WHAT WOULD LEONARDO STUDY AFTER YEAR 12?

Just over five centuries ago, a young man wrote a job application to Ludovico Sforza, the Duke of Milan. The year was 1482, and the applicant was a 30-year-old man, recently arrived in Milan from the Florence of the Medicis. The draft of the application still survives. It is surely one of the more unusual CVs in history, and it should be, as the author was Leonardo da Vinci.

Leonardo's CV listed many skills, and offered services across a range of arts and sciences. Among his long list of skills: he could build light, strong bridges, highly portable and effective for mobile warfare on attack or defence; he was skilled in the intricacies of covered ladders and passageways; he could build the canons, mortars, and siege engines required for battle; he could also make impenetrable covered chariots, along with tanks to spearhead an infantry breakthrough. But he was more than a military engineer, he was a civil engineer and architect skilled in urban planning and hydraulic engineering. Somewhat further down the list, he noted he could "carry out sculpture in marble, bronze or clay, and also in painting".

He was an artist, but this was not his major claim. He was a person who knew how to solve the major manufacturing problems of his day to serve the public and private goals of the lord who governed the domain in which he lived.

The first exhibition of Leonardo's work that I ever saw was not his paintings or notebooks. It was an exhibition of inventions and models – some in working order. Among these were a spring-driven automobile, a helicopter, a
double-hull ship, an Archimedes screw, a parachute, a paddle-wheel ship, a tank, and a flying machine. Later, I learned about his bicycles, gliders, submarines and more, everything from small manufactured parts for machine guns to an ideal city. This was the 1950s. It was an era of technological optimism, and Leonardo’s exhibition made an indelible impression on me. Melbourne enjoyed a similar but more extensive exhibition in 2006, shortly before I took up a post as Dean of the Swinburne University of Technology Faculty of Design.

Today, I’m a professor again, and I chair the steering committee of the Swinburne Design Factory, an interdisciplinary centre of teaching and research serving students and staff across the entire university. Not long ago, a friend was asking me about the project. He wanted to know what kinds of opportunities exist for students at Australia’s first university-based Living Lab. In the course of our chat, he suddenly asked me, “If Leonardo da Vinci came to you today as a year 12 student, what would you suggest he study?”

It is difficult to answer ‘what if’ questions, especially when the ‘what if’ concerns a man who died in 1519. But Leonardo left a great many clues behind.

You have to consider the difference between universities in Leonardo’s day and our time. In the 1400s, universities focused on law, theology, and medical theory. To learn to make things, people apprenticed in a studio or took employment with a master. Several centuries of evolution through academies and engineering schools leave today’s universities as the place to learn what Leonardo would have wanted to know.

Firstly, Leonardo would want an undergraduate degree in Product Design Engineering (PDE). A strong PDE program offers an integrated approach to product design engineering with a comprehensive range of skills. Students develop the creative skills to make attractive, exciting products that meet human needs, while mastering the engineering and production skills that companies need to manufacture these products.

But Leonardo wouldn’t stop there. He’d probably want a post-graduate degree in Digital Media Design (DMD). Why not art? The answer lies in Leonardo’s own notebooks. Leonardo wanted to communicate, and his art works always took too long to finish because he continually sought new ways to advance the technology of his time. Today’s digital media from cameras to the World Wide Web are the media of communication, information, even portraiture. Further, the interaction design skills required for high-level DMD are also vital for the industrial designer, and the research techniques associated with DMD would round out a sharp PDE student ready for the highest level of professional practice. This requires studies in user interaction and in design anthropology.

Finally, I’d expect Leonardo to move through a Living Lab program to work on the kinds of project typified by the Design Factory approach that take students at Aalto University in Finland and Tongji University in China to successful and well-paid jobs.

I wouldn’t say that Leonardo would be signing up for university any time soon. For that matter, Leonardo never did send Ludovico the CV that he so carefully recorded in his notebooks. At 30, Leonardo was asking “what if?”

Five centuries later, we know.

While I can’t claim that an Australian design student will be the next Leonardo, I can make one confident prediction. Australia will look back with pride at the inventions and ideas our young women and men create to shape the world human beings inhabit a century from now. That’s something Leonardo would have understood. It’s what he set out to do.

- Ken Friedman

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