Space. Time. Matter. The constituents of quantum physics. The constituents of creativity and artistic enterprise too. The physicist turned philosopher Karen Barad, posits that the cosmos is in a state of perpetual intra-action. The arts and science are just as entangled in this continual process of becoming and reconfiguring which are mutually contingent on each other. No cultural or philosophical or physical space is completely self-contained — it only exists because of, in and out of the other, according to Karen Barad's reworking of the thinking of the Danish physicist Niels Bohr.

When in 2009 I had the idea to reconfigure CERN as one of the world's leading fundamental cultural research centres so that it had its own arts as well as science experiments, I was putting Karen Barad's philosophy into intra-action. I was also making the cultural statement that arts + science + technology = culture — putting science into the cultural framework where it belongs. After all, culture is the expression by humans of why and how we are in the world — the arts, science and technology all do this in different ways.

The Arts at CERN programme, which I initiated, designed and directed up until 2015 focused on the process of becoming in both artistic and scientific research and not on output or product. The programme from the first comprised 3 strands: the Collide 3 month residency programmes with two awards for Swiss and international artists, the Accelerate 1 month research programme who's competition is held in and funded by two different countries each year and the Visiting Artists programme. In fact I created the programme as a deliberate political and cultural provocation. From the beginning I stated that there were not going to be any outputs or products. This was because I always knew there would be, but I was making some serious political and social points about the world we currently live in.

First, we have lost trust in artists, yet an artist exists to create and make. Secondly a work of art takes as long as it takes: most truly inspirational art does not happen to deadline within 1-3 months of a research or residency stay. It may most likely happen outside this timeframe. The same can be said for scientific experiments too. Thirdly, we have lost trust in the process, becoming product and output driven within a capitalist economy ruled by numbers and algorithms. Yet if the process of the

CERN arts' programme is curated properly and is tailor-made for every artist's interests as well as their developmental needs as well as those of the scientists, then without doubt the artist will create something because that is the reason for their existence.

Also crucial to this last point, is the curation/selection of the right quality of artists and scientists to interact with each other who have a deep sense of curiosity and openness in discovery outside their own fields of knowledge. Equally important is what I call the 'invisible' work which experienced curators/producers bring to working with the artists and the scientists. This invisible work plays a crucial and vital part in the creative process yet paradoxically it is barely noticed by artist and scientist alike *if* it is done well. Often, as a result, the role of a curator/producer, as well as crucially the quality of their own work, perceptions, experience and their own skills at facilitating the creation of original work and ideas, at best gets overlooked or at worst is always left out and yet it is a crucial component in any arts-science programme.

My deliberate paradoxical and political provocation that there would be no output was proven by the first two Collide at CERN artists who came in 2012 — the german visual artist Julius von Bismarck and the Swiss choreographer Gilles Jobin. Julius produced a light installation of four swinging lights Versuch Unter Kreisen which was exhibited at Ars Electronica Linz, opened the Berlin Art Festival and toured to Taiwan. It then had another life as the set for Gilles Jobin's choreographic creation, QUANTUM, which came out of his residency over a year later and was world premiered at the CMS detector at CERN in September 2013. This piece with Julius's installation won the prestigious Hermes Foundation New Settings Award, and as a result premiered in Paris and New York as part of the prize. It has been on international tour ever since, and accompanied by physics lectures by leading physicists working in the different countries, performing in over 34 cities, 15 countries, on four continents.

To this day, Julius von Bismarck is still making work inspired by his CERN residency as is Gilles Jobin who has just created a new duet based on the forces. This is the work of just two of the artists who came on one of the 3 Arts at CERN strands. And the list goes on, with the many artists who have gone through the Arts at CERN programme — such as Iris Van Herpen who's Paris fashion show Magnetic Motions was inspired by her one day encounter with the mighty detectors and learning about their magnetic fields at CERN. This was awarded in 2016 the STARTS grand prize

by the European Commission. Or Ryoji Ikeda's two epic digital works – Supersymmetry first exhibited in 2014 and Macro Micro world premiered at ZKM, Karlsruhe, Germany in 2015. Both these pieces are still touring internationally.

After this first 4 years devoted to emphasising the importance of fundamental research for artists combined with curation, today Arts At Cern under Monica Bello its Head since March 2015, the programme is now maturing to emphasise equally fundamental research and production/output. This is epitomised by the new Guest Artists programme which replaced the Visiting Artists programme with production partners attached who fund and exhibition the production following the artists' visit.

Space. Time. Matter — these may be the principles of quantum physics but they are also the keys to the Arts at CERN programme. Space for artists and scientists to interact, Time for them to discover and explore their different universes, and the Matter of scientific knowledge. The Void — the place where nothing apparently exists but which is, as any physicist will say, full of activity — is also crucial in this configuration, giving artists the opportunity to enter the void, and to get lost, being taken away from their familiar world and into nothing which is paradoxically where everything they are looking for may exists and is coming into being.

This creative process is resolutely against fusion. It is about creative collisions and not about fusing arts and science together. Instead each discipline is in the process of colliding creatively with each other, creating a space in which anything can happen, encouraging new ways of seeing and being for both disciplines due to the openness to exploration and discovery beyond, within and without their own borders.

At the heart of our cultural and physical cosmos is the vital need for these real as well as imagined and virtual spaces for discovery and exploration which are not pre-determined. In this way, we can truly reconfigure society, science and culture in order to ensure that fundamental research at every level is at the heart of human endeavour so that we may create and make a difference in society and progress beyond paradigms. To paraphrase Albert Einstein, "Knowledge is limited, imagination embraces the world." Grasp this idea, put it into intra-action, and together we can go further than the stars, reconfiguring our universe(s) to be inside/outside wherever we are, can, and ever will be.