

Science AMA Series: I'm an artist who translate scientific data into sculptures and musical scores. AMA!

Nathalie_{Miebach}¹*andr/ScienceAMAs*¹

¹Affiliation not available

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Abstract

Hi Reddit, My name is Nathalie Miebach and I am Boston-based artist who translates scientific data related to ecology, climate change, and meteorology into woven sculptures and musical scores. I find data very poetic. By using somewhat unorthodox ways of representing data, I'm trying to tap into more nuanced stories embedded in data that traditional ways of scientific representations have a harder time tapping into. My method of translation is principally that of weaving—in particular, basket weaving—as it provides me with a simple yet highly effective grid through which to interpret data in three-dimensional space. Central to this work is my desire to explore the role visual aesthetics play in the translation and understanding of scientific information. I also translate weather data into musical scores that are build entirely of weather data, but integrate human experiences and interpretations of weather events. The juxtaposition of objective data and more nuanced, subjective readings of weather, lead to a musical/sculptural translation that explores how human emotions and experiences influence the perception of weather. These musical scores are translated into woven sculptures and are used in collaborative performances with musicians / composers all over the country. We've had over 11 concerts, called Weather Scores, and I'm getting ready to organize the next one this Summer in Montreal, Canada! Check out my work here and don't miss my TED Talk as well as this BrainPickings write-up of my work. My friends over at NOVA PBS (where some of my work is featured on Instagram today: @novapbs) have a whole vertical dedicated to climate change, they're been reporting on it in their email newsletter—sign up here, and their film, “Decoding the Weather Machine,” premieres April 18 at 9/8c on PBS. One of the questions I wrestle with in the studio everyday is whether or not data can ever be approached and treated as an artistic medium or if the very act of translating data into art destroys its objectivity that is part of the integrity of information. Ask me any questions you have about data, art / science collaborations, data translation into 3D and music, or anything else you'd like.

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NATHALIE_MIEBACH [R/SCIENCE](#)

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How well does one need to understand the science to turn it into art?

[xipha](#)

I think it depends on how you want the art to function. Is its purpose purely as an aesthetic object that resides mainly in the realm of fine arts or craft or does one also want it to function in a scientific context? For me it's always been important for the work to be able to reside in both the arts and the sciences. For that to happen, it needs to uphold a level of conceptual and visual integrity that allows someone to recognize it as a piece of art as well as be able to read the scientific story within it. So, yes, I do need to know a bit of the science behind it in order to be able to choose what data I want to use and what story I want to tell with that data. Every component in my sculptures are there for a reason - either they represent a specific data point (ex: wind speed) or they are sculptural components that build a support structure for the data to sit on. My bottom line is that in order for the sculptures to uphold that scientific integrity, the numbers always have to win. I never change data for any aesthetic reasons. I may at times try out different visual solutions to find something that works with the overall

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visual composition, but I can never change the numbers for the sake of the art. That's one of the reasons these pieces take so long to make - an average of 3 months per sculpture.

What was your favorite piece to create?

[apothicon_servant](#)

Thanks for the first question! My favorite piece is a sculpture I made in 2006 called "Boston Tides". It's a 6'x6'x2' basket, translating lunar and solar calendars for Boston from 2005. The whole thing looks a bit like a big organic basket croissant that is then intersected with orange and yellow skewers. The sculpture is essentially a 3D calendar on which I then added tidal readings for Boston harbor, solar noon, moon phases and the solar azimuth for one year. The reason I love this piece is because it was the first time I recognized the awkwardness of these sculptures. If I exhibit this piece in a science museum, it will be read as a tidal chart. If I show it in an art museum, it will be read as an aesthetic object. If I show it in a craft museum, it brings up the whole discussion about baskets and their functionality, etc. I love how it seemed to challenge people's expectations of what sort of visual vocabulary or material we exhibit to find in a space we identify with science or art. Why, for example, are we more likely to trust a tidal chart represented in a format of a traditional chart, rather than as a woven sculpture? What sort of expectations do we bring with us when we confront data through the lenses of science and art?

If you had unlimited resources what project would you make?

[gkestin](#)

I would push my work on the intersection of music/data/sculpture more. I'm always struggling to find resources to pay composers and musicians, so if I had resources, I would direct it towards that. Being able to commission more composers to work with me, to record some of the concerts on a professional level, to collaborate with dance companies on a large performance. I can engage a broader audience in the discussion about climate change and data through this intersection of music, data and sculpture.