

Learning to be innovative in a competitive world

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1. Creativity and innovation

People have always been creative. What we know today is built on what we learned from others. We stand on the shoulders of preceding generations.

But human society has not always been innovative. For thousands of years humans learned, without this leading to systematic economic application.

William Baumol has told us that the Romans knew about the steam engine, but did nothing with it. The Chinese knew about gunpowder and made fireworks. The Middle Ages knew of the principles of crop rotation, but did not apply them. It was only after thousands of years with the real economic income of most people bumping along at a level determined by subsistence that, from the end of the 18th century, western economies started to innovate. That is to say, we started to apply human creativity to the economic system. The results have been astonishing. Today in the west, we are 20 times richer than our ancestors were 200 years ago. The credit goes to the market economy, the system that rewards those who innovate.

Innovation, that has made us materially rich, also holds the key to some of our major economic challenges. Innovations that enable us to reduce our demands on the environment have never been more urgently needed.

Innovation affects our competitiveness, for firms compete in global markets more on the basis of their capacity to innovate than on the basis of price. The Lisbon agenda has reminded us that our competitiveness affects both the availability of jobs and our capacity to meet altruistic social ambitions on such issues as health care, social protection, pensions and education.

We are in the most serious economic crisis any of us can remember. Was it not innovation in financial markets that got us into this mess?

Innovation can be misused. Market signals can fail, be suppressed or be ignored, with disastrous effect.

But innovation, properly handled, is still the only way to sustainable economic recovery.

As the world's economies struggle to right themselves and to recover their economic growth, those who are uncompetitive will suffer worst; will be slowest to recover; and will be mired for longer.

Innovation, properly handled, is still the only way to sustainable economic recovery. We never needed innovation more than we do now.

2. The innovative process

Innovation is not the inevitable result of new knowledge. Millennia of un-innovative creativity demonstrated that.

Innovation comes from the interaction of entrepreneurship and knowledge. Without both, it will not happen.

When an entrepreneur looks at a market and says, If I could do that, the market would reward me, we have a necessary, but not sufficient, condition for innovation – the **knowing what**.

When the entrepreneur meets the engineer who says I know how to do what you want, we have the second necessary but not sufficient condition for innovation – the **knowing how**.

Innovation depends on **knowing what and knowing how**. It is impossible to say which comes first. Sometimes one, sometimes the other. But only when the two come together is there potential for innovation.

Even then, there may not be sufficient conditions for innovation. Innovation needs finance, it needs marketing and production, it may need authorisation and so on. All these must be added.

There is another determining condition for innovation: **market success**. History is littered with wonderful ideas that failed the market test. Like the betting man, who always knows the horses that should have won. **The only test** that matters is the test of **the market**. The market test distinguishes interesting ideas from successful innovations.

3. Discourse, creativity and innovation

The philosophical analysis of language, discourse and its interpretation can help us understand the processes of creativity and innovation. It can help us to see more clearly something we already partially understood.

Philosophers have often tried to develop grand schemes to explain everything. The results are disappointing. So it is with rationalism. The hunt for perfect knowledge, to which it urges us, turns out to be a chimera. We explain one problem only to find another lurking behind it.

Some philosophers have sought another way forward through the analysis of language. For it is certainly through language that we discover and communicate most of what we know. Without language, human society would be very primitive indeed.

Aristotle, in his Poetics, draws attention to the importance of mimesis, which can be loosely translated as imitation. But it is not just copying: rather, it is a re-describing of something in a way that reaches towards its essence. Mimesis simplifies experience and in doing so, it also reveals it.

Aristotle sees mimesis in literature, in music, dance, painting, sculpture and drama. He believes that it is fundamental to the way we learn. So painting reconstructs reality on the basis of a limited set of conventions. In doing so, it reveals reality.

Tragedy presents someone's undeserved misfortune and evokes our pity. But through mimesis it provides a narrative structure that distances us from the painful experience and so enables

us to draw knowledge, consolation and insight from it. Mimesis brings us close enough to reality to empathise, but keeps us sufficiently distanced to be able to observe it and reflect on it with detachment.

It has been said that an unskilled photograph captures everything, but yields nothing. A drawing by Picasso, made up of a few lines, yields far more. Part of its secret is that it engages the viewer to fill in the detail.

4. In the use of language, we can create surplus of meaning

Mimesis points to the creative possibilities of art forms. One of these is language, especially poetic language. We develop our creativity in language: not just in words and sentences, but in narratives, stories, history and even in fiction. We use figures of speech, metaphors, symbols.

Paul Ricoeur has explained how, in doing so, we have the capacity to develop new meaning.

Take as an example our use of the metaphor. A metaphor juxtaposes two concepts in a way that leads to the transfer of information from one to the other.

If I say that I saw my friend come down the hill on his bicycle as fast as a bullet, that would be a simile. It hardly changes the meaning.

But if I say that my friend on his bicycle is a bullet, that is a metaphor. It invites the listener to transfer meaning from the idea of a bullet to their picture of my friend. So the listener could understand that he was going fast; that it was dangerous, even potentially lethal, to get in his way; that there was little hope of him turning corners; that I did not hear him until after he was past. In fact, the transfer of meaning is limited only by the apposite nature of the metaphor and the listener's capacity for invention. My friend received a terrific push at the start and then was in free flight; he was spinning as he came...

The meaning is not limited to the information put in by the speaker. New meaning is also generated by the listener. There is meaning on both sides. As Aristotle says, metaphors teach us new things. Ricoeur calls this "surplus of meaning".

By re-describing our world with language, especially language that is poetic in character, we can appropriate new visions of our world, and so gain meaning.

Our personal life-narratives, our recounting of cultural stories, our histories, even our fiction do the same.

A famous example of narrative that generates surplus of meaning is in Jesus' use of parables. Instead of being simply declaratory in answering questions, Jesus often uses parables, and leaves it to the listener to generate the answer. The method has been remarkably successful. People are still drawing fresh insights from his parables 2000 years later and in quite different contexts.

All discourse calls for interpretation. By interpreting what he hears or reads, the hearer opens up new possibilities, new worlds that may not have been seen by the speaker. Interpretation invites us first to visualise new worlds, and then to want to place ourselves in them.

One of my daughters, when she was about 10 years old, read a famous children's novel Anne of Green Gables. She said, with childish transparency, I wish I was Anne of Green Gables. We have all shared that experience. Language has opened up a world that we can envisage and where we say, *I can see myself in that world, even I want to bring that world about.*

What applies to poetry and narrative applies equally, if less obviously, to our business projects, our innovative plans and approaches. The interaction between entrepreneur and engineer, between venture capitalist and entrepreneur, calls forth new ideas, generated by the listener, that were not envisaged by the speaker.

The entrepreneur is more likely to provoke surplus of meaning from the interpretation given by the engineer by using language that invites creative response. Ricoeur would call that language poetic, but he does not mean that it is poetry. Rather that it stimulates, invites and even requires interpretation, envisioning, appropriation.

discourse are in some way remote from the listener. We come to any discourse with prejudices and pre-conceptions. If the world of the discourse sounds familiar, it is all too easy to slip it into our already existing categories, without much thought. On the other hand, a classical text, originating in circumstances far from my knowledge, requires an effort from me to enter into the world of the text and so helps me break away from the prejudices of my present circumstances. A discourse expressed by someone who is trained in a discipline different from mine (as is often the case between an entrepreneur and an engineer) demands an effort of interpretation that breaks away from my starting points.

Discourse is not one-way and nor is interpretation. It is circular and can be iterative, stimulating a dialectic that generates new ideas, new insights, new vision. New worlds in which I am motivated to take part. The possibility to enter into experience that otherwise belongs to someone else.

An article in Nursing Inquiry ¹ has demonstrated how this can be applied to first person accounts of people living with muscular dystrophy. This is a progressive wasting disease that affects young people and attacks their motor capacity. They need wheelchairs, then mechanical ventilation. First person accounts are emotionally charged and hard to interpret. By converting them into texts that consciously used poetic language, it was possible for researchers to interpret creatively, but still in a way that was defensible. Further, by enabling the researcher to envisage their own participation in the described situation, it enabled them to develop nursing care that more adequately responded to real patient need. Ricoeur calls this new insight into being-in-the-world. It is a change in the hearer, not in the speaker.

For Ricoeur, this is part of surplus of meaning. We might call it added value.

Creativity depends not just on speaking, but on listening: not just on writing but on reading. It depends on a sufficient distance between the speaker and the listener, so that the speaker does not kill the listener's interpretation of the discourse, snuff out any emerging new worlds at birth, but lets the listener develop his own picture, his own vision.

Creativity comes in allowing my experience to interact with your experience, on my permitting you to interpret, to draw new meaning from my words. This may even be meaning that I did not intend to put there. Any attempt in my discourse to dominate or to master you

will only crush creativity. For me to gain from having spoken, I must be prepared to listen, for it is in listening that value is added.

In this dialectic of discourse, creativity takes place, innovation can be stimulated.

5. Education, training and innovation

Education and training can help make society innovative. We need 3 headline changes of emphasis. Happily, our education systems are already committed to making them happen.

First, that our education systems need to work on establishing competences from a very early age. Early education is about acquiring competence more than knowledge. Competence includes such fields as social, emotional, physical, numeracy, cognitive competence. If these are established early, they can be used. If they are not established early it becomes very difficult to add them.

Second, education and training needs to work in terms of learning outcomes, not of learning inputs. What matters after education is what the student knows, understands and can do. This affirms the student's right to interpret. A system focused on what knowledge the teacher has chosen to impart denies the right to interpret.

Third, education needs to be student lead. It is the students that do education, not the teachers. Student-led education helps make confident, self-assured people who believe in themselves and their ideas and are unafraid of discussion.

Working out these changes will take time, as will the Bologna process and instruments such as the European Qualifications Framework, ECTS and ECVET: assessment systems for informal and non-formally acquired knowledge: quality assurance. These are becoming understood: but implementation will take time.

6. Conclusion

When an entrepreneur pitches for finance, she has an average of one minute to interest the venture capitalist.

In one minute it is impossible to explain all the details, background, already resolved technicalities of the project. An attempt to do so, to convince the venture capitalist that every problem has been thought of, is destined to fail.

The challenge is to present a discourse that engages the creative capacity of the venture capitalist; that causes him to envisage new worlds in which he can imagine himself; hardest of all, that stimulates the venture capitalist to want to bring those worlds into being; that is the challenge.

Does our education system yet prepare its students for that poetic challenge?

¹Distanciation in Ricoeur's theory of interpretation: narrations in a study of life experiences of living with chronic illness and home mechanical ventilation. Pia Sander Dreyer and Birthe D Pedersen: Nursing Inquiry 2009

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