PARTNERSHIP FOR THE ORGANISATION
OF INNOVATION AND NEW TECHNOLOGIES

From Dunkirk to the moon

Catherine Beaudry
Polytechnique Montréal

We live in unprecedented times. A third of the world's population is confined and most of the economy is shut down. We live day by day, hooked on statistics and hoping for a slowdown in the progression of the COVID-19 pandemic. Never in the recent past have we experienced a crisis of such magnitude.

It is de rigueur to use “war” metaphors in our response to this crisis, so I use them here. The past month has seen a manufacturing and innovation mobilization on the scale of that deployed almost 80 years ago during the repatriation of British and Allied troops from Dunkirk. At the time of Operation Dynamo, from May 26 to June 4, 1940, more than 800 fishing boats, pleasure boats, yachts, lifeboats and merchant ships were deployed at the request of the British government, as a reinforcement to navy boats that could not approach in shallow water near the shores of Dunkirk. This rescue was done quickly and efficiently because the mobilization required was, after all, quite simple.

In recent weeks, manufacturers in sectors other than medical equipment have competed in ingenuity to come up with solutions to help the health sector respond to this health crisis. They realize, however, that the supply of materials for the construction of masks, respirators and other healthcare needs is anything but simple. Some health care facilities asked for certification of materials and finished products before deploying them while others were willing to use on the spot everything that could be produced. Knowledge and relationships have been used to connect the right people with the right organizations. The resourcefulness of the manufacturing and hospital sectors has been unparalleled in recent weeks and is more akin to the resourcefulness of the scientists who responded to avert disaster during the Apollo 13 mission.

After Dunkirk, it took almost five more years to win the war. According to the scenarios envisaged today, we are predicted 12 to 18 months of some kind of restrictions before we return to "normal". The inventive effort required is therefore not about to diminish, and we must immediately start thinking about the impact of COVID-19 on our societies and our economy. Here are some observations:

While we aim to optimize supply chains using artificial intelligence, humans are constantly changing the rules of the game. Cargoes of masks are being diverted from the planes sent to collect them as they sit on the airport tarmac, medical equipment ordered, purchased and ready to be shipped is auctioned and is then awarded to the highest bidder. We are witnessing, a little helplessly, countries withdraw into selfish needs on a global scale.

At the same time, we discover that we have lost the ability in Canada to manufacture and certify some materials and products. The value chain from the extraction of natural resources to the assembly of finished goods is global and multiple bottlenecks are appearing.

The digital transformation of businesses has taken a long time and, for some, the establishment of teleworking has been difficult, if not impossible. In addition, restarting factories will have to take into account the rules of social distancing for some time.

The race for COVID-19 vaccine and antiviral therapies is launched in fast-track mode. Collaboration between laboratories and researchers is intensifying, governments have opened the public purse, and publishers of scientific journals are opening access to the articles they recently sold at high prices to universities. However, the reluctance of some countries to allow the

shipment of essential ingredients of pharmaceuticals, and an apparent rush towards using medications for other illnesses without evidence of anti-COVID-19 efficacy, is depriving the people who depend on both. Dealing with these two realities will be the lot of research in pharmacology and medicine in the weeks and months to come.

While in January the innovation zones program was launched in Quebec with great fanfare, the companies, universities, innovation intermediaries and other organizations that respond to the call will have to contend with national and international rules of the game that have just changed and will be constantly changing. Before long, the governance structures of these great coalitions, sharing of the developed intellectual property, and regulation of the solutions found will have to be addressed. These three dimensions make up what I call the Bermuda triangle of innovation ecosystems. If everyone does not row together in the same direction to navigate these troubled waters, these innovation programs will sink.

What does the future hold for us once this pandemic is behind us, once this “war” is won? My stepfather, who was demobilized from the British army in 1948, used to say that winning the peace was much more difficult than winning the war. The reconstruction plan for the UK’s cities began well before the end of the war. The city plan for Manchester, UK, was published in December 1944[1], and by implementing this plan, one of its authors, the town land surveyor Rowland Nicholas, wanted "to allow each inhabitant of this town to enjoy real physical and mental health"[2]. Unfortunately, only a small part of the plan was realised; the funds necessary for this daring reconstruction were not there. The UK’s post-war debt was over 200% of GDP, and food rationing continued until 1954, nine years after the end of the war.

Fortunately, even with the recently announced government assistance measures, we will not be in as bad a state in Canada. However, we must not make mistakes this time. The reconstruction of our economic system cannot be haphazard, and must include combating climate change as a priority. And this collective struggle will be more like “winning the peace” than winning the war. Everyone will have to contribute and work together. We need a global equivalent of the type of mobilization that put the first man on the moon, i.e. “moonshot research” on developing a sustainable international economic system.

This mobilization requires deep thinking on models of collaboration, on the governance of such collections of organizations working in symbiosis towards a common goal. Mechanisms have to be put in place so that both participants and ecosystems benefit. The Innovation Superclusters launched in Canada more than two years ago, and the innovation zones of Quebec, on which organizations are currently working, are two examples of collaboration to study and scale up. However, their deployment will require agile methods and innovative processes both at the organizational level and at the level of the ecosystem if we are to avoid some of the failures that we have witnessed during this pandemic.

The members of 4POINT0 thereby initiate an in-depth reflection on the impact of the pandemic on our society and our economy. The ultimate goal is to rethink the innovative society of tomorrow. Together, we will be able to navigate these troubled waters.

---

[1] https://issuu.com/cyberbadger/docs/city_of_manchester_plan_1945.
[2] https://confidentials.com/manchester/manchester-plan-1945-the-biggest-manchester-redevelopment-plan-of-all-time.