

## INTERVIEW WITH GONZALO GÉNOVA, CARLOS III UNIVERSITY OF MADRID, AND MARÍA DEL ROSARIO GONZÁLEZ, COMPLUTENSE UNIVERSITY OF MADRID

*Interview conducted by Quentin Wodon*

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### EXCERPTS:

- “Ethics is often presented as a brake, a barrier, a series of annoying limits and prohibitions. But we are convinced that ethics is not the brake, but the real engine of technological progress. So, our values, unsurprisingly, drive us to keep searching for the truth, a truth that none of us have ‘in our pocket.’”
- “We share the view that the teaching of professional ethics has to be completely founded on ethical rationality, with our feet grounded in concrete practice and in the mental and vocational form of each profession. Otherwise, they will be overlapping schemes and not committed professional lives.”

*Responses for the interview are joint unless noted by MR for María del Rosario and G for Gonzalo.*

#### **Would you describe where you work, and some of the particularities of your university?**

MR. I work in the Faculty of Education at the Complutense University of Madrid. It is the largest university in Spain, and one of the oldest in the country. You can study and research there in practically all fields of knowledge. It is considered one of the most important and prestigious universities in Spain and the Spanish-speaking world.

G. I work at the Polytechnic School of Carlos III University of Madrid, a very young university, just over thirty years old, but one that has earned the prestige of being one of the best universities in the country.

#### **What is your main field of research, and why did you choose that field?**

MR. My field of research is the philosophy of education. I am concerned about the foundations on which an integral educational process is based, especially regarding ethical and civic aspects.

#### **Box 1: Interview Series**

**What is the mission of the Global Catholic Education website?** The site informs and connects Catholic educators globally. It provides them with data, analysis, opportunities to learn, and other resources to help them fulfill their mission with a focus on the preferential option for the poor.

**Why a series of interviews?** Interviews are a great way to share experiences in an accessible and personal way. This series will feature interviews with practitioners as well as researchers working in Catholic education, whether in a classroom, at a university, or with other organizations aiming to strengthen Catholic schools and universities.

**What is the focus of this interview?** In this interview, Gonzalo Génova and María del Rosario González, both from universities in Madrid, share insights about the work that they received an Expanded Reason Award for and about life in academia, with a particular emphasis on a course on ethics for engineers.

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I am interested in the phenomenological and personalist perspective and also in integrating fundamental contributions of therapy regarding communication, personal relationships, healthy communities and societies from an understanding of the fundamental experiences that every human being lives.

G. For many years I have been mainly involved in software engineering research, but lately I have been drifting towards the philosophical foundations of technology, and in particular ethical issues in relation to artificial intelligence and in the teaching of ethics for engineers.

**You are a recipient of the Expanded Reason Awards. What was your contribution for receiving the Award?**

When we heard that the Prize was being announced, we had already been teaching the Ethics for Engineers course at Carlos III University of Madrid for several years, so we were able to present an experience that was already quite mature, which in fact we had published in a leading journal ("Teaching Ethics to Engineers: A Socratic Experience", *Science and Engineering Ethics* 22(2):567-580, April 2016).

The course is taught by Gonzalo, who is a professor at that university, but both of us have been involved in its design, with María del Rosario contributing with her deep knowledge of pedagogy. The approach of the course is novel in that it specifically addresses the frame of mind of engineers, who are accustomed to a particular type of reasoning. Gonzalo is himself an engineer, so it can be said that this is his "natural" way of thinking. But he also studied philosophy, so he can bring a more rigorous approach to ethics.

**How easy or difficult is it for you to share your values with students when teaching?**

G. As I said, you have to be able to tune in to the engineering mentality, to understand it in depth, not only from the outside, perhaps with prejudices. On the one hand, it is necessary to point out the limitations in dealing with ethical issues, especially the emphasis on measurable quantities and process efficiency. On the other hand, it is interesting to note the parallel between the creativity and "ingenuity" of the good engineer and an ethical approach that goes beyond compliance with a code of conduct: inventing new ways of doing good.

Moreover, engineering aims to transform the world, especially in its material aspects, but not exclusively. This establishes a very interesting bridge with ethics, which also wants to transform society, to correct what is wrong. It is by thinking of a way of understanding and inhabiting the world, a relationship with nature, other people and all

humanity, that we understand ourselves and how we project ourselves.

Therefore, to speak of ethics and engineering is not to speak of two different things, but, in a way, of the same thing: the transformation of the world. Engineering and technology focus on the effectiveness and efficiency of the means, and ethics looks more at the intrinsic goodness of the ends and the means necessary to achieve them: what changes are desirable, where should we move as a society, what means are we going to put in place to achieve these changes? In the end, it is a question that the engineer, as a person, as a professional, and as part of humanity, cannot help but ask himself or herself. Engineering poses the question, but it can't answer it by itself. When you present it that way, students understand it perfectly.

**How do your values affect your research? And what are some challenges you face?**

Ethics is often presented as a brake, a barrier, a series of annoying limits and prohibitions. But we are convinced that ethics is not the brake, but the real engine of technological progress. So, our values, unsurprisingly, drive us to keep searching for the truth, a truth that none of us have "in our pocket", because it is ungraspable by any discourse made up of a finite number of words.

But thoughts have become so entangled that it is necessary to seek and find new ways of explaining ethical issues. Ludwig Wittgenstein said that philosophy unties the knots of our thought, the knots that we have stupidly made in it; but to untie these knots it must make movements as complicated as those knots. The complexity of philosophy lies not in its subject matter, but in the entanglement of our understanding.

A particular challenge for us is to overcome the widely held view, even among our own faculty colleagues, that in ethics everything is ultimately a matter of opinion and preference. In order to teach ethics in the university it is necessary to overcome skepticism about its rationality. But it is a rationality that is different from the purely logical-deductive rationality of mathematics, from the empirical rationality of the experimental sciences, and from the rationality of mere consensus of conflicting opinions. It is also a rationality that does not live separately from the affective life, but that integrates it to mutually enrich each other. There is a lot of talk about the need for ethics in social life, but we have to relearn to think of ethics as a university discipline.

**What is your advice for students who may be Catholic and are contemplating doing graduate work or a PhD?**

"Don't be afraid." Many readers will recognize the biblical resonance of these words, in both the Old and New Testaments. God is the source of truth, so that any path of inquiry into truth necessarily brings us closer to God.

But, as we have said before, no academic discipline has a monopoly on truth, neither does theology. In the past there have been strong conflicts because it was not known how to reconcile the different ways of searching for truth. No one was willing to acknowledge the limitations of their own method, and they were locked in a seemingly hopeless conflict. These conflicts continue to exist today, albeit in an attenuated form. They will not be resolved by cornering theology because it does not fit into the schemes of science; but neither will they be resolved if theology does not recognize what it must learn from the sciences.

So, Catholic youth who want to go to university should not be afraid of any rational knowledge. But they must be forewarned not to fall into the nets of a way of thinking limited to what can be known with the scientific-experimental method (natural sciences such as physics, chemistry or biology) and the axiomatic-deductive method (formal sciences such as mathematics and logic). And for this it is also necessary to study one's own faith, in order to be prepared in the face of contrary arguments that are presented as apparently irrefutable.

This idea has been a constant stimulus for our reflection for many years now, and most especially since we read it in the speech delivered by Benedict XVI at the University of Regensburg on September 12, 2006, when he refers to the dangers of a dehumanized scientific-technical reason, and how to avoid them: "We will succeed in doing so only if reason and faith come together in a new way, if we overcome the self-imposed limitation of reason to the empirically falsifiable, and if we once more disclose its vast horizons." In a word: Expanded Reason.

This is also important so that they do not need to live a certain dissociation between their professional and academic life, on the one hand, and their personal life and their ethical-civic commitment, on the other. They should not understand their beliefs, their reason or their profession as encapsulated; life is one and the commitment is lived in an integrated way.

**Could you share how you ended up in your current position, what was your personal journey?**

G. I went to university to study electronic engineering because I really liked it. I was good at mathematics and physics. At the university I was fascinated by computer science. After finishing my degree I was presented with the opportunity to get a new degree in philosophy, which I was also fond of. But I considered my "natural" field to be philosophy of science, not ethics. In any case, when I finished my philosophy studies I returned to my work as an engineer and landed at the university that currently hosts me.

It is only many years later, already teaching my course on Software Engineering, that I found that the classic manuals devoted a chapter to ethical issues of professional practice, and I decided to devote a couple of classes to the subject. Eventually these classes became a full course offered to all students on campus.

MR. I started to study architecture because I was fascinated by beauty, and architecture was for me the total art, where living, life and functionality are incorporated with the way of transforming the world and beauty. Once inside I imagined that I would end up building houses in series forced by company rules, and also the studies did not leave me time for volunteer activities and so on. So I decided to take a more humanistic turn and go into education. I have always been passionate about philosophy and therapy, and I never stopped training in these areas, specializing in philosophy of education, ethical and civic education, and systems and family therapy. For me they are ways to deepen the human condition and they are all completely interrelated.

I teach the Ethics of Education course to social educators, and together with Gonzalo we share the view that the teaching of professional ethics has to be completely founded on ethical rationality, with our feet grounded in concrete practice and in the mental and vocational form of each profession; otherwise, they will be overlapping schemes and will not bear the fruit of committed professional lives. That is why we have so much enjoyed working together developing ideas for teaching ethics to specific professions. We cannot teach ethics in the same way to engineers and social educators: although the principles are the same, the mental and vocational shape and understanding of the world is different.

**Finally, could you share a personal anecdote about yourself, what you are passionate about?**

G. While I was studying engineering I spent a year in Vienna as an external student at the university. I had a lot of time on my hands and devoted myself to self-taught activities. Knowing practically nothing about artificial intelligence, I designed a program that learned to play tic-tac-toe. My surprise was great when, after a few games, the program beat me by an oversight of mine! I still tell this anecdote when I explain the various ways in which an artificial intelligence system can be said to "learn".

MR. What I enjoy the most is that I can live from what I am most passionate about: learning, studying, reading, sharing, debating, continuing to search, doubting, and rethinking. One of the greatest gifts was to understand that the great encounters happen not only in certainties, but also in doubt. And well, it was also exciting to receive the award together. That our discussions, work times, debates, phone calls before a class to find the best approach for the students that Gonzalo was going to have that day... that all this turned into a great award that we could enjoy with our children and... how they played in the Vatican gardens on the night of the award. By the way, there are ponds with turtles in those gardens!