investigating patient survival rates in various countries around the world and, finally, the definition of common standards

The importance of prevention

for training young oncologists.

During his career, Veronesi belonged to innumerable organisations and scientific societies. These included the International Society of Cancer Chemoprevention, the Union for International Cancer Control (which he chaired until 1982), the Committee of Oncological Experts of the European Union (from 1994, and which he chaired), the Federation of European Societies Against Cancer (now Ecco) and the European Organisation for Research and Treatment of Cancer (EORTC), an important think-tank that designs many of the clinical studies in European oncology and that Veronesi headed from 1985 to 1988. As a great supporter of free access to scientific knowledge, in 2007 he helped found "ecancer.org", one of the first open-access scientific journals in the field of oncology (the content of which is available without a subscription). He dedicated the last years of his life to promoting research on



During his speech at the 13th World Cancer Congress, Seattle (Washington), 1982.

prevention, based on his conviction that some medications, such as Tamoxifen and Aspirin, can reduce the risk of developing breast cancer and colon cancer in high-risk subjects. This hypothesis was confirmed in both cases by large-scale testing conducted by various centres around the world. He pioneered chemo-prevention of breast cancer with a study on the preventive action of retinoids (derived from vitamin A) as a way of protecting mammary cells from the risk of mammary carcinoma. He also helped design and certify new screenings, some of which are still being researched (e.g. the one for lung tumours among smokers). In March 2003 Saudi Arabia awarded Veronesi one of the world's most revered scientific distinctions, the King Faisal International Prize. He was also nominated for a Nobel Prize and received 14 honoris causa awards. "Character, commitment, energy and intellect are clearly central to defining what Veronesi was and what he succeeded in achieving," wrote Alberto Costa, a student of his and present Director of the European School of Oncology. "His uncompromising loyalty to science and principles of proof-based medicine were behind his great contributions to improved cancer treatments." Alberto Mantovani, an oncologist, Scientific Director of the Humanitas Foundation and the most frequently quoted Italian researcher in the world today, wrote of Veronesi:

«How could we ever forget his greatness as an innovative doctor and researcher and his ability to bring other high-calibre doctors and scientists to Milan? I clearly recall an editorial published at the time in the prestigious *New England Journal of Medicine* saying, in reference to the studies that Veronesi headed: Milan is not only renowned for the Teatro alla Scala but also for cancer research».

A tribute by Emma Montini

Emma Montini and Umberto Veronesi first met nearly thirty years ago, well before she became his patient and a member of the Rome delegation of the Foundation named after the pioneer in the fight against breast cancer. She recalls: «I met Umberto Veronesi in 1991 on a visit for my mother. In 2006, after a normal check-up, I was unfortunately diagnosed as having a tumour in my right breast, too. I immediately went to see him and after a week was already in the operating room. After the surgery he didn't subject me either to chemo or radiation therapy, even though, as he told me himself, all the textbooks recommended that course of action. I trusted his experience. On his advice I took Tamoxifen for five years and went for periodic check-ups according to the plan he proposed. That's how I was cured.»

Souvenir album

Once a tumour has been diagnosed, the patient's fears and uncertainties are many. Future unknowns are constantly on their minds, but Veronesi was always close to them, supporting them tremendously and providing great psychological assistance. Montini was at home in his surgery. She remembers all those joyful times when she went to see him in Milan for check-ups, sharing strictly vegetarian meals with him and his wife. A few years after her brutal experience with the disease, Montini received a phone call. Umberto Veronesi, who in those days was a senator, asked her to meet him in Rome. Her first thought was about her health: not slightly alarmed, she went to the restaurant where Veronesi had given her the appointment. But instead of a new shock, surprisingly he had "a great present" for her, as she puts it today. The groundwork was being laid for the Foundation's head office in Rome, and Veronesi was there to ask her to play an active part in the project.

«The first years were studded with institutional and other meetings, in which the professor's presence was essential due to his unique, irreplaceable charisma. But even though he was pivotal for everything, he always said that it was necessary to give space to others. He was a very wise, far-sighted person.»

He was a life coach, an important figure, Montini often repeats. The nostalgia and joy that she feels are easily perceptible when she talks about the many times they spent together. "It was 2012 in Capitolium, when grants were being handed out, and the professor asked me to talk about my illness and how that misfortune became a positive life experience." At the beginning, it was difficult to switch from the role of ex-patient to that of a close colleague. Montini was walking on eggshells, fearful and confused. She wondered whether the task Veronesi had given her wasn't beyond her ability. But the professor knew her well and soon made her feel comfortable. "The reason I turned to you," he told her, "is because I've seen your potential." He put great trust in her straight away. That was essential when it came to undertaking the great adventure. Involvement and gratification came quickly. It is impossible to point to a single success because each little step forward in research, often the very result of the funds they raised together, marked a major milestone. Always present at the many national festivals on scientific themes for the pleasure of learning more and following developments, over the years Montini often advised friends and relatives living in Rome to come and be monitored by Veronesi and his colleagues in Milan. "The professor often told me as a joke," she says, "that he risked being taken to court by all the doctors in Rome and it was my fault."

Free thinker and committed politician

In an interview he gave to the newspaper *La Repubblica* in 2014, Veronesi noted that:

«Culture should always go hand in hand with progress in science because its outcome is never far removed from the ultimate aim of scientific research, which is to improve the quality of people's lives. But while this aim is clear enough, it seems absurd to oppose all genetic applications in agriculture on principle. Rather, it would appear reasonable to study the ratio of risks and benefits for each genetically modified organism (GMO).» Yet the battle over GMOS is only one of many ethical and social campaigns that Veronesi championed during his lifetime due to his lack of prejudices when it came to comparing scientific innovations and ethical questions. He even did so from 2002 as a board member of the Freedom and Justice association, which defends State secularism and the balance of power and, in the years that followed, through the ethics committee of the Umberto Veronesi Foundation.

The choice of conscious secularism

Although Veronesi always avowed his Catholic upbringing, as well as the need to know religions and the books that inspired them, at the same time he campaigned for his own choice of conscious secularism. As he wrote in the book *Essere laico* ("Being Secular", Bompiani, 2007):

«Atheism is a term that I don't like because it means without God and I can't say that there is no God, having no proof to negate His existence. I would rather say that I'm agnostic. For me this means living with a peaceful mind because one gains knowledge, awareness and a certainty that we are simply highly evolved animals with an extraordinarily developed brain. But agnosticism is also a form of humility: we are not chosen or elected by God and we are not made in God's image, unlike what the Bible would have us believe.»

But there was more:

«We're not puppets in the hands of some greater will. Each of us must build his or her own existence and be responsible human beings. It's inconceivable to assert that we can't do anything and that God has willed it all. We are called to answer for our deeds. It's up to us to devise our life project. And yes, our death project as well. I am in favour of the right to die».

The liberalisation of soft drugs

Moved by his great respect for individual freedom, in 1995 Veronesi joined the

Interviewed at a congress, Buenos Aires, 1994.

campaign to decriminalise and legalise soft drugs. His ultimate aim was to achieve the regulation of cannabis derivatives that can be used for therapeutic purposes, particularly for treating pain. In his blog on the Veronesi Foundation's website, he wrote:

«As a doctor and researcher, I've always considered it my duty to apply a scientific approach to the problem of drugs. And I've always opposed the facile solution of prohibition. In our society, we're not yet used to discussing things on the basis of facts and results, and people continue to argue on the basis of ideologies and opinions. Epidemiological statistics show that mortality due to soft drugs is practically nil, that they are not strongly habit-forming and that they are not the widely claimed springboard for hard drugs, particularly heroine. So, can prohibition be a winning card? I highly doubt it because, as history has demonstrated, prohibition doesn't prevent the damage for which it was designed and causes far worse damage.»

The fight against pain

Pain is an expression of the body and the mind. There's nothing good about pain. It doesn't harden or elevate a person. Instead it makes them lose their lucidity, so the body always fights it. Pain has no cathartic value. Veronesi spoke these words in an interview with La Repubblica in 2014, but they reflect a long-standing opinion that he developed in the wards of the National Cancer Institute of Milan during his first years of medical practice. At the time, the means that doctors had available to combat pain were few and feeble. For this reason, Veronesi never accepted the limitations on prescribing opiates, which were wrongly regarded with deep prejudices not only by patients, who perceived them (and often still do perceive them) as a weapon reserved for the final stages of life but in Italy also by doctors descended from a Catholic culture that sees value in pain. That is why, as Minister of Health, in 2001 Veronesi sponsored the bill that became Law 12, entitled "Rules for facilitating the use of opiate analgesic medication in pain

therapy". This legislation for the first time simplified the prescription of opiate medication in order to eliminate bureaucratic obstacles to their administration, in hopes that the cultural barriers would fall along with those hurdles. Other initiatives taken with a view to changing the approach to pain therapy included setting up the Giornata del sollievo ("Relief Day") to raise awareness among health-care workers and the public that pain shouldn't be borne but instead treated to achieve the objective of having a "hospital without pain" – a project to which Veronesi dedicated part of his activity as Minister.



Euthanasia and living wills

"Life is a right, not a duty," Veronesi used to say regarding his positions on euthanasia and living wills. That was also the argument of his book Il diritto di morire: la libertà del laico di fronte alla sofferenza ("The Right to Die: the freedom of secular persons confronted with suffering", Mondadori, Milan, 2005). As a doctor and as Minister of Health, he therefore fought to have the Italian Parliament adopt a bill on formalising patients' wishes in living wills. These allow a person to make a conscious choice regarding how they should be treated at the end of their life. The bill was passed into law just a few months after Veronesi's own death. Actually, this liberalisation of euthanasia isn't regarded as inconsistent with his battle to obtain more effective treatments.

«In order not to resort to euthanasia, whether passive or active, there is an objective that in my mind must be achieved: prevent patients from wanting to die by doing everything possible so that they – particularly terminal patients – do not reach that level of suffering. If they are treated properly, they will not easily want to die. If they are cared for with love and tenderness. If they feel no pain, they won't ask for their "rightful" death.»

And yet, as he wrote in his blog on the Foundation's website in 2016, a few months before passing away:

«Biomedical technology, a mark of progress for the benefit of mankind, can't and mustn't morph into something that instead runs counter to people and their freedom, by postponing, extending, suspending and sometimes even reversing the natural process of dying. If a patient afflicted with uncontrollable suffering cannot be cured, has begun an irreversible descent towards death and has requested euthanasia, their wish to die cannot be ignored and must be heeded. It's even a civic duty, part of a genuine democracy, to resort to what could be defined as the grey area of euthanasia, namely hospital practices with a compassionate purpose that are actually euthanasia but that remain clandestine and expose those who assist terminal patients to risks of a legal nature».

The defence of legal abortion

In an article in *La Repubblica* on 12 April 2016, Veronesi reminded readers that:

«Being in favour of legalising abortion doesn't mean being in favour of abortion itself. Law 194, adopted by Italians in a referendum in 1978, was meant to put an end to illegal abortions and to promote maternity by choice. It was a progressive law from a civic standpoint marking a step towards civilisation: "The State guarantees the right of conscious, responsible procreation, recognising the social value of maternity and protecting human life from its beginning." All those who, like me, voted for Law 194 and defended it from repeated cultural and political attacks, did so with the conviction that abortion is an evil but that illegal abortion is an even greater evil. It compounds the drama of terminating a pregnancy and also poses a huge risk to the woman's life.»

GMOS and genetic manipulation

Based on his the great trust in science's ability for self-regulation when it comes to ethics in research, Veronesi invariably voiced support for genetically modified organisms (GMOs). At a congress on environmental communication in 2005, he drew the ire of GMO opponents by saying that not only is there no proof of GMOS being harmful to health but that organic crops are ironically more dangerous because the increasing use of organic treatments on maize and grains encourages the growth of moulds which, in turn, produce toxic substances (affatoxins) that are known to be carcinogenic and responsible for hepatic carcinomas. In 2006, when he received an honorary professorship in agricultural sciences and technology at Federico II University in Naples, Veronesi declared:

«Genetic engineering isn't a magic wand for solving the problems of mankind. It is an extremely intelligent method of fighting hunger in the world, of reducing the impact of pesticides and countering desertification».

No to capital punishment and life imprisonment

"Life imprisonment is an anti-scientific, anti-constitutional form of punishment," Veronesi proclaimed in 2012 at the Science for Peace conference hosted by his Foundation, a project he had hatched himself in 2009 to emphasise that science can and must contribute with concrete actions to achieving peace. "It has been demonstrated that our brain, like other organs in our body, can renew itself and that the brain we have today isn't the same as it was twenty years ago." The speech was an opportunity for him to launch the "Manifesto Against Imprisonment". Various figures from the worlds of science and culture signed the petition, which called for life imprisonment to be removed permanently from the Italian Criminal Code. The signatories included the astrophysicist Margherita Hack, the writers Erri De Luca, Susanna Tamaro and Andrea Camilleri, the ex-prime minister Giuliano Amato, the actress Franca Rame and the actor Ascanio Celestini. As Veronesi put it:

«Life imprisonment is also anti-constitutional because it runs counter to the principle of rehabilitation, enshrined in article 27 of our Constitution, which states that punishments must be aimed at re-educating convicts. A person cannot be considered guilty for ever. To be just, a penalty must have a beginning and an end.»

The campaign for the abolition of life imprisonment followed Veronesi's decades-long stand against capital punishment. He often reiterated:

«As founder of the international movement Science for Peace, I support the World Day Against the Death Penalty. Science is opposed to all forms of violence, especially institutionalised violence such as war but also capital punishment, which we consider to be murder by the State and thus a legitimisation of killing – the ultimate act of violence that can be inflicted on a human being.»

Animal bioethics and vegetarianism

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Like the anti-speciesist philosopher Peter Singer, Veronesi hoped that human beings would develop a different attitude towards the animal kingdom, renouncing a superiority that has no raison d'être. It was due to this deep ethical conviction that he chose to become a vegetarian, while acknowledging that not everything can be done in scientific research without animal specimens. Yet he called for alternative techniques to be developed whenever possible. "I became a vegetarian as soon as I was able to choose my own food," he noted in an interview with the Corriere della Sera in 2015. "I was moved by love for animals. I was born in a farmhouse and animals were my first playmates. They were part of life in our farming community." But when he reached adulthood, his choice was also conditioned by other factors.

«I am also a vegetarian for the cause of environmental sustainability. To obtain a kilogram of edible meat it takes 15,000 litres of water, whereas it takes less than one thousand to grow a kilogram of grain. Water is a scarce resource and will be increasingly scarce in the future due to the constantly rising global population. The consumption of meat will also play a role in the scarcity of food that awaits us if we Westerners don't change our eating habits. And it is the main factor to blame for the current



Together with the journalist and TV host Alessandro Cecchi Paone at the first international Science for Peace conference, Milan, 2009. injustice which sees around a billion people die of hunger or malnutrition in some parts of the Earth while another billion get sick and die by eating too much.»

Ultimately, vegetarianism is good for one's health. "Meat isn't an indispensable part of the human diet if this includes milk and eggs. Actually, reducing our meat consumption would help keep illnesses away. I say so, even though I'm a vegetarian for ethical rather than medical reasons. Animals should be respected and not killed so we can eat them."

The provocateur in search of a cause

«"I'm not a troublemaker, unless by that one means encouraging a view that is different by standing apart from clichés and from the most widely held positions. There is a double leitmotiv that runs through all my struggles as a thinker. The first thread is the need to break with legacies and hand-me-down truths and develop my own system of ideas and values. The second is the conviction that all things have a cause and that it is only by tackling their cause that we can resolve even more painful and tragic situations," Veronesi said to Dario Cresto-Dina in an interview published in *La Repubblica* on 22 November 2015.

Umberto Veronesi and young people

"I have always recommended one thing to my young colleagues: entertain doubts and be daring, if by daring one means transgressing the limits of dogma or hard and fast rules. Look at the experience of my long life. Without doubting and daring, I wouldn't have seen and helped unleash progress in the fight against cancer, in the role of women, in the affirmation of the freedom to love, have children and live one's sexuality, in the fight against racism, in the awareness of environmental sustainability and in respect for earthly harmony and all living things." Veronesi wrote these words just a few months before he died, addressing those he considered his spiritual heirs: young doctors and researchers who were pursuing careers in the institutions that he had founded and headed or that were funded by his Foundation. Veronesi took a deep interest in young people throughout the last years of his own career. "Those who were born in the year 2000 have a good chance to reach the age of a hundred. The young need to be equipped to confront an existence that long, in the course of which there are certain to be many changes."

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A constructive dialogue between past and future

As a staunch supporter of education that also needs to be developed beyond classrooms and university lecture halls, with the help of his Foundation Veronesi launched the initiative "The Future of Science". This forum was held for thirteen consecutive years in Venice on San Giorgio Maggiore island, in the monasteries of the Cini Foundation, and concluded in 2017 with an edition on the theme "Future Lives", i.e. dedicated to the many ways in which science will shape the decades and centuries to come. The audiences included students of Italian high schools and universities, who had the chance to meet great scientists, thinkers, scholars and Nobel Prize winners. In Veronesi's view, the purpose of events like these, bringing together young people and experts from wide-ranging disciplines, was to place science at the centre of discussions about culture and society. The idea was to keep the global community informed, participating in the march of scientific progress and its ever-greater impact on human activity. For Veronesi,



Umberto Veronesi (fourth from the left, bottom row) together with the staff of the operating block of the National Cancer Institute, Milan, 1990s. it was moreover important to groom the young for a constructive dialogue between science and all the other cultural currents that make up the modern world, with a view to establishing a new point of reference for the future.

"Have faith in the future," he declared to young people on his ninetieth birthday, demonstrating not only his great optimism but also his great trust in the coming generations.

The search for an explanation

Among the reasons that prompted him to create his Foundation, educating the young and sustaining their scientific ambitions were surely at the forefront. "Research is difficult and complex and sometimes doesn't lead where we hoped it would, but this should be an added stimulus. We are our understanding, and if that understanding is extinguished we don't exist any more," he said in 2015 at the Umberto Veronesi Foundation's grant-giving ceremony. "These grants were made possible by the contributions of donors. And we have awarded them to brilliant researchers as a tribute to their ability and enthusiasm. They symbolise the future." Transmitting understanding was a need and a duty for Veronesi, in order to help the new generations build their life philosophy. That is why he wrote various books urging for tolerance, solidarity and critical mindedness that in his view should always be present. But above all he called for freedom of thought and behaviour. "The defence of freedom is fundamental. We must always maintain a touch of anti-conformism in our own existence," he wrote in his book Siate liberi ("Be Free", Salani, Milan, 2012). "One needs to understand before judging or stating an opinion, because judging without knowing is one of the great flaws of modern civilisation." Veronesi was convinced that, just as researchers give the best of themselves in the first years of their scientific careers, when they succeed in thinking outside the box and come up with truly innovative solutions, young people in general are also living that decisive period of their existence when they can really give direction to personal and collective choices.

«I have chosen to write this letter to young people who wish to be free. I would like to reach that area within you that reasons independently – that most powerful kernel of an instinct that ensures the evolution of our species. Freedom of thought is the basis of dignity.»

He wrote these words in the foreword to Siate liberi and continued to speak out in favour of young people in the final months of his life. In an interview for the magazine *Panorama*, regarding death and his thoughts about the subject, he said: "Dying is a biological duty. It's the way we leave space for the new, the way we foster the evolution of our species." As a secular thinker and agnostic, he didn't aspire to metaphysical immortality but rather to the biological immortality of the genes which we hand down to our children and which they hand down to our grandchildren.

«So many young people will want to know whether in my thinking, studying and committing myself incessantly for so many causes I have found the meaning of life. Yes, I have an answer: life may have no meaning. But for that very reason I spend life looking for one. The important thing is not to know but to seek. May defeating ignorance be your foremost commitment, because ignorance doesn't entitle us to anything. Continue searching until the end, knowing that you can't do without goodness and life...»

Texts curated by the Umberto Veronesi Foundation.



A powerful man of science who never surrendered

Veronesi the man

by Sultana Razon Veronesi *



Left: Together with his wife Sultana Razon Veronesi at the first performance of the 2011/2012 season of the Teatro alla Scala, Milan.

On this page: Umberto Veronesi as a young man in his native Milan, 1960s.

Wedding day, Milan, 1960.

Tall, thin, with black hair sloping to the middle of his forehead. An ever-smiling mouth. Sharp eyes, easy-going, constantly joking. At first glance, to me Umberto Veronesi looked like Cary Grant, the highly popular movie actor in the 1950s. I saw him for the first time in December 1953, at the end of a hospital wing, talking with a patient. I was working as secretary for Professor Pietro Rondoni, who then headed the National Cancer Institute of Milan. At the same time, I was in my second year of medicine. I had to earn a living while attending medical school and studying for exams. I believe that even from that distance, and having hardly laid eyes on Umberto, I fell in love. Unfortunately, though, we didn't meet until a year later. I'd nearly forgotten him when unexpectedly Professor Carlo Sirtori, the pathologist I was working for then, had Umberto come into my office, introduced me to him and asked me to make room for him on the long table where I worked with my typewriter and microscope. I was told that Umberto needed to study histological slides under the microscope to prepare the pathological anatomy classes he taught. That was how our long companionship began, eight years that culminated in our marriage. Actually, Umberto didn't want either marriage or children. He was afraid the kids might turn into thieves, drug addicts or murderers. He suddenly decided to get married when I told him I was tired of all his excuses and was set to marry another





man I'd only known for three months, an American Jew who was madly in love with me. I got to know him after Umberto told me that he'd spent the Christmas holidays with one of his admirers at her house in the mountains. That, I'd said to myself, was the last straw. For me it was over, for real. I didn't see him again for several months, until he found out from mutual friends that I was about to tie the knot. It was then he decided he had no more misgivings. He came to my house, while my future husband's family were dining with us, and presented me with a gift that brought tears to my eyes: a record of Rachmaninov's Symphony No. 2 for piano and orchestra. No words or explanations were necessary. We soon decided to marry. Umberto confessed to me that he couldn't have lived without me and I understood that I couldn't have married anyone other than him.

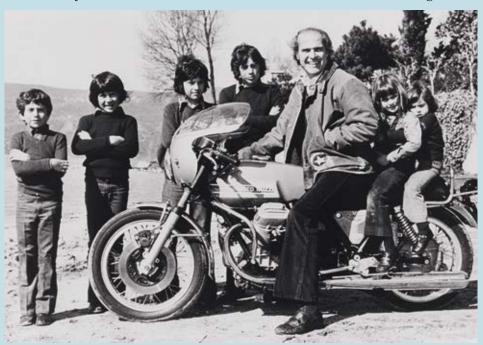
The beginning of life together

We didn't have a penny, but we decided to start our life together. Umberto was supported by his older brothers until the age of 36, when he received his first ordinary salary from the National Cancer Institute, apart from the pay for his first patient treatments. For three years we lived in a flat that belonged to his mother, since we couldn't have afforded a house of our own. Despite how it might have appeared to most people from the outside, our life wasn't always a bed of roses. Various difficulties arose, especially at the beginning. In the months that followed our wedding, at home we spoke little as we were constantly focused on working and studying. Things changed when our first son, Paolo, was born. Umberto, who Together with his children, 1970s.

hadn't wanted children until just a few years before, was tickled pink at the sight of his first little boy. He was present as a father, even with his growing professional commitments. That wasn't always the case when the other children came along, due to lack of time, although he was there unfailingly each time I checked out of the maternity ward. It was always he who arrived with a bundle to take me and the new baby home.

After that, we were back to the usual routine. Umberto always came home late in the evening, sometimes even after ten. By that time, when the children were young, they would already be in bed. But at a certain very liberal father with the children. In our house nothing was ever prohibited and no obligations were imposed on anyone. The only thing that counted was the educational example that the children learned from our behaviour, from our work and from the stimulating discussions they heard at home. Umberto and I never raised our voices. We never argued or expressed opposing views that could have led the children's convictions astray.

The problems started when the children became teenagers. One dropped out of high school, saying that he knew more than the teachers and found school boring. Anoth-



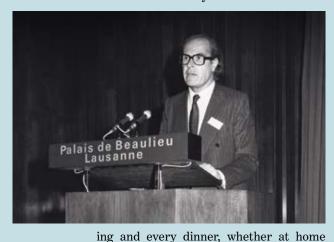
point we decided to keep them up with us to watch "Carosello" and another programme suited to their age. I remember a white rug, on the floor in front of the TV, where all six of them would lie down and watch. After an hour it would never fail: they would all be asleep and we would take them in our arms to bed, one by one. Umberto was very patient. He never got angry, either with me or with the children, even when they played war like crazy or yelled when they argued. Sometimes when he came home and I told him what trouble they'd got into, he would take each of them and have them tell him their side of the story. He only gave his opinion on who was right and who was wrong after listening to everyone, explaining that in most cases the truth stood somewhere in the middle. He was always a

er one was expelled for posting offensive notes on the walls about the headmaster and the other teachers. Another one went abroad for several months and we didn't know where he was. But in this period, too, Umberto always comforted me and gave me hope, saying that one day everything would come back to normal. And it did. One by one our children came home, went back to school and laid the groundwork for their future. If they've got to where they are today, they owe it to the unwavering support they had in our family - especially thanks to their father, who never shouted at them and invariably stood behind their choices. Umberto was a wonderful father for all of them, and for me he was a splendid husband who always made it possible for me to look after my hospital and my children.

Umberto Veronesi

A fantastic speaker

Umberto never allowed anything to be imposed on him. His brothers were very conservative and he often quarrelled with them, even though they loved him dearly and always tried to protect him. Yet Umberto was decidedly leftist. He was forever on the side of the poor and the needy. Even in our home, when I had some kind of trouble with the nanny or the maid, he always sided with them - even if they were obviously in the wrong. I always gave in to avoid arguments that would be counterproductive for everybody. When all is said and done, I was fortunate to live with a man who was charming and constantly funny and able to relate real facts and national or global events clearly and comprehensibly for everyone. There was almost always a joke thrown in because he loved humour. He enjoyed hearing and telling funny stories. And I've known few "good actors" like him in this milieu. Everyone hung on his words in religious silence. It was always he who did the talk-



Umberto Veronesi during the European Conference on Clinical Oncology (Ecco), Lausanne, 1970s.

Right: together with his beloved wife at a dinner with fashion designer and jetsetter Marta Marzotto. or elsewhere with strangers, was sure to be a success. Umberto was a magnificent speaker. He had a warm, soothing voice. It was a pleasure to listen to him. When he gave a talk, he could speak on any aspect of human knowledge competently because he studied and prepared himself night and day. At congresses, when it was his turn to address the audience, he would rivet everyone's attention as if they were hearing an oracle. At receptions he was mobbed by women who wanted to talk to him and have their picture taken with him. He was charismatic and people were inevitably drawn to him.



A life "laced" with optimism

Umberto could never support the diseases, discomforts and inconveniences that afflict us all sooner or later. People had to be well all the time. Aches and pains didn't exist for him either. If anyone asked him how he felt, he would always answer that he was fine - even when he'd just broken a couple of vertebrae. When I had a breast tumour, he refused to believe it was anything serious. Three years earlier, it had been diagnosed as a benign type and, in his view, it was supposed to have stayed that way. If I hadn't been a doctor myself and understood that the tumour had turned malignant with axillary metastases, and if I hadn't insisted on an immediate operation, I would be dead now because for him it was impossible that I should have a dangerous disease. After his eightieth birthday, Umberto started having serious problems with his kidneys, his bladder, his prostate and his spinal column. One day, he fell in the bathtub and fractured his sternum. He had throbbing pain for over a month that he fought, sometimes in vain, with opiates, pain-killers and sedatives. But whenever anyone came to our house to visit him, he said he was well. He went to work at the hospital every day, accompanied by a driver and with a cane to stay on his feet. He held up that way until just a few months before he died. But even when he couldn't stand up any more, he still smiled all the time. If I take stock of his life, filled like everyone's with numerous ups and downs, I can say that I didn't often see him worried. When I was deeply anxious, knowing that I was at grips with a serious problem, I would ask him for a smile to encourage me. Without it the world would have seemed about to stop turning. For Umberto, my asking for a smile was enough to recover With sons Paolo, Alberto and Pietro, Milan, 1976. the optimism and proactive approach that always characterised him, regardless of the obstacles strewn on his path.

What about Veronesi the man?

Umberto loved music. Whenever he could, he went to concerts at the Milan Conservatory and to operas at the Scala. After our first three children were born, he started taking music and guitar lessons. At the time he still had a bit of free time. Then



he gradually started making the children study music when they turned six. All of them learned to play the guitar and two of them also learned piano. In our house one could hear classical music being played almost all day, especially in the evening when the children had finished their homework and Umberto came home. His other passions were poetry, history, cinema and science - his keenest interest - which extended to many areas other than medicine. To relax he read poetry in Italian, English, French, Spanish and Russian. His library was full of books and encyclopaedias on all the films produced since the Second World War. When he had time, we went to the cinema and sometimes saw two or three movies one after the other, always the ones with the best reviews because of the masterful screenwriting, meticulous cinematography and talented acting that went into them. Those were our favourite holidays, even if they only lasted half a day or evening. Afterwards we would go eat a pizza and talk about the film or films we'd seen and Umberto would delve into every aspect of them. When we came home, even at two

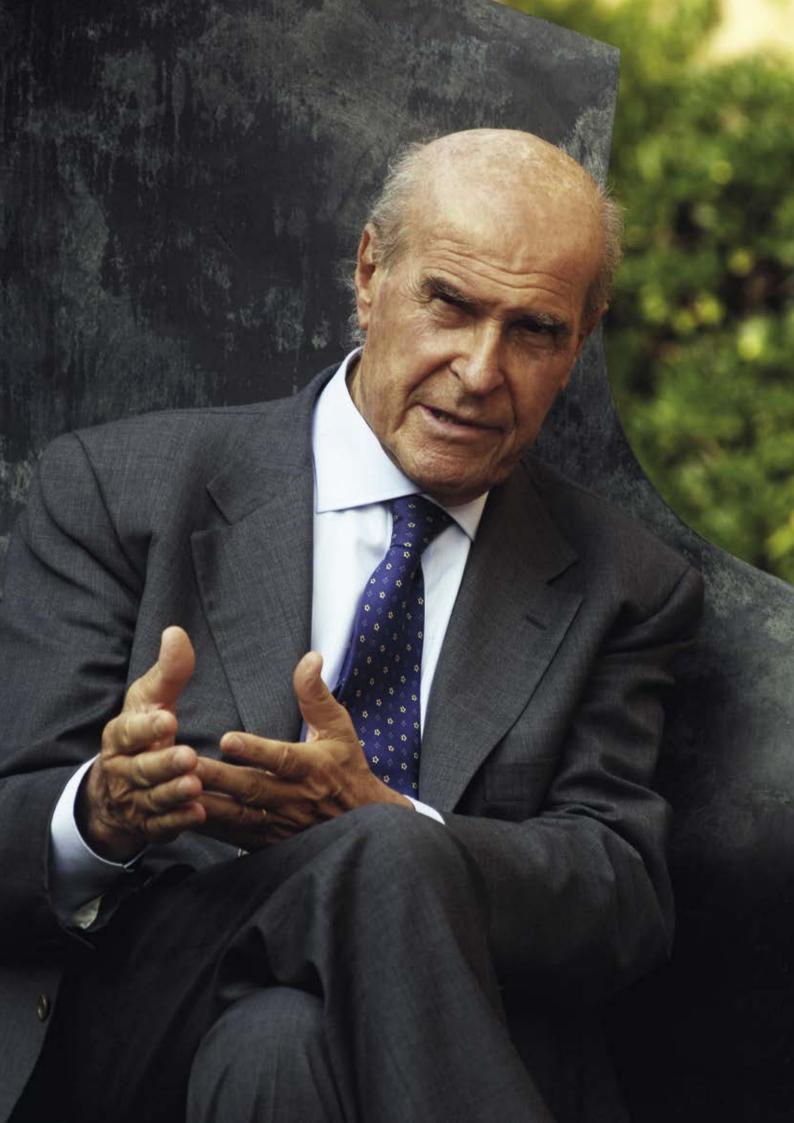
in the morning, he took the time to write a detailed critique. Those pieces were gathered together years later and published in a book entitled *Tre sere alla settimana - 300 film, 12 anni di passione cinematografica* ("Three Nights a Week – 300 films, 12 years of passion for the cinema", Utet, 2015).

And what remains today?

My love for Umberto has withstood everything, even though in the last years of our life together he was less passionate and enthusiastic. I watched his work grow and his physical resources dwindle. Yet his stamina and resilience were always infinite. When in 2003 he decided to set up the foundation that bears his name, at the beginning I was astounded: it was unusual for an entity named after someone to be established during their lifetime. But Umberto explained to me that by then, countless people had asked to donate money to him directly for research on oncological diseases. Hence his decision to create the foundation to which he dedicated almost all his last years. That period was fraught with so much physical suffering that it partly overshadowed the satisfaction he'd garnered during his career. What courage and steely determination Umberto demonstrated to everyone, beginning with me and our children! He's been gone for over two years now but the lessons he taught us are still part of all our lives.

*Sultana Razon Veronesi

Paediatrician and widow of Professor Umberto Veronesi



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The friendly professor

Interview with Emma Bonino*



Left:

During the second international The Future of Science conference, Venice, 2006.

On this page: Together with Emma Bonino at the international Science for Peace conference, Milan, 2012.

During an interview at the international Science for Peace conference, Milan, 2009.

Politics and civic struggles

When and where did you first meet Professor Umberto Veronesi?

I don't recall exactly the first time we met. I remember a meeting that certainly remains etched in my mind, but I don't know whether it was the first. At the time he was Minister of Health and I saw him at a meeting with Luca Coscioni¹, "our" amyotrophic lateral sclerosis (ALS) patient, who in the early 2000s was fighting together with the eponymous Association for the benefit of "patients as citizens": people who might be sick but were still citizens and not a "burden" on society.

I remember not only the sharing of ideas and the views expressed by the then Minister Veronesi but also, and in particular, the more human aspect he brought in with Luca. One could read the tenderness and admiration in his eyes. We'd probably known each other for some time and had seen each other on other occasions, but that meeting left an indelible mark on me due to its scientific, political and human ramifications.

Besides the battle in support of euthanasia, what other important campaigns did you wage together?

All the campaigns that concerned freedom of choice, freedom of treatment, the defence of patients (who need to be considered first of all as citizens and people) and Science for Peace². Actually, I'd proposed to call that project Science for Democracy but the professor insisted on Science for Peace, a name that he felt was more immediately

¹ Radical leader and university professor. In 2002 he founded the eponymous Association, which even since his death in 2006 continues to serve the promotion of freedom of scientific research, self-managed personal care and the human, civil and political rights – including with regard to end-life choices – of sick and disabled persons.

¹ This project emerged in 2009 at the behest of Umberto Veronesi with the objective of emphasising that science can and must contribute along with concrete actions to achieving peace.



understandable, whereas I continued to think that the concept of peace without freedom and democracy wasn't only incomplete but also unappetising and unsustainable. The project quickly grew in size, for example to include sessions dedicated to the fight against life imprisonment and capital punishment and the campaign to reduce military spending. It's been a long process, lasting ten years, and continues today.

When Professor Veronesi became Minister of Health in 2000, was it possible to exchange ideas and opinions that influenced you mutually?

In reality, we were on the same wavelength on a whole series of subjects like civil rights, in vitro fertilisation and science as the basis for democratic debate, as opposed to fake news or perception-based policies. Here is one of the great lessons that we learned from the professor and that we want to support further: to develop a serious policy, one has to draw on science, be it statistics, sociology or medicine. Scientific method as the democratic practice, as opposed to policies based on mere perceptions, electoral expediency and criteria that never belonged to us and will never belong to us.

In particular, what did you think of his proposals against passive smoking and for making it an offence to smoke in public places?

That he was right and that my freedom is limited by the freedom of others. After that, you can be more or less strict regarding such "bans". In my opinion, education and information – even if you can't pretend to convince everybody – work better than pure, simple all-out prohibition.

Science and the fight against cancer

When you found out you had cancer, was Professor Veronesi the first person you turned to? What was the first advice he gave you?

Actually, the initial advice was given to me by my family doctor, Professor Claudio Santini, who has always treated me and knows me like the back of his hand. He organised the team headed by Professor Enrico Cortesi that took care of me. Immediately after, I heard Professor Veronesi approving the team in charge of treating me, saying he was available for any advice that might be needed.

What was a patient for Professor Veronesi?

Breaking a whole series of taboos, Professor Veronesi believed that patients were simply citizens. First of all, they were people who had to face a challenge they hadn't sought. But they were still people. I believe one of the great lessons and truths now making inroads among doctors, to some point at least, is that a person might have a tumour in their left lung but they should be considered as an individual in their entirety and complexity. Not everyone reacts the same way to a diagnosis of one type or another. Take me, for instance: I responded differently from most people by not wanting to have anything to do with my disease. For me it was a sort of "split": if you as doctors take care of my lung, I will obediently do everything you say. But I'm not just my tumour, so I carry on with my commitments, my passions and what I feel up to doing in politics as much as I can. I have to say that this attitude has worked. I've never gone on the internet to find out more. Once they'd told me they couldn't operate on my little cancer cell, I didn't think about it any more. I'm not a person who looks up the results of a blood test straight away. That's the doctor's job. I don't read them. In this "split", where I wanted to remain myself, it was up to the doctors to deal with my lung problem.

 $So, you've \ always \ kept \ your \ gaze \ on \ the \ future.$

At a break during the second international The Future of Science conference, Venice, 2006.

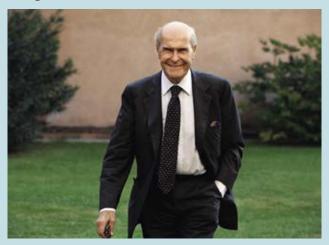
Yes, though I can't deny that the radiation therapy and chemotherapy were gruelling.

It was a period when I had no energy and could hardly do anything. But as soon as my strength came back, I went on doing the things that interested me politically about Europe, migrants, civil rights - unabated. The period with Professor Veronesi was rather fun. To a certain point he would ask me, "Have you given up smoking?" and I would reply, "No, first because I like it and secondly because it relaxes me a bit." Then he would say to me, "Fine, let's proceed this way: at the moment the priorities are the tumour and your psychological health. I'll allow you to smoke ten cigarettes a day. If smoking helps relieve your tensions and brings down the anxiety, we'll deal with the habit later. For now, let's address the situation you're in." I admit that I didn't always manage to live up to our agreement. Fortunately, the other doctors in the team took the same approach, which was to regard patients as a whole and not just the part of them that was sick.

With Professor Veronesi, did you ever talk about fearing death or more simply about death itself?

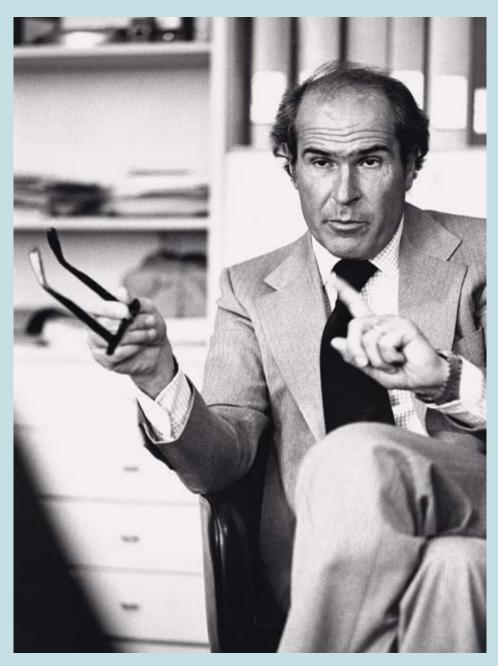
No. He never talked to me about it and I never thought about it either. It wasn't really a topic of discussion, unless it was included in the area of human dignity or people's freedom to live, since death is part of life.

"I'm not my tumour" became a slogan. Above all, it was a statement that changed the medical culture and brought down many taboos about cancer. When you made your illness public, how did you feel and how did your entourage react?



Umberto Veronesi

During an interview 1970s.



I decided to disclose my condition, which I obviously hadn't sought, as a defence. I thought I would be better protected by being frank about it. Otherwise I would have started circulating the usual words like "What happened to her? Where's she gone? What's she doing now?" So it was an act of defence. But then I confess that by going public with my illness I was also declaring it to myself.

While it wasn't my intention, I soon discovered that this public statement had infringed a die-hard taboo, i.e. the difficulty of talking about cancer. Even today many people experience it as if it were shameful. It's so true how people at the time would say about cancer patients that they had "a terrible disease". As if there were "nice" diseases. I think that my courage to talk about my condition, such as it was, encouraged many people to accept the challenge and to refrain from hiding or feeling ashamed. I hope that is how my statement was received.

Luckily, everyone knows me quite well in my biological as well as my political family, so nobody made too much of a fuss. They know perfectly that when I'm not well – which as a matter of fact is seldom the case – I like being alone. Thus, fortunately, after two or three attempts by friends and family members to "encroach", my demand to be left alone was strictly obeyed. They understood that for me it was important to know they were there (if I needed to, all I had to do was pick up the phone), but without overly "invading my privacy" with unsolicited advice and, especially, without feeling sorry for me. My sister and my brother were very worried but fortunately they were able to overcome their anxiety by themselves.

Maybe, in a certain way, you forced your family to overcome their anxiety "by themselves".

Well, yes. My mother was the same. I remember how one day, when she decided it was time, she called us all together and said, "If you feel anxious, deal with it. But leave me alone."

Your long friendship with Umberto Veronesi also enabled you to know him as a man. Can you reveal one of his merits and one of his flaws?

His main merit, in my opinion, was the unbelievable trust he had in science and scientific research applied to many areas of life, not only medicine but also the environment, food and universal issues like peace and war. Veronesi made himself a promoter of a cultural revolution which in this country, at times, can nevertheless develop along anti-scientific paths, as we've seen recently with the debate ignited by the No Vax immunisation opponents. Moreover, he was deeply convinced that pain is useful for making a diagnosis but should then be treated and, if possible, eliminated because it's useless both for the citizen and for the doctor. The least possible suffering can only be positive. It also helps those who are close to the patient and it helps society. I was greatly surprised when he said that to me. As my professor, Veronesi took great pains to reassure both my sister and my brother so that their worries wouldn't have an impact on me. He was very attentive when he met with us, not only towards me but also towards my family and dearest friends. He was therefore attentive to the "group" and the citizen, who is invariably part of a social nucleus, whether affective or disaffected, but who is no Martian.

One characteristic of Veronesi that intimidated me, however, was his scientific precision, until I understood that I wasn't a scientist myself and couldn't aspire to such exactness. So I finally accepted things as they were, but at the beginning of our acquaintance I was embarrassed until I realised that our roles converged in many moments and diverged in others. I'm not a scientist and I can't act like a caricature of one.

*Emma Bonino

Italian politician, assumed many important tasks in the Radical Party. Served as Minister of External Affairs in 2013–2014 and as Vice-President of the Senate of the Italian Republic from 2008 to 2013. Was Minister of International Trade and Minister for European Policies. Today she is the promoter of the +Europe list.

Interview by Alessandra Dolci in association with Andrea Romano.



A powerful man of science who never surrendered

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Umberto Veronesi, a paragon of the doctor who listens

by Roberto Orecchia*



Left: In the laboratory, Milan, 2010.

On this page:

Umberto Veronesi and Roberto Orecchia at the meeting marking the official change of directorship, Eio, Milan, 2015.

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It was November 1994 when I really met Professor Umberto Veronesi for the first time. I'd run into him for many years, of course, but always at official functions such as congresses and scientific meetings, where we'd exchanged greetings and sometimes opinions on the subject of oncology. Nothing more. Our relationship was that of a young doctor and researcher exchanging with a great scientist known the world over for his activities and discoveries. So this time was different. I'd just arrived in Milan, where the University had asked me to take over the prestigious Chair of Radiology, a position previously held by the greatest Italian masters of that discipline. Veronesi called me for a meeting at the European Institute of Oncology, inaugurated just a few months earlier. I was 42 years old, Veronesi 69. I went there rather excited and also a bit curious. As always, he was very kind and reassuring. He told me he'd seen my curriculum vitae and had received good references about me. He was looking for a good young expert for the E10 with innovative ideas and it seemed I could fit the bill. That meeting marked the start of my association with Veronesi, which lasted 22 years until he died in November 2016.

Veronesi usually arrived early at the Institute, at seven o'clock or even before. That was often the chance to talk to him, before our clinical activity started. His office door was always open and there was no need for an appointment. He was a willing conversationalist and enjoyed discussing his ideas with colleagues. We got on very well. I shared his vision of humanising medicine and oncology, in particular, with the patient at the centre of the process. Perhaps it was this affinity in our thinking about a model for hospitals, bringing respect for people to the fore, that convinced him I could become his successor. Sometimes he joked with me in a friendly manner (he was imbued with a great sense of irony, calling me "professore" while referring to himself as a mere "dottore"). In fact, Veronesi, despite having received so many honorary degrees, having lectured at all the great universities and having taught so many doctors, was never given an official chair at the University. I don't know if it was because he never wanted one or for other reasons. The ways of academia are inscrutable at times!

He would have certainly made an excellent university teacher and in fact he did teach, though not as a department head. He believed in young people and was able to stimulate their initiative by encouraging their plans. He was absolutely convinced that research should always be linked to the clinic, to create the best opportunities for patient care. Today these concepts form the basis of modern oncology, but Veronesi advocated them for decades.

He travelled extensively and I often wondered how he managed it, given his innumerable commitments. Once I saw him leave for New York, where he gave a much-applauded lecture shortly after his arrival, and come back on the first available flight. He had incredible energy indeed and asked everyone to do the same thing, because he considered it a duty to communicate our own experiences on the outside and to confront other realities, from those of our advanced countries to those of the developing world. Our travels together were an opportunity to share experiences outside our more limited working environment. I remember one trip especially, to South Africa, when he asked me not to go to the dinner that was planned as part of the congress but to eat with him instead. We talked tête à tête about our families, our children, religion, politics, and every subject under the sun but medicine. It was most enjoyable. Veronesi was also an extraordinarily cultured man who read extensively. He often said that he was lucky in not needing a lot of sleep - four hours a night. That left him more time for reading and thinking.

We did a lot of things together, trying to find new therapeutic solutions that were less invasive for patients. He believed firmly in radiation therapy and his help was instrumental in developing the precision techniques that EIO patients benefit from today, ranging from intensity modulation to brachytherapy to IORTI (interoperative radiation therapy, which the EIO was first in the world to apply to breast cancer) to the use of heavy particles (protons and carbon ions). If Italy has one of the world's six centres equipped to treat patients with atomic particles, it is because during his brief period as health minister Veronesi initiated this great project that came into existence in Pavia.

As I said, he had great faith in radiation therapy and wondered whether, given time and the constant strides being made in technology and computers, it would eventually replace surgery. I don't know if he really thought so or not, since he spent his whole career in the operating room, but what is certain is that well ahead of his time he spotted a trend that is gaining increasing momentum today, at least for some of the more frequent cancer pathologies.

It was this very ability to see into the future that I found most fascinating in the great man. He would talk about what had to be done today but was able to place those dayto-day events in a long-term perspective, imagining all the different ways they could develop. Someone called him a "visionary" but I don't really agree with that definition. I'd prefer to say that he viewed the world lucidly and had a clear vision of the future that was firmly anchored in the real world, a world he observed very closely. There was no wishful thinking involved, only constant projections based on the probable developments of science.

Veronesi was much loved by his patients, not only because he was a great doctor but also for his extraordinary ability as a communicator. He had tremendous empathy that enabled him to understand fully what others were feeling, whether it was joy or pain. He always found the right words to give comfort, strength and hope, even in the most trying situations.

He had great trust in the possibility of medical science finding a final cure for cancer, trust that never failed him even on occasions when results fell short of expectations. But he was also absolutely convinced that apart from curing more patients it would be necessary to reduce the incidence of the disease. Hence his constant commitment to prevention, starting with lifestyles. He spoke practically every day about the need to fight nicotine addiction, about the guidelines of healthy eating, about the importance of leading an active life, about the usefulness – even among healthy people – of going for regular checkups to diagnose cancer early.

In 2014 he decided to give up his position as Scientific Director of the E10, which he'd held since the day the Institute opened. He talked to me about this on a number of occasions, before making the announcement official. Each time I told him to stay on but it was no use. When he informed me that he'd nominated me as his replacement, I was filled with emotion. He justified the choice very simply, saying that I too had a clear vision of the future of oncology, resembling his, and since I'd demonstrated throughout the years that I was able to fulfil my plans, this skill would be useful for the EIO's development. Because the Institute needed to grow further. I thanked him, he responded with a pat on my cheek, and I asked him to give me a hand because filling his shoes would be no easy matter and I would need him. He invariably did help me as long as he could. And he continues to do so because his presence, even today when he is no longer with us, can still be felt - not only at the EIO. I say this not as a rhetorical flourish but as testimony to the feelings of all those who knew him and had the privilege of working with him.

A few months before he died, Veronesi left us a video that I've viewed again and again. It ends with a magnificent statement, which I will also use to conclude this article because it captures the essence of the thoughts and life of Professor Veronesi:

«The ability to listen is the most important rule in the relationship between doctor and patient [...]. Patients always lament that they couldn't say something they wanted to say. And that's why we need to listen to them [...]. Listening to them takes up a bit of our time, but time is something we have [...]».

*Roberto Orecchia

Scientific Director of the European Institute of Oncology (E10), Milan



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A tireless researcher with deep humanist convictions

by Aaron Goldhirsch*



Left: Photographed for an interview with the weekly newspaper *Grazia*, Milan, 1970.

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On this page: In his office at the National Cancer Institute, Milan, 1974. Umberto Veronesi was a charismatic figure, an enthusiastic doctor and surgeon, an avid and innovative researcher, an immensely cultured person, a militant for peace and freedom and a wise politician. He was involved in a host of activities and left a notable imprint on each of them.

I had the privilege of working with Professor Veronesi for years in the area of cancer medicine generally and breast cancer in particular. I admired his special personal way of caring for the sick, winning their confidence and giving them hope.

I met him for the first time in 1967 as a firstyear medical student at the State University of Milan. My classmates took me to the National Cancer Institute, where we could observe surgery being performed from the dome overlooking the operating theatre. It was my first encounter with live surgery. Professor Veronesi was operating on a very young woman with breast cancer. The operation was punctuated by his comments, one of which I can still remember: "Maybe, some day in a not-so-distant future, we will be able to operate on women and leave them their breast." That prophesy, unimaginable at a time when the standard surgical procedure was to remove the breast completely, together with the muscles of the lower wall of the thorax, came true within a decade, largely thanks to Veronesi's repeated demonstrations that many patients could be spared overly extensive surgery. During his career, he operated on more than 30,000 women based on the principle that the range and intensity of treatment should be kept to the "strict minimum" needed to achieve an adequate result. In this way he avoided subjecting his patients to overly intense or overly extensive therapies, thereby reducing collateral effects. Keeping a breast affected by cancer thus became a reality. The International Breast Cancer Study Group (IBCSG), a cooperative society founded in Switzerland, headquartered in Bern and that I've headed for the past thirty years, has innovated the medical treatment of women with breast cancer based on this same approach. Using the methods most targeted to the characteristics of the disease has made it possible to limit excessive therapies.

In the operating room of the European Institute of Oncology, Milan, Millennium years. This convergence of views between Veronesi and the IBCSG encouraged close collaboration and constant research. For many years, the objective of restricting surgery to the bare minimum while maintaining the maximum proven effectiveness underpinned Veronesi's collaboration with the national cooperative structures in Switzerland and with the international bodies also based there.

Veronesi was a humanist endowed with exceptional sensitivity and constancy, qualities that enabled him to grasp the full depth of the demands of society and the individuals it comprises. This humanist stance drove him to care with absolute dedication for the well-being of people, not only during their ordinary lifetime but also in the period when they were nearing death. As mentioned earlier, he backed the campaign in favour of euthanasia. He often said that he wasn't afraid of death but that he firmly supported any struggle against patients' physical and mental suffering. As he admitted, "I have to give them confidence and optimism, but deep inside me I'm racked by anxiety, torment and nihilism like Nietzsche. Within me I carry the mass grave of all the patients I've lost."

On the political front as well, Veronesi's commitment extended to a multitude of notable institutional activities. Apart from



contributing to the growth and development of the National Cancer Institute of Milan, he founded the European Institute of Oncology, convincing Italy's largest bank to back its establishment. With this major project, he was genuinely trying to create and maintain a "European" cluster of medical and scientific personnel. His election to the Senate of the Italian Republic and his appointment as Minister of Health were highlights of his country's political life that helped add to the power of his charisma when it came to reshaping issues of great import for public health at the highest institutional levels. I remember the feverish political activity surrounding the Prion epidemic (foot and mouth disease). Veronesi succeeded in securing the necessary medical and scientific information in time to act with skill and conviction, preventing public panic. I also recall the humanly consiliating yet scientifically rigorous way he managed to deal with health crises in the political arena that were triggered by the Di Bella method. And, last but not least, I remember his efforts to push the anti-smoking bill through Parliament (it was passed into law during the term of his successor). That piece of legislation significantly reduced tobacco consumption, especially in public places.

Veronesi provided staunch support for research centres, believing firmly that patients received better treatment when there was research behind it. He facilitated the allocation of resources to the recognised clinical research institutions. But he was disappointed by the scant political influence that these centres were able to wield when it came to setting treatment and care standards in the various branches of medicine. During one of our last meetings, we discussed this and he admitted that such political action unfortunately remained lacking. He was aware that much still had to be done, from a political point of view, to increase the resources of the leading clinical centres and strengthen their role in setting and furthering standards of treatment in line with the progress achieved in clinical research.

Professor Veronesi's commitment on behalf of doctor-surgeon education had an extraordinary impact. Clear examples of this are the creation of the European School of Oncology and the support for teaching cancer and breast medicine in various countries of Latin America, the Middle East and the Far East.

Umberto Veronesi is also known and remembered in Italy and abroad for his exceptional work and the extraordinary humanism that underpinned his commitment to universal values for the benefit of man and society, such as peace and freedom.

*Aaron Goldhirsch

Director of the Scientific Evaluation Committee, European Institute of Oncology (EIO), Milan. Founding member of the Foundation Council, International Breast Cancer Study Group (IBCSG), Bern.



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Health comes by eating green: the food philosophy of Professor Umberto Veronesi

by Francesca Morelli*



Left: Veronesi photographed after the International Advertising Association press conference, Milan, 2005.

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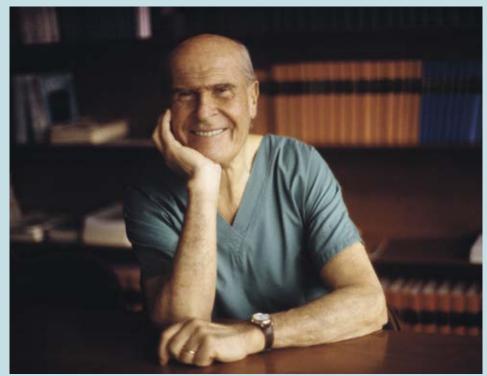
We often talked before setting down to work, practically every morning, in his office on the ground floor of the European Institute of Oncology (E10) in Milan. It was a large, warm, inviting space, sheltered from the routine comings and goings of patients. But it was also a nerve centre where major decisions for the Institute were regularly taken, decisions that were important for progress in the prevention and treatment of cancer. He, Professor Umberto Veronesi, would be seated behind his desk, already dressed and ready in every detail for the operating room, his green uniform peeping out from under the white lab coat, impeccable as his person. I, seated facing him, would listen while he sipped his first coffee of the day, steaming hot.

I learned much from our chit-chat, undisturbed by the harassment of the appointments that followed one after another from mid-morning to early afternoon, when Veronesi left the Institute at the wheel of his green Jaguar and drove to his downtown office to care for his patients, whose lives and condition he took to heart. In particular, I trained and educated myself to live healthily, a "culture" that included aerobic, but effective exercise, at least 10,000 steps a day, no smoking, reduced alcohol consumption and good Mediterranean food shared pleasurably and congenially with others. As Veronesi explained on every public occasion:

«A proper, healthy diet that is varied and balanced, with the accent on vegetables, not only satisfies the body's nutritional needs but also nourishes one's psychological sphere and provides relaxation.»

With this simple, straightforward statement, the Professor spelled out and promoted the concept of health that the World Health Organisation has promoted since 1984, a concept that it defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Veronesi always looked upon life in a "holistic" manner that concerned and dealt with the person, the world and life in its entirety. He knew how to capture all the facets and weigh the pros and cons. He loved to observe carefully. He went to the essence of things and of human events. That was how, in keeping with this ability and philosophy, he came to embrace and promote vegetarianism. For an ethical reason to begin with, as he wrote in one of his many books:

«When you ask people if they like animals, most of them will say yes. I have



In his office at the European Institute of Oncology, Milan, 2013.

The entire Veronesi family at a summer dinner in Tuscany, early 1990s. always wondered how anyone can eat someone they like».

He also became a vegetarian out of respect and care for the environment. According to United Nations data, meat production is responsible for 18% of global carbon dioxide emissions, not to mention the 500 litres of methane produced by each of the 1,400,000,000 head of cattle that are raised across the five continents. "Deciding to stop eating meat," he told me on one of those many mornings in his office, "is a way of loving ourselves, our children and our planet." Not finally but especially, he chose vegetarianism for the sake of health: scientific research has proved that a diet with a large vegetable content and a low intake of animal substances, salt and saturated fats reduces the formation of illnesses typical of adulthood like chronic conditions and cancer. "Over a third of tumours can be prevented with a proper diet," he said.

One could therefore surmise that the best way to ward off the risk of cancer is even written in the DNA of the foods we ingest. As he told me, this is true:

«Partly, at least due to the laws of epigenetics, i.e. the mutations of genes and DNA that we can induce by adopting certain forms of behaviour, including our eating habits, which can then be handed down from one generation to the next. However, there is no such thing as a food that fights cancer in the absolute sense, although some foods of vegetal origin contain ingredients and molecules that are protective and proactive for health.»

The Professor therefore urged people to adopt a diet rich in fibres, mainly containing cereals (whole grains are best); fresh and dried fruits; citrus fruits; green-leaf vegetables. All these foods facilitate gastrointestinal transit, reduce the time that toxic substances remain in the intestines and can prevent the emergence of rectal tumours and gastrointestinal diseases. A good diet should also be rich in anti-oxidant substances, such as vitamins and trace elements, which help neutralise the damage caused by free radicals and thus



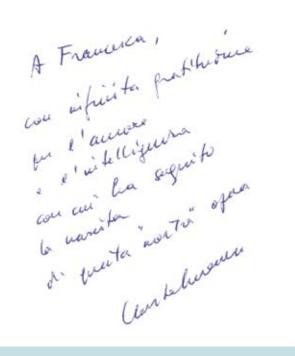
slow cellular ageing and various age-related pathologies. Fat content should be kept low by emphasising vegetal fats such as extra-virgin olive oil or oilseeds, which provide linoleic acid, polyunsaturated fats like omega 3 (mainly found in fish). These benefit the heart and prevent various cardiovascular diseases. On the other hand, Veronesi insisted, we should limit saturated fats contained in foods derived from animals. A "good" diet must include proteins – largely vegetal proteins. Protein-rich vegetables include beans, chickpeas, green peas, fava beans, lentils and soybeans. Animal proteins should be limited, especially red meat, salami and sausage. Being a vegetarian, the Professor also urged people to consume large quantities – up to five portions a day - of "coloured" fruits and vegetables (red, yellow-orange, white, green, blue-purple), which have a positive impact in cancer prevention. Among the most effective items in this category are members of the cruciferous family - cabbage, broccoli, kale, turnips and Brussel sprouts - along with certain other spice plants.

«Garlic and onions are considered among the foremost anti-cancer foods as they are high in allium, ajoene, disulphide and S-allil cystein. The list further includes tomatoes (rich in lycopene, the pigment that colours them red, which plays an active role in preventing cancer among men) and soya (more effective for women because it contains isoflavones, phenolic acid, phytic acid and phytosterols.»

As Veronesi repeated continually and with determination:

Veronesi's dedication to Francesca Morelli on the title page of the book *Siate sani*, 2014. «We advocate a good, healthy Mediterranean diet. It is therefore our duty and responsibility to train ourselves right from childhood to live and eat healthily to safeguard our welfare and the quality of our lives as adults.»

With the intention of raising awareness of these guidelines for good health, one morning the Professor and I decided to team up and write *Siate sani* ("Be Healthy"), an educational handbook designed for the young, an audience that Veronesi loved and that easily put trust in him. We thought about writing a second book together, but life didn't give us time for it.



A man even more than a scientist

I was supposed to work with the Professor temporarily, for a few months, replacing a colleague on maternity leave. As it turned out, our collaboration lasted more than fifteen years. I was introduced to him by his right-hand man, who often assisted him in the operating room, and he asked me if I might be available to "help him" in his duties as Scientific Director of the European Institute of Oncology. I remember the mixed emotions I had about the proposal. On the one hand, I would be proud of working alongside a man who was writing and changing the history of oncological medicine and the fate of women, in particular. On the other hand, I was enthralled by him and worried that I wouldn't meet the standard of such an eclectic, forward-looking, exceptional figure.

When I was invited for the interview, I tried to list all the right things to say. Not one of them came to me when it was time. I'm not surprised: it was easy to write them down; saying them was another matter. Let alone the effect of my emotions. I tiptoed into the Professor's office, feeling very tiny, but he quickly put me at ease. With a broad, frank smile and a silvery voice, he told me what was expected: a person who could take care of the "written side" of his medical role. This would involve answering letters from the innumerable patients or women who asked for advice, replying to invitations to scientific and public events in Italy and abroad, writing presentations on books of every type for other people or for him, and managing all his other documents. For Veronesi received a wide range of requests, some of which had nothing to do with his professional role. He answered all this correspondence politely, punctually and in a gentleman-like manner. That was his style, even when he turned down a request. I didn't hesitate about taking the job. I accepted without any reservation, realising that such a golden opportunity could benefit me immensely. Here was a chance to grow professionally, culturally and intellectually and to learn about life. As it turned out, I was right - so much so that, thanks to and perhaps also because of the Professor, I was able to fulfil my secret wish of becoming a journalist. But that's another story.

I always arrived at our unit before Veronesi in the morning, even though he liked starting his day very early by reading the correspondence or some scientific study that interested him. He would also write a few notes in his fine, minute handwriting indicative of a thinker's mind: sharp, refined and intelligent. There was a tray in a corner of his office where he put everything he didn't need to take care of himself. That was what I would have to deal with during the day. On each document there would be a short note. For personal letters it would say "Friendly reply".

In his office at the National Cancer Institute, Milan, 1970s.

He checked my answers, of course, and changed them if necessary by adding a thought or a comment. For invitations to congresses, he always had the last word with a "Sì" or a "No". If a book or an essay was to be presented, the note would say "Write a foreword". That was enough; no other directions were needed. The Professor had been able to explain himself perfectly when we'd talked about the matter and I'd learned to understand his thoughts on various issues, which at times were at odds with mine. But as his ghost writer I had to foresee, interpret and express what he meant as if I was him.

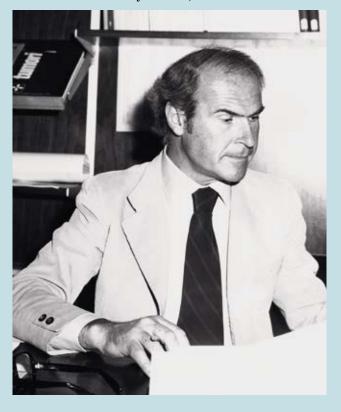
I also realised that I had to read up on things. Veronesi spoke and knew about everything: religion, politics, ethics, morals, science, cultures and peoples, countries, history, transgression, freedom, music (one of his greatest passions) and art. Without undue flattery, I think one could say that he was interested in and familiar with just about every aspect of knowledge. He was inquisitive and his was a healthy curiosity that drove him to know, experience and do research as if it was embedded in his genes. He analysed life like one does with a test tube or a tissue sample. He penetrated to the essence of things to find out what lay "inside", beneath the surface. For

there was always something, somehow, to learn there. He was ready for action whenever he could be of service, as was often required. He also taught me that, in general, there is always something special to observe that can escape you at first glance but that could make the difference and change your view – even after an error or a defeat.

That first time I went into his office, I was certain I would find a man who projected his towering stature. But the last time I came out of that great space, having decided after much soul-searching to leave, I was convinced that a man's value is measured by his simplicity, humility and ability to show consideration for people as human beings rather than products of a social background and culture. Professor Veronesi invariably demonstrated that ability.

*Francesca Morelli

Journalist and former ghost writer of Professor Veronesi at the European Institute of Oncology (EIO). Knew the doctor and the man and admired him from the first to the last day for teaching her about science and life.





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Umberto Veronesi and Switzerland: thoughts with a strong personal flavour

by Franco Cavalli*



Left: Portrait of Franco Cavalli, 2010.

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On this page: Umberto Veronesi, 1970s. Writing about Umberto Veronesi is at once easy and difficult. His monumental work is a source of countless ideas, but one quickly comes up against the problem of putting them in order and choosing what to focus on. I experienced this difficulty when writing a number of obituaries soon after his death that were published in various scientific journals. This time it's a bit easier in that I've been asked to focus mainly on his relationship with Switzerland. I will do so by drawing on my numerous personal memories.

Our paths often met. As a matter of fact, the esteem we felt for each other gave rise to a genuine friendship, though our meetings were almost always brief due to the many commitments that both of us had. My first memory goes back to 1973. Before travelling to Brussels and then London for a long training period, I spent two months in the medical oncology division of the National Cancer Institute of Milan, directed by another towering figure, Gianni Bonadonna. Umberto was already known around the world for the various studies he'd undertaken to show that breast cancer could be cured without resorting to the massive operations which had been the overriding rule since the late 19th century. I saw him come by a couple of times, walking at his fast, elegant pace, but I didn't dare to say hello.

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When I began building what would later become the Oncology Institute of Southern Switzerland (OISS) in 1978, Umberto sent me a message of encouragement as he was already very familiar with Ticino and knew that I would have to start from scratch. I think he'd had word of me either from Gianni Bonadonna or from my Bernese mentor, Kurt Brunner, with whom in those



Veronesi together with Franco Cavalli at the World Oncology Forum, Lugano, 2012. same years Umberto was organising the first edition of the European Conference on Clinical Oncology, an event that he wanted to be held in Lausanne, Switzerland.

It was still during that period, more or less, that Umberto asked me to help him create what was to become one of his greatest undertakings: the European School of Oncology (Eso), made possible thanks to a very generous donation by the Necchi family who lived in Lugano. I suggested that we meet in Monte Verità, near Ascona, so that we could be infused with the magic of that setting. He invited some of Europe's most notable oncologists and that was how, in 1982, Eso came to be. Some years ago, I had the honour of taking over as head of the institution, which Umberto had directed masterfully until then. From 1982 I met and worked with him continually. Umberto closely monitored the development of oncology in Ticino, which he considered a possible model for a holistic approach to cancer, from diagnosis to therapy. Moreover, this approach covered a whole territory, extending beyond the walls of one institution. It was for this very reason that in 1994 Umberto had us awarded special recognition by the Pezcoller Foundation and that culminated with his speech of honour when I received the Montaigne Medal in 2005 by the Toepfer Foundation in Germany, once again at Monte Verità near Ascona. When Umberto subsequently founded the European Institute of Oncology (E10), I was unable to accept his offer to head its medical oncology division for purely personal reasons. It was at this juncture, however, that began not only our very intense scientific collaboration but also a number of structural associations. For example, for many years Professor Aaron Goldhirsch co-directed the OISS with me while also directing EIO's medical oncology division. At Umberto's suggestion, we later set up the Southern Europe New Drug Office (SENDO), which in addition to our two institutes also involved the Mario Negri Institute and the National Cancer Institute of Milan. For many years SENDO was one of the leading European centres for coordinating preclinical and clinical studies on numerous new anti-cancer drugs.

But Umberto knew Switzerland as a whole quite well. As president of the Union for International Cancer Control (UICC), headquartered in Geneva, he often had the opportunity to deal with the Swiss structures directly. But before elaborating on this subject, I will take the liberty of pointing out something that almost bears the mark of fate: the only other oncologist of Italian extraction to have the privilege of chairing the UICC (also known as the UN of the cancer world) was yours truly, for a score of years after Umberto.

Now let's turn to him and Switzerland. Umberto appeared countless times on Swiss Italian television and at the conferences held in Ticino. One of these appearances stands out: his participation with the erstwhile Federal Councillor Ruth Dreifuss at the ceremony held in 1998 at the Teatro Sociale di Bellinzona to mark the 20th anniversary of oncology in Ticino. Umberto delivered an extremely admirable speech. I remember everything he said and wrote when he took over as Minister of Health in Italy. At the time he highlighted repeatedly that he wanted to reform the country's health system using Switzerland's as his model. This was one of the few issues on which we partially disagreed. In an article I wrote that was published in the "Manifesto" and didn't please him too much, as a member of the Swiss Parliament I pointed out a number of weaknesses in our health system and, in particular, the excessive fragmentation caused by federalism that makes it difficult to undertake any real reform. I also noted, among other things, how this same fragmentation increases costs disproportionately, for example by preventing highly complex medicine from being concentrated in a small number of leading centres. Unfortunately, Umberto was only Minister of Health for a brief period (a role involving huge responsibility which I think, contrary to general belief, is nowadays more important than the role of Minister of Finance). He was thus prevented from finding out that, besides having some obvious advantages, an overly federal health system is fraught with a whole tangle of drawbacks.

I'd nevertheless like to emphasise that, in my opinion, it was during this same period in Rome that Umberto demonstrated his great charisma, a quality that more than any of the academic and scientific merits which he was unanimously acknowledged to have, and which, contrary to all expectations, enabled him to pave the way for the ban on smoking in public places in Italy. His endorsement of this cause surprised me, because often he was reluctant to subscribe to other forms of prohibition.

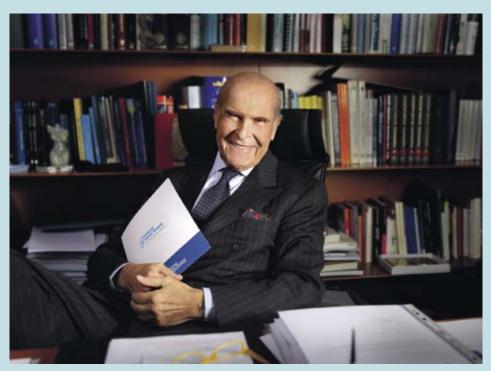
To those who ask me how to explain this, I simply answer that nobody other than Umberto, with his extraordinary personality and undeniable notoriety (at that time he was the most popular figure in Italy) could have done it. These qualities also explain something else: unlike most politicians who champion unorthodox proposals and are immediately ostracised for doing so, Umberto not only had the courage but also the ability to initiate serious debates on proposals that in Italy smacked of "blasphemy". I'm thinking of his positions on the need to liberalise the market for soft drugs, under the control of the State. I'm thinking of his positions on assisted suicide and euthanasia. I'm thinking of his battles in favour of developing a vegetarian culture, his campaign against smoking and so many other decidedly unorthodox stands.

Up here, north of the Alps, I've often tried to explain to myself the fundamental role that Umberto Veronesi played in Italy. I don't think I've really succeeded in figuring it out, partly because his personal history - despite his repeated professions of admiration for Switzerland - somewhat contradicted one of my people's deeply rooted dogmas. Let me elaborate. Switzerland never wanted a king. The nation we have today, which this history led us to build, is pervaded by a tall poppy syndrome, i.e. an aversion to being number one (in some sectors at least). For example, the presidency of the federal government rotates annually (many people don't even know who it is). The same is true at the cantonal and municipal levels. In the army, a general is appointed only in time of war. And I could go on. Of course, all this is very virtuous and deeply democratic. But as with any virtue, when carried to the extreme it can exacerbate certain flaws. And so it is that, in everyday life as well, in Switzerland people try to avoid standing a head taller than others, which also cramps their style somewhat. This kind of attitude risks promoting mediocrity and preventing visionary projects that are too daring.

Umberto Veronesi always knew how to win over hearts and minds with daring views. Moreover, his views were almost invariably right despite the scepticism that most people felt initially. Switzerland could perhaps learn a little something from Umberto's approach by returning the admiration and affection that he always felt for our country.

*Franco Cavalli

Chairman of the Scientific Committee of the European School of Oncology (Eso), Bellinzona.



The Umberto Veronesi Foundation

In 2003 Professor Veronesi set up a foundation linked to his own name. The Umberto Veronesi Foundation for Progress in Science funds top-flight scientific research in the areas of oncology, cardiology and the neurosciences.

"Italians are starting to take an anti-scientific approach. That's why I decided to establish a foundation," is the answer the surgeon gave to anyone who asked him why, in the early 1980s, he chose to set this new challenge for himself. "We want to create a new generation that is aware of the values of science," he also replied. Veronesi was among the first in Italy to perceive that people needed to be better informed scientifically. The Foundation that collected his legacy continues to pursue that aim along two paths that begin separately but often end up converging. One consists in providing funds for research projects (more than 100 have been financed from 2003 to the present), in addition to the jobs of the researchers (over 1400). The other path centres on publishing scientific works and articles. Given the growing breadth of opposition to science in the past generation, the two paths now tend to wind together.

In his office at the European Institute of Oncology, Milan, 2009. The Foundation's commitment to promoting proper information also relies on the collaboration of an Ethics Committee, which has given rise to the publication of nine opinions (on the randomisation of clinical testing, the use of placebos, penal system reform, living wills, inequalities and the right to health, genomic medicine and clinical research, engineered viruses and the ethics of euthanasia). The Committee has also spawned six decalogues on rights (of patients in general, of sick children, of patients in prison, of patients in the last phases of life, of psychiatric patients and of women) as well as one on duties (towards pets) and one on ethical orientation for health sector workers. All these publications can be downloaded from the Foundation's website. Moreover, every six months since 2015 the Foundation has published the journal The Future of Science & Ethics, which is intended to disseminate scientific culture and promote debate on scientific progress, technological innovation, the ethics of research, bioethics, human rights and the big social, economic and political issues that go hand in hand with globalisation.

Together with his son Paolo at the Umberto Veronesi Foundation gala dinner, Palazzo Colonna, Rome, 2010. Planning and substance, fervour and constant commitment: these are the watchwords that sum up the activities of those who continue to give impetus to Veronesi's views and ideas. Today the Foundation, chaired by his son Paolo, is driven by the conviction that the medicine of the future will have to marshal the extraordinary contributions that the vanguard of research can offer, alongside patient-focused prevention and treatment, with the ultimate objective of fleshing out proposals for improving the society we live in.

Research is a necessity. The Foundation is active not only in the area of oncology but also in cardiovascular and neurological health. Special attention is being given to preventive medicine and all precision therapies in an effort to find answers to every disease that cannot yet be cured. But the contribution of those who know how to disseminate the results of upstream work in laboratories is likewise necessary. This transmission is indispensable if society is to be able to discover new therapeutic opportunities and, even more importantly, to distinguish between good and bad science. Fake news is an issue that currently fuels heated debate in journalism, politics, communication and even science. Veronesi, not only because he worked in the field for over sixty years, continually warned of the serious risk posed by disinformation for those who have to understand and deal with a therapy, change a bad habit or perhaps decide how to better protect the health of a child.



Year after year, the Foundation has sought to bring science closer to society. To do so, it has decided to enlist the help of high-profile figures - Nobel Prize winners; social, political, scientific and socio-economic personalities; members of committees, bodies and institutions - who have become champions and defenders of the message that scientific progress is the expression of constant improvement and the evolution of consciences devoted to constructive dialogue and communication that doesn't foster prejudicially anti-scientific approaches. Nowadays, thanks to research, we are able to cure 60% of tumours generally. In the 1970s, the success rate was 40%. In some areas today, the rate is even higher. For instance, nearly 90% of breast cancers can be cured. The percentages for malignant prostate and testicle tumours are higher still. But much needs to be done in certain areas that leave us powerless such as cancer of the lungs, the colon, the rectum and the pancreas, to cite the most common challenges. In any case, early diagnosis makes the difference: if we are able to find new, increasingly precise ways to diagnose tumours at an early stage and develop increasingly targeted therapies, in the coming years we will be able to cure 80% of all cancers.

Yet those who aren't involved in research don't look to tomorrow. Scientific progress is part of everyday life for every citizen and each of us can contribute to it. The new generations of researchers know that it isn't enough to be good behind a microscope. One needs to go outside the laboratory, compete with international institutions and partners and communicate with society. A strategy is needed – a vision that is shared by the scientific community, citizens, schools, universities, companies, media and politicians.

Investment in the area of scientific research springs from such awareness. In addition to the activities it pursues through information both online (magazine, social network, digital newsletter) and offline (hard-copy newsletter), the Foundation – whose name is followed by the motto "for progress in science" – hosts meetings with children in primary schools and their mothers, with teenagers in secondary school and with university students and interns. The Foundation moreover produces editorial content intensely, as well as organising the international conference Science for Peace, focused on the future of science.

All these activities are based on one premise: the desire to foster clarity in the minds of those who read or listen, especially in these times when false information catches on extremely easily. The world is changing at a speed unprecedented in human history. In just a few decades, biomedicine rolled back the frontiers of life's beginning and end and acquired an unsuspected ability to intervene in the environment and human beings thanks to genomics, nanoscience, transplants and stem cells. Yet scientific progress has opened (and will open) not only new opportunities but also unknown challenges and deep moral dilemmas that require governance. We need scientists who know how to handle new and urgent materials. That is why the Umberto Veronesi Foundation must remain committed. Awareness is the only possible answer for humanity's survival.

CHARTER OF PRINCIPLES AND VALUES

The Umberto Veronesi Foundation for Progress in Science is committed to designing and developing projects, activities and initiatives in accordance with the aims and missions set out in the Charter of Principles and Values formulated by the Foundation's Ethics Committee.

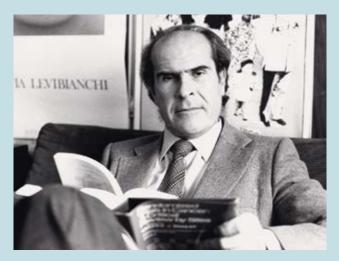
PRINCIPLES

- 1. The universality of science.
- 2. Freedom and responsibility in science.
- 3. Integrity in scientific research.
- 4. The protection of human dignity.
- 5. Individual autonomy and informed consensus.
- 6. Equity and justice in public health policies.
- 7. Quality and safety in research and care.
- 8. The promotion of prevention in health management.
- 9. Professionalism among researchers, doctors and health workers.
- 10. The duty of Ethics Committees to provide information and play a social role.
- 11. Protection of the habitat and the biosphere.

MISSIONS AND AIMS

- 1. Foster progress in science.
- 2. Foster the development of better living for all.
- 3. Promote peace and dialogue among peoples.
- 4. Help create a new generation of researchers.
- 5. Strengthen international scientific cooperation and promote technological innovation.
- 6. Improve communication between the scientific community and society and increase awareness of the importance of science for people.

Umberto Veronesi



In a 1970s snapshot.

Selected Bibliography

Umberto Veronesi wrote numerous books during his life, both alone and in association with journalists. These publications are the best way to delve deeper into his thoughts on a variety of aspects of his scientific and political activities. Here is a list of some of his most significant works.



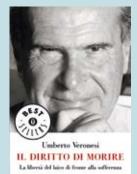
Da bambino avevo un sogno. Tra ricerca e cura la mia lotta al tumore ("As a Child I Had a Dream. My fight against cancer between research and treatment"), edited by Luigi Bazzoli Mondadori, 2003

Veronesi assesses knowledge in cancer research and treatment. The author reviews his scientific, human and personal odyssey from the story of the European Institute of Oncology to politics, from his experience as Minister of Health to the Di Bella case and from past medical progress to the discoveries of the early 21st century.



Una carezza per guarire. La nuova medicina tra scienza e coscienza ("A Stroke of the Hand as a Cure. New medicine between science and conscience"), in association with Mario Pappagallo Sperling & Kupfer, 2005

For Umberto Veronesi, respecting the essential need to be human is the starting point for building the medicine of the future. The book develops this conviction with lucidity and clarity despite having been written so many years ago, confronting issues that continue to burn today such as euthanasia, living wills and research on embryos.



Il diritto di morire. La libertà del laico di fronte alla sofferenza ("The Right to Die. The freedom of secular people confronted with suffering"), edited by Luigi Bazzoli Mondadori, 2005

Medical and scientific progress has given humanity the illusion of almost achieving immortality, making us forget that death is a biological fact. Diseases, Veronesi insists, establish such a tight relationship between doctor and patient that the former is able to interpret the latter's wishes, which might include a refusal to submit to useless treatment and a desire to die with dignity.





Essere laico ("Being Secular"), with Alain Elkann Bompiani, 2007 Dell'amore e del dolore delle donne ("On the Love and Pain of Women"), Einaudi, Frontiere, 2010

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Umberto Veronesi speaks with Alain Elkann about the secular nature of scientific people, a value that he also handed down to his own children. Part of the text is also given over to his commitment as a doctor, which characterised more than anything else his individual trajectory analysed mainly from a psychological point of view.



L'ombra e la luce. La mia lotta contro il male ("Shadow and Light. My fight against evil"), edited by Dario Cresto-Dina Einaudi, 2008

From the experience of war to the choice of becoming a doctor, and from the first operations to the relationship with diseases: fifty years of life and scientific research in a book with a view to understanding, fighting and vanquishing evil. In this book Veronesi decides to tell his own story and does so through the stories of the many women he met throughout his life with whom he shared feelings, friendships and work. "I have noticed, experiencing a kind of envy, that there is something in women that anchors them solidly to life and makes them never lose the battle with those alongside them."



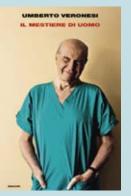
Il diritto di non soffrire: cure palliative, testamento biologico, eutanasia ("The Right Not to Suffer: palliative treatment, living wills, euthanasia"), edited by Luigi Bazzoli Mondadori, 2011

The shifting boundaries between end-of-life treatment ("letting the patient die"), assisted suicide ("helping the patient die") and euthanasia ("causing the patient to die") have so far not made it possible to confront this huge and extremely delicate problem adequately. The issue is fraught with ethical, legal, human and even religious implications, such as how to answer patients afflicted with an incurable and irreversible disease who ask for "permission" to die or, better stated, end a "tortured" existence they no longer want. Umberto Veronesi deals with the various forms of a "good death" by telling the eloquent, heart-breaking stories of terminally ill patients (some of them very well known such as Terri Schiavo, Giovanni Nuvoli, Piergiorgio Welby and Eluana Englaro), who for long periods were denied the help that would have relieved their horrible suffering. With this work Veronesi contributed greatly to the debate on living wills, which became legal in Italy shortly after his death.



Longevità ("Longevity"), with Maria Giovanna Luini Bollati Boringhieri, 2012

In this book Umberto Veronesi tackles one of the most topical subjects in contemporary society. Longer general life expectancy is a fact, but understanding what it means to grow old serenely is another thing. That's because it is not enough to add years to life; those years have to be interesting. Starting from this basis, Veronesi invites us to meditate on our lifestyle, proportionately dealing with nourishment, physical activity, mental activity and, above all, curiosity. "I believe I'm in love with curiosity in itself. I'm never satisfied. My mind never stops. I like having been born inquisitive and am convinced that everyone receives the same gift and that later it becomes the point of living a long life. The more years we have available, the more we can learn and know."



Il mestiere di uomo ("The Business of Being Human"), Einaudi, 2014

This book is the real spiritual will and testament of Umberto Veronesi. It assembles reflections and thoughts, as well as big and little questions he never eluded: the twilight of faith; the uselessness of pain; the freedom and right to self-determination (from living wills to euthanasia) and procreation (assisted fertilisation, the abortion pill and contraceptives); the liberalisation of drugs; the search for justice without vengeance (from the stand against capital punishment to thoughts about life imprisonment); universal love; animal rights; vegetarianism; sustainable consumption and the eradication of all forms of superstition. Veronesi tells many, many stories and talks about many, many people: through Don Giovanni, whom Veronesi served as the country priest's most loving altar boy; or the shadowy man who wrote long, philosophical letters to him from prison; or Mina and Piergiorgio Welby; or the first unfiltered Nazionale he smoked as a teenager; or the animals on his boyhood farm; or the "bewitched" house of Mammoli; or his war experiences; or the patients he met during his long career.



Siate sani. Consigli ai giovani per vivere bene e a lungo ("Be Healthy. Advice to young people for a long, healthy life"),

with Francesca Morelli Salani, 2014

This "practical" guide describes the typical day of a teenager, from breakfast to bedtime in the evening, through school, sport and free time. Veronesi, assisted by the journalist Francesca Morelli, explains which mechanisms regulate our health and how we can protect and reinforce them by adopting a healthy lifestyle and an appropriate diet enabling us to live long and well.



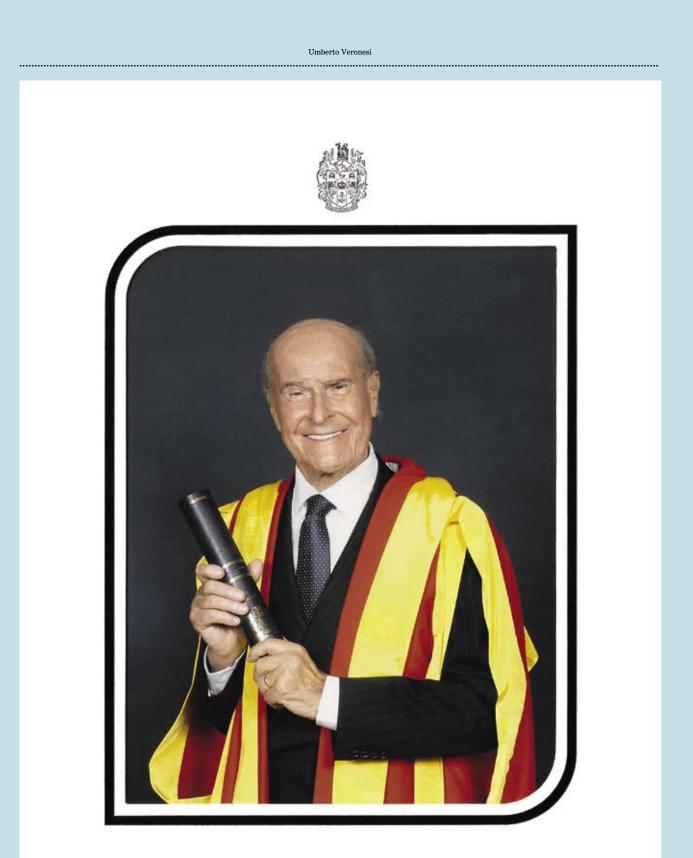
Senza Paura ("Without Fear"), with Gabriella Pravettoni Mondadori, 2015

What is unleashed in us after we've been diagnosed as having cancer? What resources do our body and our mind put to work to fight the disease? What relationship is established with those who treat us and those who are close to us? How do we deal with operations and therapy? What will life be like after this long, painful struggle? Umberto Veronesi and Gabriella Pravettoni, who for years cared for cancer patients, each with specific skills, try to answer these questions with an innovative approach: medicine of the person, surpassing the traditional concept of treating the body and giving free rein to the person as a whole (body and mind).



Il diritto di essere umani ("The Right to Be Human"), Solferino, 2018

"A society isn't truly democratic until it moves decisively towards the will to understand." This wish inspired Umberto Veronesi in his day-today work as a doctor and in his life as well. It was the starting point in his search to grasp an increasingly complex and elusive world, yet a world that can also afford great opportunities provided we're able to consider them critically, freely and responsibly. Whether talking about his "medicine of the person" or the latest frontiers of bioethics, of the uselessness of pain or the luxury of health, of the misery of war or the miracle of peace, in the thoughts assembled in this book Veronesi shows an empathy that is quintessential of his character.



King's College London

Left: Umberto Veronesi receives his 14th honorary degree at King's College, London, 2011.

Umberto Veronesi Foundation grant awards: all the recipients pose together at the end of the ceremony, Milan, 2018.



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