

Martin Riedel & UliK: Techno-Circus

A conversation with [Anna-Sophie Jürgens](#) | Section: [Interviews](#) / [Circus & Science](#)

Abstract: In this interview circus artist Martin Riedel and technology artist and programmer UliK discuss their productive collaborative work at the intersection of performance art and technology. Not only do they describe how their joint work in and outside of the circus ring influences their understanding of art and technologies, but also what kind of new knowledge arises from it. This conversation takes a look at both: a science-based circus artist and a long-term cooperation with scientists, technicians and companies.

The award-winning and sensational performance RoboPole is the result of a collaborative effort between circus artist Martin Riedel and programmer and technology showman UliK. Cooperations of this kind are very interesting for w/k. The aim of this conversation is to work out the type of collaboration for RoboPole and other projects as precisely and comprehensively as possible and to tap into the artistic concept behind the performance, in order to enable a deeper understanding of this art form and cooperation.

Martin Riedel (R) & UliK (U): We are happy to explore this topic with you.

As an introduction, I would like to ask you to briefly introduce yourself to our readers who are interested in the intersection of art and science and to sketch out to what extent your performance with a robot represents something surprising and new in the circus ring. After all, you recently received a prize at the renowned Festival Mondial du Cirque de Demain for artistic innovation and visionary art ...

R: When I was sixteen, I took part in a European youth circus camp in Lingen and made the decision to become a circus performer. Three years later, I trained on a Chinese mast for the first time. It's a vertical climbing pole, covered with rubber and about six meters long. It's a very traditional circus discipline that originated in China and India. Acrobats perform figures like the human flag, fastdownslides, as well as pirouettes and flips. I've been following my passion for more than 12 years now and have studied this discipline in the Netherlands, France and China. Since 2015, I've been working with the mast on the robot. The collaboration with UliK Robotic has completely changed my view of the prop, and encouraged new thinking and new ideas. Within three years, UliK Robotic researched and developed a performance that has established itself as a new and unique discipline in modern circuses, as it cannot be compared with classic circus props. A new circus discipline was invented, which I call the kinetic prop. At the 39th International Circus Festival 2018, UliK Robotic won the Cirque du Soleil innovation award. Just a year later, we became part of the modern era of the world's largest circus company with the production Messi10. What is new about the RoboPole performance is the harmonious interplay of a kinetic prop – the robot (a Chinese mast on a six-axis robot) – that moves independently and is not manipulated by the artist. Due to the six axes, the artist can move through the entire room and is no longer limited to the vertical axis; in fact, the artist can find new challenges in positioning himself and moving on the prop. On the one hand, the robot seems to dictate all motions; on the other hand, the robot seems to react to the artist's movements and vice versa. Because the robot is completely programmed, the performance demands extreme precision from the artist and allows for less margin for error.

U: Bernhard Paul from Circus Roncalli also immediately understood that RoboPole is a redefinition of a classic circus act – and immediately signed a contract with us. That means, we currently have three robots: There's one at Circus Roncalli, one at Cirque du Soleil's Messi10 and there's one I use at festivals and events. That way we can work with various circuses, organisers and festivals at the same time.

R: RoboPole was a long-awaited dream. After about four years of research – the above mentioned 'exploration' of all possibilities – we finally took the plunge and presented a first version to the public. The act itself is highly complex, dangerous and still difficult to understand for the audience. Imagine you've never seen a car before and suddenly you see someone doing a handstand on a car roof. This is my take on the audience's faces after seeing RoboPole.



Cartin Riedel at Cirque de demain (2018). Copyright: Christophe Chaumanet Leonart.

Martin Riedel, throughout your training you were already interested in rethinking the materials used in your performance. Where does this interest come from and how did it manifest itself before you worked with UliK?

R: It's in my nature to be interested, curious and a little annoying. The positive aspect of these character traits led me to deconstruct the classic Chinese mast in 2013 and to change it to a diagonal mast. I've always been interested in the architecture and autonomy of the prop and I thought that artists mostly only performed with it in the same way. I always fancied a prop that also has a life of its own. When I met UliK and saw the potential of the robot, it was clear to me that this was a unique opportunity.

You met through an agency that, according to its website, produces, presents, manages and establishes contacts between international artist acts. How did it come about that you - UliK or UliK Robotic - were found by an event agency, and what made you decide to work with Martin Riedel?

U: It was really a coincidence, because I met Martin through a mutual friend. The magician Scott Nelson was with me at the artist fair in Freiburg. We were standing at my agency's booth (Rudi Renner Agentur) when I told him about my project and that I was looking for a mast artist. He reached behind me and said: "Here's your man!" – by chance, there was Martin Riedel. A real stroke of luck.

UliK, you are referred to as "the Gyro Gearloose of theatre in public spaces"^[1] - and described on the Internet as both an artist and a programmer and engineer. Do you see yourself as a high-tech puppeteer, a kind of Robo-Frankenstein who brings machines to life, or do you feel more like a Gyro Gearloose?

U: I have been building unusual machines for 30 years and perform with them all over the world. This

has led me to many successful creations and some failures, but also to receiving patents for some serious inventions. I've always been fascinated by robots, but in the past robots were still too expensive. In 1995, it was not yet possible to acquire one as an artist. In 2007, I was able to fulfil my dream: Yaskawa lent me a robot for my first project in Luxembourg. During my first attempts, I realised what was possible with six axes. The robot comes to life and opens up endless possibilities. The nice thing is that you're always part of your programmed creation, even if you're not with it physically. If I see the show again after a while, I'm always surprised at what we've created. The name Gyro Gearloose comes up again and again in this context, also because of my show Mekanocomic, that I used to tour a lot with. (<https://www.ulik.com/mekanocomic>)

As an artist, what types of machines and robots are you particularly interested in and why?

U: Reality often catches up with our artistic imagination. Weight, transport costs and safety must be factored into the projects from the start. We need robots with a high load capacity that are still transportable. Six axes are standard; we work with normal industrial robots. We modify our robots to give them more grace and elegance. I also work with Segways that I've converted. I have a contract with Disneyland Paris for example. Since 2012, I am collaborator for one of their parades in which fairies and wizards perform with dance Segways I developed (<https://youtu.be/RfVgGzooYu8>). There is also the UliK's Glissendo project with the French orchestra Le Snob, who we've been touring with since 2007 (<https://youtu.be/KYykpRRuHQM>).



Martin Riedel: Fleetwood (2018). Copyright: CJGriffiths Photography.

What does your collaboration look like specifically and how has it developed?

U: In the beginning, we were able to do several intensive workshops together in Meisenthal in France at the Centre International d'Art Verrier, where we could get to know each other and develop our first

working methods. In the first test phase, Martin and I worked on the material for the mast and on the basic programming for the robot. We later got together to rehearse at various locations across Europe. We both had to change the way we work. But we followed the principle that the machine must serve people and not the other way around – in order to give the acrobat the best possible support.

How do you define the cooperation with the robot during the performance: Do you see the robot as a performance partner or them both (Riedel and robot) as an artistic duo? Or is it UliK, acting behind the scenes, who is the artistic partner here? In short: How would you describe your circus art-making relationship during the performance?

U: The act consists of the acrobat and the robot, but the programmer is always there in spirit. He bears responsibility for the artist and the audience. In addition to the acrobat, the robot's technical operator is extremely important. He monitors the process during the performance, ensures the correct timing, secures the area of activity and, so to speak, represents the human acrobatic partner.

Let us come back to the technology-related research dimension of your project. Do you, Martin Riedel, rely on scientific theories or additional consultants from the field of robotics in your artistic work?

R: UliK and I did all the necessary training at Yaskawa to be able to work diligently with the technology. Initially, however, we had no or only a little technical knowledge, which turned out to be a great advantage because we were able to approach the project candidly. I think you try out a lot and interpret it later. Meanwhile, I also believe that this is often the healthier approach. We are now starting to integrate new methods in order to implement final wishes that we cannot realise without the necessary know-how. But here, too, knowledge comes with the need for it and not the other way around.

U: It's like the Tesla effect: Tesla builds innovative cars without ever having done it before. In 2007, I started to realise my visions with a little bit of training in programming. If I had done the classic training in programming beforehand, I would never have dared to try a lot of things. Even the manufacturer Yaskawa was worried at the beginning. But, after a Japanese chief engineer was flown in, who checked on the loads with special measuring instruments, it was clear that everything was feasible and that we weren't asking too much of the machines.

Martin Riedel, how has technology – UliK's in particular – influenced your artistic work?

R: UliK's technology and his approaches have shaped me a lot since 2015. Many artists learn a discipline and perform their developed act largely unchanged until the end of their career. After three years of training on the normal Chinese mast, then deconstructing it and finding new figures and possibilities on a diagonal mast, I started RoboPole seven years after I had already committed myself to the prop. The mast on the robot can move on six axes and is not clamped at the upper end. All conceivable positions of a pole in space are possible. So, I had to relearn them. The far greater challenge, however, was changing from one position to another. The movement involved worried me a lot at first and continues to delight me today, as it is the greatest challenge.

Especially when trying out new sequences, I try to guess which axes will change from one position to the next and what this will do to me along the way. That's what defines RoboPole. The prop is no longer static – and the flux is what makes it special for the audience and me. What stimulates and interests the viewer is the constantly changing challenge for the artist on the robot; how machine and human cooperate, contract and react. How does the artist cope with the next challenge of the machine's

movement? Does the machine have a “life of its own” or is everything programmed? These questions weren’t previously relevant for a circus audience. When animal training was still common, there was a similar stimulus: How does the trainer react when things don’t go as planned? Physically and psychologically, this isn’t something easy to take. It’s not in our nature to prefer constant change. Working on the robot has shaped me a lot and made me more humble. Due to the constant self-reflection and the very rational observation of facts, I have experienced a personal development that would not have happened without working on the machine.

In your interview with “Circustalk” (2018)^[2] you write that the results of your collaboration raise circus art to a new level (“This takes artistry and circus to a new level.”). Could you elaborate on that?

R: Circus has always shown the new and the unknown. In modern times, this is getting harder and the live situation has become more important. To experience something in a room, to perceive something visually on more than two levels, is all the more important now. RoboPole takes modern circus to a new level by replacing the elephant (which was then exotic) with the iron elephant (which is exotic today). The audience gets to see something that they would otherwise have no access to. In this respect, logistics, i.e. how you transport a 3.5-ton industrial robot and bring it onto a stage, already plays a very decisive role – and that’s before you plan anything further with it. That’s where the real art lies for me. All of these factors make it a total work of art for me.

To what extent does your involvement with technology relate to your artistic approach? What’s the correlation between the two?

U: Machines give people superpowers. Whether it’s the farmer’s tractor in the fields or the pilot’s jet plane at Mach 2. The robot also gives the acrobat superpowers that he must be able to master. The robot can, for example, accelerate very quickly with great force, but also slow down abruptly, which can be critical for the acrobat and the material. It’s necessary to increase the speed very slowly ...

Has your engagement with acrobatics changed your understanding of technology? Has it changed your approach to technology or how would you describe your artistic approach towards technology?

U: From an early age, I was always very interested in technology and how mechanical things worked. When I was nine years old, I was able to disassemble and reassemble a moped. I am always on the lookout for something new. Then I buy something and find that it’s not that interesting. However, now and again I come across wonderful devices that are screaming to be turned into art.

UliK, what effect do your technical performances - your machines - have on other circus artists?

U: The circus world has its traditional techniques, which are judged on technical ability and presentation. Our work was received critically at the beginning and jurors at festivals had no reference as to how to judge us. I think our concept shows that there are no limits, that anything is possible if you just dare to try it. The animal welfare movement has changed the traditional circus dramatically. Animal acts are on the verge of completely disappearing from the circus arena, and our robot is like an impressive animal: It’s vegan and only eats electricity. So, that’s also a response to our current times.

Martin Riedel, what is your collaboration with UliK about? What artistic goals do you pursue with your collaboration? And how do you feel about this, UliK?

R: My collaboration with UliK is very profound and has developed organically over time. As in any relationship, you have to build trust, get to know the other and, in the end, invest energy in the relationship from time to time in order to continue to exist together. I'm mainly interested in the humaneness and mutual enrichment. We have similar artistic and very open-minded approaches – and I'm always surprised by UliK's unconventional methods and approaches. In that respect, I'm more of the conventional artist and he is the lateral thinker. UliK is an eternal teacher for me, but one I can talk to on an equal footing. Based on his experience, he is able to see potential in me that I can hardly detect myself, and he demands – or promotes – it. I am always grateful for that.

U: Martin Riedel is an avant-garde acrobat who manages to overcome fears and face new challenges; he works his way through the difficult new routines with great care. Discipline in nutrition (weight) and his permanently high fitness level also simplifies working with Martin. Earning a living in our day-to-day business slows down our creative work. Martin and I are on tour a lot, so we have little time to develop new numbers. There are many ideas. We are actually still at the beginning and take every opportunity to develop the project further.

Do you think that a special kind of knowledge arises from your cooperation?

U: Over the past few years we have learned a lot about the strengths and weaknesses of robots and also, most importantly, about safety! We have developed procedures and work according to the principle of “four eyes are better than two”, because the greatest source of error is humans, and errors can be fatal. We have learned what we can expect of ourselves and the robot and we approach things with great care.

R: The work and research on the robot results in new forms and challenges and, as a result, new knowledge. We have had to develop many new methods, and a lot of knowledge has emerged from this. I see the mast on the robot as a kinetic prop, which requires its own special training period. In order to really gain an understanding of working with a machine and its tool (prop), you have to understand the system as a whole and learn and understand it using the bottom-up principle – understanding its soul, so to speak. I believe that as a logical consequence I had to learn a lot to allow me to use the robot as a prop. I like to summarise my personal knowledge with the following sentence: “To be able to work with a machine, you have to become a machine!”

Martin Riedel, UliK, thank you for this fruitful conversation.

Cover picture: Messi10 by Cirque du Soleil: UliK Robotic Premiere Cirque du Soleil (2019). Copyright: Messi10 by Cirque du Soleil.

[1] See <https://www.welttheater-der-strasse.de/ulik-robotic-robocircus.html>

[2] <https://circustalk.com/news/robopole-circus-of-the-future-an-interview-with-the-artist-and-the-operator>

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