Julie's little world, her apartment in Berlin-Neukölln that she also used as her art studio until last summer.

Photos by Jenne Grabowski

We stumbled upon Julie Oppermann somewhere in the space between neuroscience and art. She is an artist pushing the limits of visual perception by creating paintings that can be hard to look at. Julie's pieces are deceptive, intriguing, and sometimes overwhelming. They simply play tricks on your mind. After finishing her degree in neuroscience at the University of California at Berkeley, she launched her career as a painter. Excited by the ideas and questions of neuroscience, she incorporated this practice into her vision and development of her art and was finally able to combine these two worlds.

We spent the day with Julie this summer, meeting her at her home and studio in Berlin's Neukölln district. She is an energetic, positive woman. After a quick lesson in visual stimulus processing, we went uptown to the Spectrum science center at the German Museum of Technology to test our senses and the abilities of our perception.

What is a moiré pattern?
It's an interference pattern that occurs when similar patterns, screens or grids overlap. You need two of them, they can be identical, or just similar. They are offset by a small degree and when your eye is looking at it, it has a very hard time interpreting what's going on. There are two similar things that are sort of offset, and your eyes can't pull them apart. This creates a pattern where the mind blends the images and fills in information where they cross. The moiré pattern doesn't really exist outside of our minds. It's the human brain trying to make sense of the visual input. The change is based on the degree of offset; the smaller the degree the bigger the interference pattern. The best example of a moiré pattern that you would see in everyday life would be if you are on a highway, and you see a fence and there is another fence behind it. You would see a moiré pattern where they overlap. They are going to be spaced differently because they are in different distances and you'll get a sort of a moiré beat pattern that looks like pulsing.

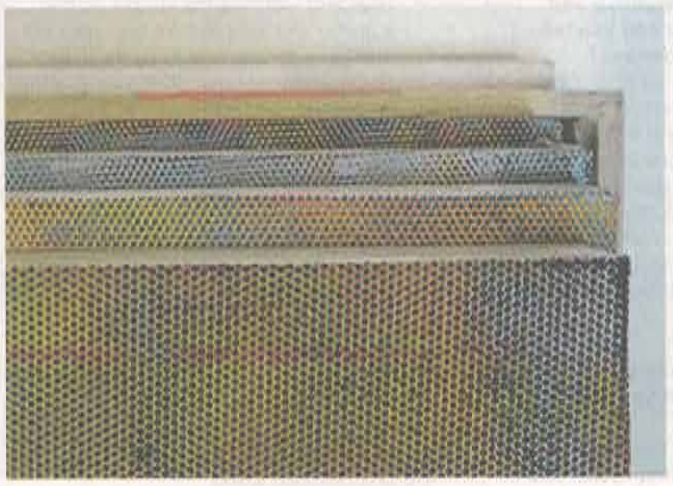
People who are familiar with it are photographers and designers, because it happens a lot during the printing process. They always try to avoid it though; it's their nemesis. I think it's very compelling. Every time you see the pattern, it's sort of magical. It's so simple, because you have just two patterns of dots or lines and you overlap them and, bam! There is this crazy thing happening and, as you change the degree of offset, you see it radically changing. It is a real sense of discovery for me.

How did you start using it?
I actually stumbled upon it. I was making these paintings with overlapping spirals and the moiré pattern started happening. I researched it, found out what it was and got interested. All you need is a pattern, they don't need to be lines per se, so I thought, dots! You can get completely different patterns with dots than with lines. When you use dots they look like hexagonal honeycomb patterns.

When did moiré patterns enter the art world?
They were discovered in the Sixties and artists got really interested. But they soon fell out of favor, because moiré was pulled into the commercial side of art. Op art and design in general became commercialized. They were also dismissed, because they were seen as trickery, a magic trick that artists were doing what was not intellectually interesting. Artists like Bridget Riley were dismissed, or mocked. At that point, the whole geometric abstraction movement was very political and reacting against abstract expressionism, wanting to scale down the myth of the crazy artist.

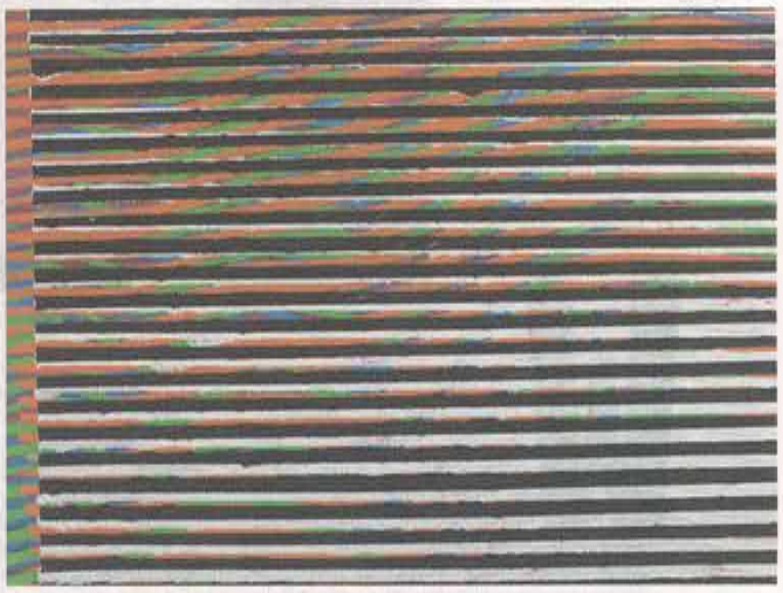
They wanted the patterns to be extremely perfect, the edges to be precise and clean, they wanted to maximize the color relationships without the influence of the artist's hand. That's not interesting anymore in terms of art, because we have computers. If you want to make it perfect, fine, make it perfect, but painting is not the way to make something perfect. I want my work to be organic, something that's made by a person and is not perfect, something more dynamic. I feel like that's where my painting departs from the traditional op art movement.

You started your career as a neuroscientist. How did you get into arts?
I actually went to art school first, but then I decided I want to be a veterinarian, so I went back to school. During that time I got interested in research and thought neuroscience is a cool field, because understanding the brain is something challenging. That's how I decided to do a



When two patterns meet, a third is created. Here, some of Julie's patterns are gathering

Exploring the Science Center Spectrum like little kids is like diving into one of Julie's pieces



PhD in neuroscience at UC Berkeley. There I found out that I was more interested in topics of neuroscience than lab research. I began painting again and that's when I started doing the moiré paintings. I decided to go back to art school and left Berkeley with a master degree. I guess that's when I connected these two fields, art and science.

Julie uses perforated plastic sheets to make her paintings, but they have other uses. A grand discovery coming straight from her laboratory is the cat-repelling plant protector. A perforated sheet placed over a plant pot makes it impossible for her cat to dig out the soil and make a huge mess. Brilliant!

Besides moiré, is there anything else in your work that connects the two?
I feel like my studio practice is an experimental thing. It's almost like a lab.

Your studio does seem more structured than a usual art studio.
There is something similar between scientists and artists. Scientists work in a lab trying to find creative solutions. They have an experiment that doesn't always work the way they thought it would work, and they ask themselves, why? What could be the reason, how do I change it? In real life science you don't know whether what you found out is real or not. You have a question that no one knows the answer to. You get the data, but how do you know that it's right? Scientists' experiments are very much independent projects they work on for many years and in many ways. In that sense, the process of making art is very similar to scientific research.

You say the process of painting layers after layers is very repetitive and meditative. What else can you tell us about your creative process?
I always start with an idea how it's going to look, with a plan of a certain color line. But frequently it changes and every successive layer, or a pattern is done in response to the first. How the lines are going to curve, which angle, how the dots are going to fall, and so on. It develops intuitively and I try to leave room for accidents. I don't do them on purpose, but I like to leave space for things to get messy.

You are basically painting 'mistakes' so it's natural that you let yourself make them as well.
When you think of that this is coming from .jpg, printing, image compression and all these technical terms, but here you are getting something that looks digital, looks hi-tech, but is coming out of something really simple. It's just painted lines that are overlapped and offset at small degrees. And it's just paint on canvas. Such simple means to get this very dynamic, interesting thing.

There is a mixture of scientific and artistic approaches in your work...
There is that conflict. There is the rational base and principles you've got to follow, but there is always the playroom in between. Conceptually, you have all these scientific laws that are perfect, but in practice things are always a bit messier. I think I am more at the messy, intuitive side of the spectrum. It's nice to have the rational fountain and the rules that guide it. When you break the rule and make a mistake, it's a decision.

While bicycling to the Science Center Spectrum, we passed through the huge expanse of the former airfield at Tempelhof Airport. Julie told us the historic Tempelhof Airport is one of her favorite places to hang out. When ambitious, she goes for a jog around the runways. When lazy, she grabs a beer and watches the sunset. In the summer she likes to take her lunch out and have an impromptu picnic in the community gardens. She loves it in the winter too, when it is quieter and peaceful. Julie loved the Spectrum because there are the many, hands-on experiments for children, including hypnotic spinning tops and the tricky 'Hexenhaus'.

Julie is represented by Mark Moore Gallery, Los Angeles among other amazing artist, such as Andrew Schoultz (interview on page 16)!

julieoppermann.com
markmoregallery.com

My studio practice is an **EXPERIMENTAL THING.** *It's almost like a lab*