

Artist Ryoji Ikeda in Paris: 'Mathematics is beauty in its purest form'

Kate Connolly talks to artist Ryoji Ikeda and discovers how a conversation about maths lead to the creation of Paris's Le Laboratoire - a new space challenging the theory that art and science don't mix



Kate Connolly

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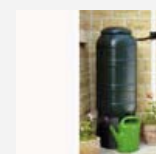
Vanishing point ... Ryoji Ikeda's Spectra (Paris), produced by Forma Arts & Media Ltd. Photograph: Marc Domage

The white beams sliced through the Paris night, cloaking the north face of the 210 metre (689 ft) Tour Montparnasse, accompanied by a matrix of speakers shooting out a penetrating geometric pattern of sine waves of varying frequencies.

Dressed in a padded black, fur-trimmed anorak, Ryoji Ikeda surveyed his work, Spectra (Paris) - 64 floodlights set out on an 8 by 8 grid at intervals of 2m - and smiled. Observers passing through the beams of sound and light heard the sine waves alter according to how they moved. Some used hand mirrors to "throw" the searchlights onto neighbouring buildings; this being Paris, others made out beneath the beams. People walking down the Rue de Rennes bumped into each other as they craned their necks to look at the spectacle enhanced by the flurries of insects, dust and rain drops dancing in the air

"The Tour Montparnasse has never looked so good," one long-term

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resident remarked, referring to the building's reputation as a blot on an otherwise stunning urban landscape. Ikeda had salvaged its reputation for one night at least, and as he himself put it "it's only one night, but you'll never forget it". Ikeda trained as an economist, but for the past 15 years has been Japan's leading contemporary composer. His project to transform the tower last weekend as part of Paris's Nuit Blanche contemporary arts festival, was, he said, "the biggest experiment of my life".

It explored his long-term obsession with mathematics. The beams of light, (corresponding to a binary number) which though vertical appeared to disappear into a single vanishing point in the sky around 10 kilometres up, showed, he explained, the juxtaposition of the beautiful and the sublime.

"Beauty is crystal, rationality, precision, simplicity ... The sublime is infinity: infinitesimal, immense, indescribable. Mathematics is beauty in its purest form," he said.

At the same time as his beams were lighting up the Parisian skyline, across the city the fruits of his flirtation with mathematics were coming together at Le Laboratoire, a less visible but arguably even more ambitious undertaking. Here Ikeda has been able to continue his experiments, in a space that takes the concept of artistic experimentation to an extreme and challenges the theory that [art and science do not mix](#). Housed in a former printing press and film studio on Rue du Bouloi, between the Louvre and Grand Palais, Le Laboratoire is a unique, innovative and not-for-profit space where artists and scientists are invited to collaborate on projects.

Its founder is David Edwards, formerly a biotech researcher and chemical engineer, and now professor of Harvard who made a name for himself through his groundbreaking research on drug delivery and needle-less vaccines. He has channelled his well-earned millions into numerous humanitarian projects. Le Laboratoire, funded from his own pocket as well as private sponsors, is his latest baby, with which he wants to explore the fusion between the creative processes of art and science. "It's like living at an intersection, and as far as we know, it's unique," Edwards, a novelist as well, whose own world appropriately straddles both fields, described it in loving terms as "the home I will never be asked to leave."



Fusion factory ... Inside Le Laboratoire, Paris. Photograph: Bruno Cogez



Edwards insists the creative process of artists and scientists is similar, which is why he wants to encourage them to move into each others' fields or laboratories. It's a concept that he admits is potentially controversial and not without risk, not least because it's a challenge from

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which many artists and scientists would run a mile.

"This interface of cultures is traditionally bloody. But from personal experience I can say moving from one lab to another is incredibly refreshing, and rejuvenating and I think on the high-performing level artists and scientists understand each other very well, and want to understand each other even better. Of course as you move down the competence scale that readiness is less evident - we all find comfort and security in saying: 'I don't need or want to understand something'. But at Le Laboratoire we're only interested in doing projects at the cutting edge," he said. In short, if artists and scientists conversed more freely, he believes we would gain a better understanding of our world.

Ryoji Ikeda and the Harvard professor and number theorist Benedict Gross are two of the first to have signed up to Edwards' brave new world. He invited them round to dinner one night to talk about mathematics. The conversation spun around the topics of orders of infinity, fractional dimension and most specifically, the controversial mathematical theory " V is not equal to L ". The result of those in-depth conversations - which developed over a year - are several works by 42-year-old Ikeda who was commissioned for the official opening of the institute to be unveiled tomorrow.

Central to Ikeda's artworks are two horizontal panels, one a prime number consisting of over 7.23 million digits, the second a random number generated by computer algorithms, also consisting of over 7m digits. From anything but extremely close up, the panels are fuzzy concrete-grey prints. Close up the viewer becomes mesmerised by the mass of 0.8mm-high digits, which are daunting in their vastness and precision, but hint at a common aesthetic language shared by art and maths.



Number crunching ... Ryoji Ikeda's $V=L$, commissioned and produced by Le Laboratoire. Photograph: Marc Damage

"Benedict and I argued about it a lot," Ikeda explained. "The random number for him is nothing, because it has no point mathematically, whereas the prime number is like a jewel, a diamond, because it can be reduced to a more compact form, or expanded. Whereas for me the random number is exciting because it does exist mathematically, and we can't know for sure if it's truly random." Gross, who also studied the violin, described his meetings with Ikeda as inspiring and a way of releasing some of the "funny tension" which exists between science and art. "He forced me to think about these questions in a way that I never went about before. In some sense he's exploring as an artist exactly the same questions that we are desperately trying to understand as mathematicians and where he's at the border of his art and we're at the border of our mathematics, there's a lot of intersection ... I think we're in

a period where there's going to be more interactions between scientists and artists," he said.

For Ikeda it was revealing to see what he had in common with the mathematician. "We share many things, not least the obsession with beauty and truth and the way we express ourselves. They talk of beauty as something simple, short, compact, elegant, delicate and sexy, which is the same vocabulary as an artist uses. Neither of us can necessarily define what beauty is, but we can recognise it when we see it." There is the comfort zone which Edwards talks about, into which we can easily withdraw and say: "I don't need to understand". Le Laboratoire tries to nudge us away from it, by giving us an insight into a beauty we might not otherwise have realised existed.

- The full inauguration of [Le Laboratoire](#) takes place on October 11 2008. [Ryoji Ikeda's V=L](#) runs at Le Laboratoire from October 11 until January 12 2009, as part of Festival D'Automne.

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