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Frameworking Future Innovation

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The origins of future studies may be found in technological forecasting, and this was initially much about spotting and plotting trends; these could be linear, exponential, logarithmic, or biological – for example. Trends, however, come in many other sectors as well: lifestyles, values, geopolitics, the industrial sector, the economic sector, and so on. So many trends, and many more, if microtrends are included. On the other hand, megatrends would serve as to pinpoint their opposites, developments so important that they would affect huge swathes of the future. And then there were metatrends, trends about trends as it were.

Given the fact that innovation is an important force in shaping the future, what might be the framework for innovations to come? Somewhat similar to those various categories of trends, we might discover or categorize forces profoundly influencing how innovations come into being.

I will suggest four categories of innovation that might help us understand this important driver of our future.

Metovation

Somewhat corresponding to metatrends, we may propose the existence of something captured by another neologism: metovation. Meto- in metovation stems also from the prefix meta-, with 'o' exchanged for 'a' for easier pronunciation, Meta is Greek and stands for the next higher level of abstraction. Thus meta-art is art dealing with art. Metaphysics would be that kind of physics that organizes the more concrete physics; however, the term 'metaphysics' has acquired a somewhat special meaning.

Therefore metovation equates with novelties, with innovations in the very ways of how we produce 'ordinary' innovations, thus equating with new conditions for innovation. One obvious example is open innovation, something heralded prominently during the last decade or so. A Google search for meta-innovation results in the suggestion of 'systemic innovation accelerating innovation' – so a condition again.

Conditions for innovation: that would involve the very fundamental settings for business, industry, and entrepreneurship too. As an example, idealism and volunteering have always existed but the developments in open source and freeware must be regarded as contributing something fundamentally novel – when something is transformed from marginal to mainstream, it heralds a new dimension; quantity mutates into quality. What, then, may be the reasons for working for free, to generate resources for others to utilize and exploit? One human motivator may be conscience, compassion, and generosity, another a realization that there is power in reciprocity and thus a plus-sum game – ‘as I do, others will follow, which is to my gain.’ Yet another component may be reputation and track record, which may be translated into commissions and offers of employment. And there are other business twists, such as those who ‘sell’ freeware, that is, offer it for free but charge heavily (or lightly, with numerous takers) for what might be called a user’s guide.

It is hard not to see the Internet as a metovation. It may be claimed to be an innovation, an infrastructure, a marketplace, an ecology – as well. These alternate denominations capture different aspects of the Internet, and the very fact that several are needed makes it a metovation. The Internet has, for example, spawned Second Life where virtual creations (like avatars) may be exchanged for Linden dollars™, a currency that may also be exchanged for real money, real dollars. Linden Labs, the company behind Second Life, has created its innovation on the basis of the metovation – the Internet.

How would an entrepreneur, an inventor, the managers of companies, or futurists regard and treat metovations? As the examples given highlight, metovation is most often something too generic to benefit just a particular individual or corporation – metovation offers new opportunities, and here it is up to entrepreneurs and inventors to latch on. ‘Open innovation’ may open up new channels for otherwise homeless ideas, while its close relative, innovation from pioneer users, may cause upheavals in competition space. Likewise for freeware. But new vistas by way of new business models open up, as the example of revenue-generating users’ guides for free software or Linden Labs currency demonstrate; the Internet and cyberspace positively brim with innovation. The Internet, Google, and many more similar entities also exemplify how sometimes the revenue model evolves or is invented only after the launch of an idea – and sometimes the expectation or hope that such a model will evolve turns out to be wishful thinking. Topsy-turvy business models of course do not constitute anything entirely novel; a shaver for free to sell razorblades is the classic case, and Xerox’ nice, reasonable way of charging per copy is another example of a profitable prescription. The future has only just begun, tomorrow never comes...

Ynnovation

Next, let us consider social and cultural evolution. Innovation is usually defined as something – an idea or a family of ideas – that has become successful. Most often, that success has been achieved in the marketplace, but success may take on other faces as well. So, indeed, what about culture, and to what extent would culture be amenable to deliberate tampering with, to design? Let us consider some examples.

If we were to visit a Catalan village or town festivity, celebrating something – Midsummer, for example – we might just be struck by a seemingly odd scenery: people dancing around a pile of ladies’ handbags, with some small kids topping the pile. The circle dance is *sardana*, possibly (if somewhat doubtfully) with roots in ancient Greece. Variations of it have been danced in Catalonia for centuries. *Sardana* has also been forbidden, most recently by General Franco, who judged it to be a symbol of Catalan nationhood.

The modern *sardana*, however, the ‘long’ one, is a more recent invention, music-wise by Josep ‘Pep’ Ventura, and step-wise by Miquel Pardàs. Ventura equipped the orchestra, the *cobla*, with eleven musicians – previously there had been a trio – and with a newly invented wind instrument, the *tenor oboe*

(*tenora*), possibly inspired by him and in any case developed by Andreu Touron in northern Catalan Perpignan (thus in France); these developments occurred in the mid-19th century. The *sardana* thus invented, thus designed, became one of multiple symbols of Catalan culture during the *renaixença*, the renaissance or reawakening, which emerged at this time and grew increasingly vivid.

In the Estonian archipelago, a farm that previously had been a collective has remade itself (redesigned its 'brand') into a farm with Swedish roots – Estonia was part of Sweden for some 160 years, and as early as the Viking age Swedish language farmers settled on some of the Estonian islands. For the collective that no longer was, this identity or brand had at best shaky foundations, but after the Russian and communist epoch, a positive identity instead of a threatening one was eagerly sought.

About the same time as the Catalan renaissance, there was a movement in Norway to become more 'Norwegian,' politically independent of Sweden, linguistically substituting the written language, Bokmål, which in fact was written Danish, with something indigenous. One leading enthusiast was Ivar Aasen who toured the country to discover or compile the 'true' Norwegian, which he synthesized (designed?) into neo-Norwegian (from just so many dialects), Nynorsk in Norwegian. In reality, no outright substitution took place, so Bokmål and Nynorsk now coexist. Several more 'modern' languages have a similar story of being 'invented' or 'reawakened' or synthesized (or indeed designed), Hebrew and Turkish among them. Esperanto is of course an example, of several, of a fully synthetic – invented – language. (The bare-bones sketches here skip over intricacies and nuances of a vastly more complex reality¹.)

Americans more than others are alert to how original their political union of 1776 was: to obtain liberation from a 'mother' country – doing so by forming an association between thirteen separate colonies, some of them starkly different – different with respect to, e. g., religious creed and economy – and with strong state powers; to create a republic in a world dominated by kings and emperors – Switzerland the obvious exception – indeed something sufficiently original to qualify as an innovation of sorts (a design, someone?). But what sort?

With the definition of innovation as an idea that has achieved success, the disparate examples given do qualify as innovations, don't they? But what should the category be termed? Cultural innovation would seem to apply more to new styles like rock, rap, surrealism, or cubism. Social innovation is a category already existing, and for something a bit different. Symbolic or semantic innovation?

Some thirty years ago, two Swedish researchers, Edquist and Edqvist, highlighted the sometime importance of *social carriers* for innovation². Esperanto and Nynorsk obviously crave – serve as carriers for the need of – wordbooks and grammars. *Sardana* is performed outdoors so the *cobla*'s instruments have to produce sound sufficiently loud. And the 'long' *sardana* became a carrier for Andreu Touron's invention the *tenora oboe*, thus transforming it into an innovation, certainly a designed one. For unknown entities, mathematicians use x, y, and z. Let's choose to apply and term this kind of innovation *ynnovation*.

Cause-and-effect relationships can often be disputed or discussed, possibly generating an understanding of something as more of a symbiotic relationship. The driving force behind all the examples here seem to be a striving for identity, and that identity was not just the *sardana*, Nynorsk, Turkish, or the American constitution but something wider and more profound. What other forces might be conducive to *ynnovation*, with its elements – which are they? – of design? What might be the carrier for or impetus to

¹ Abley, Mark: *Spoken here*. Houghton Mifflin, New York NY 2003

² Edquist, Charles & Edqvist, Olle: "Social Carriers of Techniques for Development," *Journal of Peace Research* No 4, Vol XVI, 1979

ynnovation, and for what might a particular ynnovation serve as a carrier? What technologies and innovations might be spawned or brought into existence symbiotically, by or with ynnovation? Facebook and social media in general come to mind since they are currently so topical. As always, the challenge is to perceive the coming topicality before it occupies main stage.

So: our ideas about what forms future innovation, and therefore the future, should encompass *ynnovation* also. The contribution attempted here is to give it a name, to design it in the sense of giving it a sign without which it might go undiscovered and untapped. Indeed a further opportunity for the exploration of a foreign ecology.

Mesovation

The concept of creativity is so popular that more than 150 definitions have been suggested. Partly this is because it applies in so many fields, from poetry and sculpture to science and technology. In technology, we often contrast incremental improvement and *kaizen* with radical departures. But might there not be several flavors of creativity? May such contrasting simplifications lead us astray, may they risk misleading us?

Creativity researcher David Henry Feldman urges us to remember what he refers to as Middle C, in an allusion to the musical note of the same name. In other words, we tend to talk about Great Creativity, big ideas and radical breakthroughs, or (if we refer to them at all) we talk about the opposite – small creative incremental jumps – as more of an aside. This despite the fact that, when taken together, many small leaps can make a real difference.

Like with microtrends³, the point of that Middle C is to remind us that we are dealing with a continuum – a continuous, ongoing scale – where what is radical to a greater or lesser degree is in the eye of the beholder, determined by the observer's outlook or vantage point. If a researcher or practitioner focuses on either of the end-points of the scale, there is the risk of being led astray. In reality, how often does an idea actually reach the absolute extreme – high or low? Are we blind to certain important elements creating out future(s)?

To refer to innovation instead – radical as opposed to incremental – is, of course, no different at all if we stick to creativity applied to technology or business in a broad sense. Quite reasonably, business idea or innovation competitions encourage what seems like big leaps, while work relating to improvements and sometimes suggestions for improvements – again, *kaizen* – is the preserve of smaller-scale efforts in terms of radicality: middle *i* innovation.

After all, no one is on the lookout for small advances, no one competes to achieve modest innovation, and no one receives recognition for a level of inventiveness that, despite not being low, is still only moderate: mesovation (micro, macro, *meso*). Why so? Do we not, then, run the risk that the best becomes the enemy of the good? Why not also reward mid-level creativity?

The same goes for those of us who are creativity and innovation researchers, and for those who study our/their works. And what about futurists? By the very nature of things, it is the radical, attention-grabbing breakthroughs that end up in the spotlight. But what do we thus miss out? What do we lose in terms of a more general understanding that could be applicable at both high and low levels, at both the highly innovative and the incremental ends? What mid-level innovations have vast repercussions despite their mediocre nature as measured against pure technology? Arguably, this may well be the case for many of those important *dominant designs* that have come to define an industry for a long time, like the

³ Penn, Mark J with Zalesne, E Kinney: *Microtrends*. Twelve, New York NY 2007

Douglas DC3 aircraft. Similarly but with less overall impact, the iconic Citroën 2CV became one of the car industry's most long-lived models.

Psychologists and linguists tell us that different languages “see” the world differently, affecting how we see the world also. The Swedish language actually has a word for that which is just right, in the middle – *lagom* – a word lacking a satisfactory translation into many other languages. It would hardly be appropriate to call for an ombudsman or a champion for all that is *lagom*, to inventory the degree of lagom-ness, but wherever an adequate solution is lacking, a niche arises for unique competitiveness. Within the market for goods and services, Middle C and mesovation could be a factor for gaining a competitive edge, while not something that creates its own specific industry. When it comes to research and education, however, the situation is quite different. If a field has not been studied, there are plenty of opportunities for making discoveries that bring their own reward – cited articles, titles, positions, and grants that belong to the realm of scientific endeavor. Think, then, about design – which introduces another dimension to that continuous spectrum of creativity.

In part the idea behind this line of reasoning came from studying two books by Umberto Eco: *On Beauty* and *On Ugliness*. However, there are *no works* about *the middle ground* – all that which is indifferent, lukewarm, moderately interesting, or even uninteresting, tiring. But note that Middle C and the mid-level of innovation – mesovation – need not be uninteresting or indifferent – they simply belong somewhere closer to the middle ground when viewed on a continuous scale. Instead of lukewarm or indifferent, try if not *lagom* then *appropriate*. So do not forget to celebrate moderation sometimes – that which is *appropriate*!

Exovation

It is unlikely that you have ever met the concept of exovation before; I invented it in April 2008. Invented? Yes, indeed – even if a Google search obtains a couple hundred hits; but they have nothing to do with the concept as I have defined it. You will see, presently.

What are the obstacles to innovation? Numerous, to be sure. A company credited with profound concern for innovation and thus featuring important features is 3M, the corporation of Scotch Tape and Post-It Notes fame. Academics and journalists alike have fallen for their charms, though criticism has also been voiced.

One of their innovation mechanisms is found in the establishment of precise criteria for renewal. Each and every business unit has to get a certain share of their revenue, thus a quota, from products that are younger than a certain amount of time. So X per cent of revenue must be generated from products that are no older than Y years. (The reason for not mentioning X and Y is that they have been adjusted at least once to reflect a need for higher speed, and I am not certain what the current levels are.) – The criticism I mentioned takes issue with a quantification that may be subject to manipulation, a risk when applying rules blindly and rigidly. So wisdom and common sense must prevail.

The obvious route to achieve the required share is to get new products going, to innovate. But do recall that I talked about a quota: new products enter into the numerator, which represents the revenue from products that are no older than Y years. However, to get the ratio, there is the denominator too, which accounts for revenue from all products, older as well as newer than Y years. So a complementary way of achieving the demanded quotient X would be to reduce the denominator.

It is here that we find exovation, the power of GETTING RID OF (some of) prevailing products... Behind the 3M dictum we find the profound insight that there are older mainstay products that are marginally profitable, if even that and not just forgotten living dead, all requiring attention, engagement,

involvement, management resources, routine but not-for-free upkeep such as storing, catalog updates, inventorying, updating databases, and bookkeeping. All activities taking focus away from the creation of novelty, all ties to the past, all routines that create lock-ins – taking time, attention, interest, engagement, thinking.

Another large American corporation showcases another type of exovation: the organization in its future. They have recognized that the organization of today reflects and thus tends to permeate the past; while the only thing that is entirely certain is that the future will be different. Therefore they have created a skeleton alternative organization for the future as anticipated, an organization with its own resources for creating novelties, for innovation. Since the guesses about the future are certain to be wrong, or not entirely right, there are free resources for projects that do not fit either the current or the skeleton future organization but that still merit being treated as lottery tickets.

When Jimmy Carter was elected president in 1976, his program was much about better management. One particular management practice, fashionable then, that he had practiced as governor in Georgia, was zero-base budgeting, and this was highlighted in his campaign. The underlying philosophy is, in my term, about organizational exovation: in each and every organization, there is an inertia that makes it continue doing just as during the previous year – with 4 per cent more in the budget or maybe a 3 per cent reduction on the margin. The zero-base budgeting recipe demands starting all over from the very beginning, relying on first principles to really understand what is worth paying for, what merits resources, what the trade-offs really are. As with so many radical recipes, this would be just too demanding to be followed to the letter, overall and every year, but there is at the bottom an important exovation proposition.

What might a program to develop methods for furthering exovation look like? An obvious route would be to design several more practical means to translate ‘more for the future, less to the past’ in practice. Another would be to have society at large, or government, be an exemplary forerunner rather than contribute to detrimental friction – utopian perhaps, but I have seen an example of how the soft infrastructure in society, if not furthering exovation, at least imposes a novel rule to have R&D investments compulsory in annual reports for public companies made for more focus on R&D, and, as a subsidiary, on innovation. A natural approach for a researcher is to suggest that we collect, organize, and promote what we already know about how existing projects get in the way of new ones – like Thomas J. Allen⁴ has demonstrated how dangerous it is to decide on one single development trajectory too early into a project. Above, I listed a number of ways in which existing products contribute to inertia; that list might be enlarged, systematized, and its various components given weights.

For the futurist, the question may also be posited: are there some social, political, or cultural forces that would translate into mechanisms causing exovation? Obviously legislation can become such an impetus, as can consumer or customer opinion, affecting demand and buying behavior. So, in effect, value changes may cause exovation – something for innovating organizations and futurists alike to take into account.

More to the framework

These four forces or factors – metovation, ynovation, mesovation, and exovation – constitute a rather heterogeneous set of descriptors of how innovation might be, if not controlled, then influenced. They are not the only ones of course, and may be seen as marginal ones at that. Marginal in most cases, yes, but by definition, important when not marginal – and if they tend to be overlooked, their surprise value would be all the greater. Black swans, perhaps?

⁴ Allen, Thomas J: *Managing the Flow of Technology*. The MIT Press, Cambridge, MA 1977

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POINTS FOR THE CLASSROOM (send comments to forum@futuretakes.org or post on FUTUREtakes blog):

- *It's YOUR turn to lead an innovation effort! Discuss how you would apply one or more of the innovation approaches discussed by Vedin – metovation, ynnovation, mesovation, or exovation – to develop a solution to your favorite problem (e.g., environment, commerce, education, resources, governance, healthcare, cross-cultural understanding, or urban development).*
- *Of the four innovation approaches that the author presents – metovation, ynnovation, mesovation, or exovation – which ones are most prevalent in your part of the world, and what are the reasons for this? Which ones will be most prevalent ten years from now, and what new innovation processes will emerge?*
- *As Vedin asks, “Are there some social, political, or cultural forces that would translate into mechanisms causing exovation?” Identify examples of such forces and the ways in which they will impact exovation and other innovation approaches within the next decade.*
- *Diverse examples suggest a trend toward mediocrity and risk aversion, trends that generally do not support a climate of innovation. Examples: (1) In government, academia, and corporations alike, “tinker-at-the-margins” managers are more common than true leaders. In fact, it has been speculated that the great generals and admirals of WWII would not survive in today’s ranks. (2) A number of established scientific journals publish “progress report science” papers and are not receptive to those papers that challenge mainstream paradigms, even when such papers are themselves based on good science. For their part, professors on a tenure track are sometimes fearful of publishing papers that challenge the prevailing paradigms, even though the professors are then in their most creative years. (3) Companies are often founded on a “wild idea,” but when they mature, they become more risk-averse and less receptive to new ideas. For this, some eventually pay the ultimate price of going out of business, but that does not deter various other companies from risk aversion. All considered – in your part of the world, what is the future of innovation vs. risk aversion? Another question – is risk-aversion cultural, or is it a consequence of the fact that long-term creative (and perhaps responsive) is often short-term disruptive?*