

# MOON RIBAS

the seismic sense





**M**oon Ribas is a Catalan avant-garde artist and cyborg activist best known for developing the Seismic Sense, an on-line seismic sensor implanted in her feet that allows her to perceive earthquakes taking place anywhere in the planet through vibrations in real time.

In order to share her experience, she then translates her seismic sense on stage. Ribas transposes the earthquakes into either sound, in her piece *Seismic Percussion*; or dance, in *Waiting For Earthquakes*. In these performances the Earth is the composer and the choreographer; and Ribas, the interpreter.

Ribas' seismic sense also allows her to feel moonquakes, the seismic activity on the Moon. Ribas believes that by extending our senses to perceive outside the planet, we can all become senstronauts. Adding this new sense allows her to be physically on Earth while her feet feel the Moon, so in a way, she is on Earth and space at the same time.

Since 2007 Moon has been experimenting with the union between technology and her body to explore the boundaries of perception and to experience movement in a deeper way.

Some of her previous research includes transdental communication, 360° perception and the Speedborg. In 2010 she co-founded the Cyborg Foundation, an international organisation that aims to help people become cyborgs, defend cyborg rights and promote cyborg art. Ribas also co-founded the Transpecies Society in 2017, an association that gives voice to non-human identities, defends the freedom of self-design and offers the creation of new senses and new organs in community.

# EARTHBEAT:

A talk by Moon Ribas, March 2016

I'm a cyborg.

I identify myself as a cyborg because I'm both biologically and psychologically united to cybernetics. I have a couple of implants in my arms that allow me to extend my perception beyond my traditional senses.

Since 2013 my body is permanently connected to online seismographs from around the world that allow me to feel the seismic activity of our planet. I can sense all the earthquakes in the world from 1 in the Richter scale through a vibration in my arms.

If there's an earthquake in Japan or in Greece, I will feel a vibration in my left arm. Depending on the intensity of the earthquakes the vibrations I feel are stronger or weaker.

At the beginning, I had to get used to the constant input but after some weeks my body got used to receiving all these seismic vibrations every day. When these vibrations, these movements, this universal motion became an emotion, is when I felt cyborg. It's when I felt that the cybernetics and my organism had united and given me a new sense. The seismic sense.

We are used to see the map of the Earth this way (picture of a map), but underneath the line of the continents, there are the tectonic plates (picture of the tectonic plates). There are eight major tectonic plates, ten minor plates, and many microplates.

The tectonic plates are alive, they constantly move, they evolve, they create and release tension, the tectonic plates create earthquakes. Earthquakes have always existed, they are part of our nature and they are still a very mysterious phenomena.

In 2010 my childhood friend and fellow cyborg Neil Harbisson and I created the Cyborg Foundation with 3 aims: to help humans to become cyborgs; to defend cyborg rights, and to promote Cyborg Art.

Cyborg comes from the union between 2 words "cybernetic and organism" and it was created to define humans that modify themselves in order to survive in space.

In the endless list of cyborg definitions, we've tried to nail it down to 3 general ways of defining a cyborg - or 3 different ways of defining the union between cybernetics and an organism:

## 1. Psychological Cyborg:

The feeling of being cyborg. Most of you are probably psychological cyborgs, you are psychologically united to technology. When our phones are running out of battery you probably say "I'm running out of battery" instead of saying "my mobile phone is running out of battery".

## 2. Biological Cyborg:

It's the physical union between your organism and technology.

## 3. Neurological Cyborg:

It's the modification of the mind through cybernetics. If we extend our senses by applying technology in our bodies, we'll modify our perception, and our brains in the long term.

I'm a dancer, a movement researcher, Since I was studying dance in College I've been searching for a way to feel and explore movement in a deeper way. I experimented with the perception of movement with technology in different ways.

When you think about dance, you think about movement. Then you realize that not only humans move, there are many things that move, and in many different ways. The planet moves constantly: not only rotates, but also shakes. It shakes everyday, constantly. It's a huge movement, that most of the times is imperceptible.



My aim was to introduce this enormous movement in my body. To transpose this huge universal movement into one body.

Earthquakes are a choreography we cannot predict. It is our planet's dance. The friction between plates resemble the dance floor of a ballroom. Earth can be a lethal dance partner unless we learn to dance with it.

Earthquakes are the heartbeat of our planet, the Earthbeat.

I now feel I have two beats, my own and the Earth's. This sense has changed my perception of the planet, now I feel more connected to Earth. Before I knew that the Earth was a living organism, now I feel it.

Also, if there's a big earthquake in the middle of the night I would wake up, so Earth keeps interrupting my daily life.

I think it's unfair that earthquakes are seen as a bad thing happening in our planet, when we are the ones we haven't been able to adapt to these natural phenomena.

In Art, artists no longer need to use technology as a tool, we can become technology in order to create new senses. And then express ourselves through these new senses.

I see the extension of our senses through technology as an art itself, as Cyborg Art. Art that happens inside the body, inside one's brain. The artwork of a cyborg artist is the creation of a new sense.

My seismic sense is my artwork but I'm the only one in the audience. So in order to share my experience I create external artworks through this new sense.

I can express my seismic sense through different art forms such as dance, sculpture or music:

One of my dance pieces is *Waiting for Earthquakes*, where I stand still and I wait for an earthquake to take place, which is very often, every time I feel a vibration I move according to the intensity of the magnitude of the earthquake. So, if there are no earthquakes during the performance, there's no dance.

This piece is based on real-time, so actually Earth is my choreographer, she tells me when to move, she marks the rhythm. Earthquakes are the natural rhythm of our planet.

I also made a cyborg sculpture, a 3D printed replica of my arm that vibrates every time there's an earthquake in real time, so visitors can touch the arm and feel an earthquake if anything is happening. It's a cyborg sculpture because it's a sculpture cybernetically connected to an organism; the Earth.

And I also transform this new input into *Seismic Percussion*. I do concerts where I play a bass drum, the rhythm score is defined by the rhythm of the tectonic plates. Earth in this case is the composer of the piece.

Now that I'm a cyborg, I don't feel closer to machines or to robots, I feel closer to nature, because I can feel my planet, and I feel closer to other animal species because I can feel earthquakes like other animals can. If we would extend our senses in order to perceive and understand our planet in a deeper way, our behaviour would change.

In this century, rather than giving new senses to our machines, we could give new senses to ourselves. For example instead of giving the sense to feel presence of what's behind to our cars, we could have this sense for ourselves and have a deeper relation with our surroundings. Instead of using technology we can become technology.

Let's take light for instance, us, humans, we haven't developed night vision like some other species. Wouldn't it be more logical changing ourselves in order to see at night than changing the environment? If Edison would have created night vision instead of a lightbulb we could still be able to see the stars at night.

The pollution and energy waste created by artificial light is damaging our planet. It's daylight outside, yet we sit inside this room with artificial light because we are blind and unable to see each other without it.

If Wright brothers invented wings instead of airplanes, we would be the ones flying. When we say that we fly from Paris to New York, it's not entirely true. The plane is the one flying.

The origins of the word cyborg talked about enlarging the human experience, and that cybernetics would free the man to explore. It's in the human nature to explore, we are natural explorers that wonder and evolve.

My current stage is space exploration. I want to perceive Moonquakes, the Moon's seismic activity. I have an implant in my right arm (actually on the feet) ready to connect me to the seismograph on the Moon, so I will feel earthquakes in one arm, and moonquakes in the other one. This will allow me to be here and in space.

Our senses no longer need to be attached to our body anymore, if we use the internet as a sense, we can perceive things that are far away from our own bodies. We can perceive things that are happening in the other side of the planet or even in space.

We can explore space through our senses, and become "senstronauts"

Let's start using the technology we have to open our eyes, our minds, let's listen to our planet, and leave Earth in peace, let's not try to change our planet and be brave enough to change ourselves instead.

We are the ones who need to make sure that the union between our species and technology does not alienate us from nature but instead brings us closer to it, to other animal species, to our planet and to outer space.





# SEARCHING FOR MY SENSES

How can adding new senses to the human body help us rediscover the planet we live in

*A talk by Moon Ribas, November 2014*

Right here and right now my body is connected to online seismographs that allow me to feel our planet's seismic activity.

For the last couple of years I've been perceiving the earthquakes of the world via vibrations in my arm. So now I'm here in New York, but if there's an earthquake in California, my arm will vibrate. If there's an earthquake in China my body will vibrate. Depending on the scale of the earthquake the vibration I feel is bigger or smaller. At the beginning I had to get used to the constant input but after some weeks I got used to receiving all these vibrations every day.

It became a new sense. After years of research, I have found my extra sense. The seismic sense.

Movement is inevitable, unstoppable, and in most cases invisible. There's something magic about perceiving the invisible.

Imagine if all of us could perceive the invisible movements or if we could sense what is happening behind us or in other corners of the planet.

Moving is probably one of the only things we do permanently. The first thing you did and the last thing you'll ever do. Even what we think is still, is not still. If we looked at this page with a microscope we would find a lot of activity. This building itself is moving, as the world is rotating around the sun. And there's something extraordinary about movement because there is no practical antonym of movement. There is no such thing as stillness. Everything moves.

There are some movements we can't perceive because we can't see or feel them, some movements we can't perceive because they are too small or too slow, and others because they are too big or too fast.

I was always very interested in movement and I went to study dance.

As a student I was encouraged to use technology in my dance pieces. But there was something that I disliked about that. I always felt that the use of technology on stage diminished the power of the performers presence. Every time I watched a dance performance that used technology on stage it felt cold, distant and unnatural. So I wanted to find a way to integrate technology into my dance pieces in a less aggressive way.

I thought that maybe instead of applying technology to the dance pieces, technology should be applied to the dancer. Technology should be a part of the dancer's mind not a part of the piece. So I thought I would try to extend my sense of movement by applying technology to my body and then I would use this new sense to express myself with dance pieces. But I didn't know which extra sense I wanted to have, so I started to think about how I could extend my perception of movement.

And the first thing I thought about was, speed.

I was unable to perceive the exact speed of moving objects or people, so I thought that maybe I could apply technology to my body in order to perceive the exact speed of any moving object.

And that's what I did.

I decided to create and wear a speed detector on my hand that would allow me to see and feel the vibration of the speed in front of me. I would sit somewhere and I would point at people walking in front of me, and I would feel 5 per hour, 3 per hour, 4 per hour, 6 per hour, as different types of vibration.

There was a point when I was able to detect very slight differences of speed but wearing technology wasn't comfortable enough.

I didn't want to wear a sense; I wanted to have a sense.

So I collaborated with my friend Marco Rodriguez and created a pair of earrings that transformed my body into a speed radar. If someone walked from left to right I would perceive a vibration on my left ear and then on my right ear. Depending on the interval I would know the exact speed. So I learned to distinguish speed via intervals. And there was a point when I could tell if someone was walking at 3 per hour or 5.5 per hour for example.

By feeling the different speed of people's walk I realized that context modifies the way we walk, we all modify our walk depending on who we are with or where we are.

So, I decided to start a project.

I wanted to define each capital of Europe by its average walking speed. I decided I would stand at different spots of a city for several days in order to detect the average speed of citizens in each capital. I analysed over 30 capital cities in Europe. For example the average speed of London is 5.9, the average speed of Berlin is 5.2, in Lisbon is 4.7 and the average speed of the Vatican City is 1.5, the slowest capital I've ever been.

I created dictionary of movement based on cities, so I can ask dancers to move as if they were in Stockholm or Paris, and the movement quality can change drastically.

After getting used to sensing movement and speed via ear vibrations I became interested in my own speed. So I used a walking machine to teach myself to walk at different speeds. When I learnt to walk at different speeds I thought that I could use this skill to avoid red traffic lights. If I knew at what speed to walk in order to get to the traffic light just on time for the green light I would never have to stop. So what I put it into practice at the Rambla de Catalunya. The street has 8 traffic lights, I analysed the time between each green light and the distance between each traffic light and I got the speed I would have to walk at in order to have all lights green. And it worked; I walked from one end to the street to the other non-stop only by modifying my speed between traffic lights.

Imagine if we could apply this to the whole city. Imagine a world where traffic lights were always green. We would only need to detect our speed and be geolocated.

I wore the earrings for several years but one day I decided to try wearing them the other way round so I could perceive movement behind me. And this opened up a whole new perception of my surroundings, a whole new perception of reality. I experienced the absence of behind.

I could feel if there was something present behind me, I was able to sense if something or someone was moving behind me. And I was able to perceive movement with my eyes closed.

If everyone could sense what's behind them, lifestyle would be different. For example, no one would ever block your way when you are walking or trying to walk passed someone; sports would also be different, new rules would be applied and new sports would be created and dance would be different too, most choreographies are based on what is in front of the dancer. Having a sense of behind would make a change the way dancers move on stage.

And from movement happening next to me, then behind me, I started wondering if it would be possible to perceive a universal movement. A movement perceived beyond our natural senses. A movement that didn't come from people or objects.

That is when I came up with perceiving the movement of our planet through earthquakes, through Earth's own movement. It's own expression, cause it shakes everyday with earthquakes. Earthquakes are the heartbeat of our planet. So I thought it would be amazing if I could perceive a movement as profound as an earthquake: to transpose the universal movement of our planet's earthquakes to a human body. I collaborated with Jeffrey Scudder in the creation of this new sense.

I now use this sense to create dance pieces.



In 2010 I founded the Cyborg Foundation with Neil Harbisson. An international organization that has three aims: help humans to become cyborgs, defend cyborg rights and promote Cyborg Art. Cyborg Art is an art movement where artists express themselves through new senses created by the union between cybernetics and their organism.

The union between humans and technology is in many ways like movement: Inevitable, unstoppable and in most cases invisible. Invisible because most people already feel an invisible connection with technology. We even say, "I'm running out of battery" instead of "My mobile phone is running out of battery".

Now that I'm a cyborg, now that the union between cybernetics and my organism have given me an extra sense, I don't feel closer to machines or to robots, I feel closer to nature, because I can feel my planet, and I feel closer to other animals species because I can feel earthquakes like other animals can.

I strongly believe that we need to learn much more from other animals' species, we can get inspired from them. If we take a look at other animals senses we'll realize that what we think is very unnatural is actually very natural, some animals can fly, some animals can create light, some animals can perceive infrared and ultraviolet, even immortality already exists in nature, there are jellyfish that never die. Adding new senses to the human body will allow us to rediscover the planet where we live in.

People from the 20th century predicted that the union between humans and technology would be dangerous, unnatural and that it would disconnect us from nature. But it doesn't need to be this way; we are the ones who need to make sure that the union between humans and technology does not alienate us from nature but instead brings us closer to nature, to our planet and to other animal species.



For more information about  
Moon Ribas', you can visit the  
following websites:

[www.cyborfoundation.com](http://www.cyborfoundation.com)  
[www.transpecieissociety.com](http://www.transpecieissociety.com)



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