BERLIN
SCHOOL OF
MIND AND
BRAIN

An
ALUMNI
Issue

Newsletter
№ VII
SEPTEMBER
2014

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Expectation maps

When I first thought about writing an editorial for this issue, I decided to write about what I have learnt: to think about what I really do in my research. So, here it is.

With reinforcement learning skills, we use our experiences to build expectations. We learn to predict what is good to approach and what is bad to approach; what should be avoided. And we use these expectations to reach our goals. Here is an example. To reach the goal "travel funding", we use our expectations: we expect to be rewarded if we approach the managing director after lunch, because she will be in a good mood. On the other hand, we might avoid her before lunch because we expect her to be hungry. And pretty soon we can build a whole expectation map of the world around us. Eventually, this expectation map makes it easier for us to navigate the world and reach our goals. This is the upside of a well-established expectation map. It gives us certainty about our behavior and its consequences. This enables us to enjoy a cozy and secure default setting, in which we can simply navigate our way through the world in autopilot mode.

An interesting thing about expectations is that we not only create an expectation about the world, but also about ourselves. We learn to create certain expectations about our ability, skills, personalities, tastes; about our ability to forage for free food and drinks, our obsessive need to clean the windows just before a work deadline, and our fine-tuned ability to evaluate the food in the Mensa cafeteria. All these self-related expectations form our identity. This is what defines what it is to be me in this world, and what it is to be you.

Editorial
by Dr. phil.
So Young Q Park,
Professor of
Social Psychology
and Decision
Neuroscience at
the Institute
of Psychology,
University of
Lübeck. She was
a member of
doctoral cohort 2
(2008–2011).

But let's think about what happens in a new world: a new world in terms of a new lab, new boss, new city, new country, the new world outside of science or maybe even a new partner. There may be a management that rejects all travel grant applications, or the absolute nightmare scenario of no management at all. The same applies when your identity changes, such as when you become a parent or become a doctoral candidate. Your old expectations about yourself may be outdated and need to be updated too. Here, your well-established expectations from the old world may be wrong. The old map will lead to mismatches, frustrations and stagnation. It may even lead to fears, doubts and disbelief. When we hold on to our old map, the new world might look pretty dark and cloudy.

Here is one thing you can do in the new world: free your mind. Leave the old map behind and start to acquire an expectation map of the new world, of the new you. It is not about knowledge or intellect. As scientists, we have a tendency to make everything much more complicated and abstract. But that is not what it's about. It's simply about paying attention to what is going on right in front of you, paying attention to what is going on inside of you. This is not easy; it demands a lot of will and a lot of effort, because we are so used to automatically activating the old map in our heads and it's so comfortable to simply switch to autopilot mode. But the good news is this: we are very good at exercising self-control and are able to consciously choose what we pay attention to and how to build a new expectation map; otherwise we would not be here.

By being aware and remaining conscious of pursuing every moment in our lives, we can be much more open and flexible in the new world. And instead of feeling frustrated by the mismatches we experience, we can explore the new world with curiosity and feel free. You will see new options, new opportunities and new goals you didn't see in the old world. You will get to know new aspects of yourself and feel able to go beyond your abilities and beliefs. You can overcome your fears and doubts. Remember every day, the new world begins. Enjoy your new map!

Rites of passage and lasting links

Editorial
by Dr. rer. nat. Daniel Margulies, group leader of the Max Planck Research Group Neuroanatomy and Connectivity at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig. He was a member of doctoral cohort 1 (2007–2010).

The successful completion of doctoral studies is marked by several rites of passage. We publish our dissertations, receive a diploma, perhaps don a decadent hat. We defend our research to a committee of professors, raise a glass with friends and colleagues, archive our data and return library books. Some even have a public graduation ceremony to mark the occasion. Then we move on to new jobs, with fresh goals, schedules, communities, salaries, responsibilities. And if you've had the opportunity to traverse these stages with the Berlin School of Mind and Brain, as those in the following pages have, one day you receive an e-mail announcing an upcoming talk or job posting from the alumni e-mail list. For me, that was the moment the passage felt complete.

Becoming an alumnus of the Berlin School of Mind and Brain was an easy transition. Individuals come and go, but the spirit of the school continues to flourish. In an effort to nourish our interdisciplinary community, I would be remiss if I did not call attention to a severe gap in the alumni experience: a mascot. When I reflect on my time at the school, many fond memories return — conversations, lectures, late nights at the computer — but there are times I would like to distill those associations to a symbol, such as a mascot akin to the bobblehead Brothers von Humboldt. For instance, the mascot of Humboldt State University in California is a lumberjack by the name of "Lucky Logger". There are 25 other alliterative possibilities ("Bucky Bogger", for instance), and surprisingly, Humboldt-Universität has desisted from embracing any of them. Humboldt-Universität — so far as I could tell from a half-hearted search of the university website — has thus far not managed to choose a mascot at all. For our alumni

community, though I can only speak for myself, I believe this would mean a lot.

Like a bunch of particles, we bounced off one another for a few years, sometimes intentionally, often at random. The following pages offer a snapshot of how we have dispersed. I suppose that while other schools might rally around Lucky Logger, we will continue to come together around the weekly lectures, the spirited dialogues, and shared research challenges. These may not be as catchy for outsiders as a bobblehead Humboldt, but they can be packed more easily for the journeys ahead.

M&B BOBBLEHEAD

Q & A — Anna Czypionka

Q *What are you doing at the moment?*

A I am working as a postdoctoral researcher at the Linguistics Department of the University of Konstanz.

Q *How did you get the job you are doing right now?*

A I knew about my new department because my doctoral project was partly based on their earlier work. During the final stages of my doctorate, I heard that the Linguistics Department at the University of Konstanz was looking for a postdoc. I talked to my advisors and to other people, applied for the position, and got it.

Q *What were your career ideas — before and after the doctorate?*

A The same: science, preferably psycholinguistics.

Q *What is your research topic? What questions are you trying to answer in your work?*

A My work is on sentence comprehension. I am interested in how different kinds of information about the words in a sentence help build a representation of the event that the sentence describes.

I mainly focus on the use of argument animacy in sentence parsing, and found out that it is modulated by other linguistic factors, like the verbal case marking pattern. I want to continue in this line of research, taking a closer look at different kinds of verbs and seeing which predictions for language processing can be made using linguistic theory.

Q *How would you explain your work to a non-expert?*

A I want to find out how we understand sentences, how we turn strings of words into ideas about complex events. I look at all the little cues that we use to solve this problem, like the meaning of the words or the order they come in, and try to find out how they work together. To this end, I play around with sentences and take away one cue, or another, or different ones at the same time, and try to find out which cues are necessary to make understanding work. I also look at the time course of comprehension and find out when exactly difficulties in understanding come up, depending on which cues are lacking.

ANNA CZYPIONKA

Q *What is the best part of the work you do — the part that gives you the most satisfaction? Conversely what is the downside of your work?*
A I get a real kick out of understanding something new, and it is worth the hard work in between. I actually get paid to do that, and get to have fun nearly every day learning new facts, methods or background information, and working together with other people who enjoy it too.

The downside is the job insecurity and the instability that makes it impossible to make plans for your life — and for everyone involved in yours, too. Seriously, we ought to change that.

Q *How did you become interested in the subject you are dealing with?*
A I guess language and mathematics and cognitive science (well, thinking about how we think) were always interesting to me. It only took me 25 years to find out that all of this together can actually be a real profession — hooray!

i *Dr. phil. Anna Czypionka is a postdoctoral researcher at the Department of Linguistics, University of Konstanz. She was a member of doctoral cohort 2 (2008–2011).*

Q *What are you doing at the moment?*

A I am a postdoctoral researcher at the Center for Economics and Neuroscience (CENs) and the lab manager of the Laboratory for Experimental Economics (BonnEconLab) at the University of Bonn.

Q *How did you get the job you are doing right now?*

A When I was still a doctoral candidate at the Berlin School of Mind and Brain, I was invited to give a talk at the CENs. Visiting the CENs webpage in preparation for the talk, I came across a posting for the job of lab manager of the BonnEconLab and decided to apply for the position.

Q *What is your research topic? What questions are you trying to answer in your work?*

A I do research in experimental economics and neuroeconomics. More specifically, I investigate individual decision-making under risk.

I would say my general guideline is to find a good way of relating David Marr's three levels to each another: traditional economics is, I would claim, almost exclusively about Level 1, the "Computational Theory". The reason I say that is that on this level it is easiest to model both individual decision-makers with their individual motives and the interactions between these decision-makers, which jointly shape aggregate outcomes. Cognitive psychology, to my mind, deals with both the "computational" Level 1 and with Level 2, "Algorithms and Representations". Neuroscience, in turn, is concerned with the "algorithmic" Level 2 and with Level 3, the "Physical Implementation". In the end, neuroeconomics attempts to provide a description of (economic) decision-making that is satisfactory on all three levels.

HOLGER GERHARDT

Q *What do you find most interesting about your job?*

A The opportunity to combine all my favorite geekeries: a geeky academic topic, endless discussions about tiny details, big issues and left and right and wrong, computer geekery, typographic geekery/graphic design, and meeting people who are even greater geeks than yourself.

Q *How would you explain your work to a non-expert?*

A My parents think that I am a neoliberal who helps companies find new ways to empty people's pockets. Of course, that's not true. Neuro-economics is not about manipulating people so that you can empty their pockets even faster (well, maybe neuromarketing is …)! Rather, neuro-economics is about finding out how people make economic decisions — which, in the end, might even enable researchers to advise people on how to make better decisions.

Q *Is there any advice you want to give to current and future doctoral candidates?*

A Looking back at when I started as a doctoral candidate, I would say it's a good idea to begin with a relatively simple project with rather narrow scope. I myself did the exact opposite … my first project was my most complicated one and far too ambitious, meaning that progress was very slow, and in the process of working on it, we had to simplify the experimental design step by step. This made working on it rather frustrating. In addition, the slow progress meant that I didn't have results that I could present at conferences for a rather long time. Therefore, I would advise doctoral candidates to start out with something not too complex, so that results can be obtained rather more quickly: you get a sense of achievement early on, and you can attend conferences, where fellow participants provide valuable feedback and inspire new research projects.

i *Dr. rer. pol. Holger Gerhardt is a postdoctoral researcher at the CENs – Center for Economics and Neuroscience, University of Bonn. He was a member of doctoral cohort 1 (2007–2010).*

Q & A — Nikos Green

Q *What are you doing at the moment?*

A I am in the process of starting a scientific spin-off project on e-mental-health, which I have been planning together with colleagues. Additionally, I am still working as a postdoctoral researcher.

Q *How did you get the job you are doing right now?*

A I got the research job that supports my income by applying for it.

The spin-off project came to be developed by brainstorming with colleagues about the possibility of transferring our basic research findings into applied solutions. We had identified some problems (related to our field of study) in the healthcare sector and came to the conclusion that one can improve those problems by combining basic research findings and methods with modern digital technology.

Q *What were your career ideas — before and after the doctorate?*

A I did not have predefined career ideas in the strict sense. I enjoyed scientific work, the topic of the particular research I went on to study (decision-making) and the people involved — and that's why I started the doctorate.

I still like research a lot but am currently trying to connect it to the market for several reasons:

First, I like the existing dynamics (i.e. development cycles, etc.) here a lot.

Second, I think applying basic research findings (if possible) to concrete problems in naturalistic settings will lead to new and interesting research questions.

Third, I think as scientists we have to strongly support "scientifically developed and ethical" solutions as there are many offers out there (especially for patients) that carry that label but in reality are not effective and are just a waste of resources. I think we should compete with them because there is a potential here for improving not only individual health situations but also societal impact as well (i.e. healthcare costs).

Q *Looking back at the start of your postgraduate career — what motivated you to apply for the Berlin School of Mind and Brain?*

A Two reasons:

1. The program's structure and content.

2. The people that were/are participating (colleagues, staff, PIs).

Q *What is the best part of the work you do — the part that gives you the most satisfaction? Conversely what is the downside of your work?*

A Plus: Working with and meeting a mix of fascinating, odd and diverse people.

Minus: Slow adaptability, little flexibility in the system (i.e. administration) we work in (i.e. legal, financial and political aspects that are important and central to our undertaking usually lag behind current developments). This means it takes a while for new developments to become established, which is not bad in itself but just tests your patience (sometimes too much).

Q *What is your biggest hope for your future career?*

A That I can live up to the responsibility that I have taken for people who I have convinced to join me in and support this spin-off project.

Q *Is there any advice you want to give to current and future doctoral candidates?*

A "There is no such thing as a failed experiment — only unexpected outcomes."

NIKOS GREEN

i *Dr. phil. Nikos Green is project director at the Department of Education and Psychology, Affective Neuroscience and Psychology of Emotion, Freie Universität Berlin. He was a member of doctoral cohort 1 (2007–2010).*

Q & A Myriam Sander

Q *What are you doing at the moment?*

A I was on maternal leave for about one year after my doctorate, and am now continuing my line of research as a postdoctoral researcher in the "Cognitive and Neuronal Dynamics of Memory Across the Lifespan Project" (ConMem) at the Max Planck Institute for Human Development in Berlin.

Q *How did you get the job you are doing right now?*

A I was already doing my doctorate on this project and after that I still had and have so many open questions about memory lifespan development to follow up on that I decided to continue working on the ConMem Project. Luckily, I was offered the opportunity to do so!

Q *What is your research topic? What questions are you trying to answer in your work?*

A I have been trying to understand the underlying neural mechanisms of lifespan age differences in memory performance. I mostly use EEG to look at processes that contribute to good memory performance in young adults. I have been trying to quantify to what extent these processes seem to change across development and with advancing age and how selectively they are affected. I am especially interested in understanding how we associate information in order to form a memory representation, how we can select to maintain only specific information, and how we can keep memory representations for shorter or longer durations.

Q *What is the best part of the work you do — the part that gives you the most satisfaction? Conversely what is the downside of your work?*

A I love to have the chance every day to think, learn and find out about things I am interested in — and to call this a job. I often find it very exciting to read new papers or to discuss ideas and results with colleagues trying to figure out how the brain does its work so that we can learn and remember things. I find it very satisfying to have new insights, even if they are marginal. The downside of this work is that it never stops, and that there are still so many things we do not understand. Probably all scientists know that thoughts can keep you busy 24 hours a day. However, having a child helps in this regard and puts things back in perspective.

Q *How did you become interested in the subject you are dealing with?*

A I became interested in lifespan psychology early on in my studies in Saarbrücken, where Professor Ulman Lindenberger (who later became my supervisor in Berlin) was teaching at the time. I became convinced that in order to understand how the brain works in general, it is also important to investigate how it changes across the lifespan, in particular, how functions develop in childhood and decline (or do not decline) in old age and how these changes in behavior relate to various changes at brain level.

Q *What is your biggest hope for science as vocational field?*

A Science can be tough. Short-term contracts, the necessity for unconditional mobility and, ultimately, the vague evaluation criteria for your work make many scientists, particularly, female scientists, afraid of even wanting to have a family. The decision to have a child was not easy for me, either. With the prospect of maternity leave, you will be confronted with many obstacles, the fear of the publication gap being one of the most prominent ones. I hope

MYRIAM SANDER

that scientists with children and a healthy family life will become the norm, replacing the forlorn ivory-tower scientist. At the end of the day, science is a job. Why shouldn't it be possible for both male and female scientists to work as scientists on a part-time basis?

i *Dr. rer. nat. Myriam Sander is Minerva Research Group Leader at the Max Planck Institute for Human Development in Berlin. She was a member of doctoral cohort 1 (2007–2010).*

Q & A

Christoph Korn

Q What are you doing at the moment?

A I am currently working as a postdoctoral researcher in Zurich in the Comparative Emotion Group led by Dominik Bach. My overall research interest and approach have remained the same as during the doctorate. But the focus has broadened from social decision-making to decision-making in general. During my doctorate I investigated how healthy and depressed individuals process self-relevant information such as social feedback on character traits or statistical information about future life events. As a postdoc, I am interested in how decision-making in risky situations relates to biological concepts such as negative emotions, homeostasis, and predator avoidance. At the moment I can concentrate on research since I have no teaching obligations.

Q How did you get the job you are doing right now?

A During the last year of the doctorate I contacted a few Principal Investigators by e-mail. At that time Dominik was working in Berlin as a visiting researcher in Ray Dolan's Einstein Visiting Fellowship group at the Berlin School of Mind and Brain. So I was also able to meet him in person a few times to discuss possible projects.

Christoph Korn

Q *What were your career ideas —*
before and after the doctorate?
A Before the doctorate I had a
vague idea I could work as a post-
doctoral researcher afterwards.
During the doctorate this idea
became more and more concrete.
I really like the fact that neuro-
science is such a diverse and inter-
disciplinary field. So, postdoctoral
research — even more than a
doctorate — really offers the chance
to learn more things and to draw
on research from a wide variety
of fields.

Q *How did you profit from being*
a member of the Berlin School of Mind
and Brain?
A Looking back, getting to know
so many interesting people was
one of the greatest things about the
school. It was really fun to discuss
doctorate- and non-doctorate-related
topics with the other candidates and
with the mentors. Of course, the
teaching and the talks organized by
the Berlin School of Mind and Brain
were also very helpful for my work
and broadened my horizons.

Q *What is the best part of the work*
you do — the part that gives you
the most satisfaction? Conversely what
is the downside of your work?
A Very generally, making a new
discovery — even if it's a tiny one —
is just very exciting and rewarding
for me. I also really enjoy presenting
my work to others. I guess the main
downside is that one has to be very
patient and analyses tend to take
longer than anticipated.

i *Dr. phil. Christoph Korn is a post-*
doctoral researcher at the Comparative
Emotion Group, Psychiatric Hospital,
University of Zurich. He was a mem-
ber of doctoral cohort 3 (2009–2012).

Q & A

FRIEDERIKE HOHLEFELD

Q *What are you doing at the moment?*

A I'm a postdoctoral researcher in the Neurophysics Group Berlin (PIs: Professor Curio, Dr Nikulin) and am currently working on a project run by the Clinical Research Group "Deep Brain Stimulation" (led by Professor Kühn). We analyze brain data obtained from patients with Parkinson's disease who have been deemed eligible for a "brain pacemaker" due to the severity of their disease: this involves electrodes being implanted in deep brain structures that were shown to improve motor symptoms upon electrical stimulation. This routine clinical procedure offers a unique opportunity to record neural activity in deep brain structures. These data are indispensable for understanding the neural mechanisms underlying Parkinson's disease and for improving clinical procedures.

Q *How did you get the job you are doing right now?*

A After finishing my doctorate at the Berlin School of Mind and Brain in 2010, I started my postdoctoral research in the Clinical Research Group. I'd heard about this new project earlier that year and was interested in the unique opportunity it offered to study the basal ganglia, to work in an active community of clinicians, psychiatrists and neuroscientists, and, in the long run, to contribute to helping Parkinson's patients by revealing how drugs affect their brains and by understanding the mechanisms of deep brain stimulation.

Q *What were your career ideas — before and after the doctorate?*

A I have always loved studying and knew from early on that I wanted to become a researcher. I pursued this idea by going to university, and the doctorate was the next logical step. Being at the Berlin School of Mind and Brain has further honed my research profile, since interdisciplinary team work, with specialists from different areas joining forces, is in my opinion a powerful way to achieve a comprehensive understanding of a complex organ such as the human brain.

Q *Looking back at the start of your postgraduate career — what motivated you to apply for the Berlin School of Mind and Brain?*

A As an undergraduate student of psychology I became fascinated by brain–computer interfacing (BCI), which allows us to translate an intangible thought (e.g. "move right hand") into a command signal for controlling computer applications or physical devices such as wheel-chairs, by classifying neural activity recorded from the brain related to movement intentions. However, in my psychology textbook there was only a small section about BCI (too short to fulfill my curiosity), which led me to study the topic in my diploma thesis. When I heard about the Berlin School of Mind and Brain doctoral program, I knew this was the right place to pursue my scientific interests within the frame-work of lively discussions between scientists hailing from the mind side and the brain side.

Q *Is there any advice you want to give to current and future doctoral candidates?*

A The physicist Richard Feynman, in his Nobel Prize lecture on quan-tum electrodynamics, talked about what motivated his scientific efforts: "the idea seemed so obvious to me and so elegant that I fell deeply in love with it."

Bearing this in mind I'd say: find topics that fascinate you; pursue what interests you in a pragmatic and critical-minded manner; and choose the right places to advance your scientific progress. And throughout all the deadlines, dis-sertation writing, lengthy paper revisions, stuck code, and other "obstacles" showing up along the way — never forget the ideas you have that are worth pursuing further.

i *Dr. phil. Friederike U. Hohlefeld currently works as a postdoctoral researcher at the Neurophysics Group, Department of Neurology and Clinical Neurophysiology, Charité – University Medicine Berlin. She was a member of doctoral cohort 1 (2007–2010).*

Q & A   Jan Prause-Stamm

Q *What are you doing at the moment?*

A I am self-employed. I work as a trainer and coach. Currently, my target group are doctoral candidates. But I am branching out.

Q *How did you get the job you are doing right now?*

A I just decided to do it — that's the beauty of being self-employed.

Q *What were your career ideas — before and after the doctorate?*

A I always wanted to become a professor — before the doctorate. Then I decided to do something else. And right now I am doing exactly the job I wanted to do after the doctorate.

Q *Looking back at the start of your postgraduate career — what motivated you to apply for the Berlin School of Mind and Brain?*

A Strategical reasons (sounds good on your cv); the desire to get in touch with other really good doctoral candidates, especially from other disciplines.

Q *What was your research topic? What questions were you trying to answer in your work?*

A My research focused on personal autonomy, that is, the ability to find your own way in life and to stick to it even when you face obstacles and opposition.

Q *How did you profit from being a member of the Berlin School of Mind and Brain?*

A I profited in several ways: I got some money for traveling and books; when I tell people they think "wow, that sounds cool"; I learned a lot about interdisciplinary dialogue and its limits; I was able to participate in the mentoring program — that was really useful for me.

Jan Prause-Stamm

Q How did doing your doctorate in an interdisciplinary and structured doctoral program help you in your career?

A I am not pursuing a scientific career; but for my work with doctoral candidates from different fields it's good that I have at least some understanding of how it works in other disciplines.

Q What do you find most interesting about your job?

A Working closely with people about questions they really care about.

Q What is the best part of the work you do — the part that gives you the most satisfaction? Conversely what is the downside of your work?

A The best: personal contact with other people.
Downside: insecurity.

Q If you could do one thing differently in your career, what would it be?

A Network more along the way.

Q What is your biggest hope for your future career?

A That I can really make a difference for individuals and organiza-tions — for the better (and that they pay me adequately for that).

Q What has been the biggest surprise in your scientific career / most interesting discovery so far?

A While writing my magister thesis there was a radical shift in my understanding of the topic (after working for a long time on the assumption that I wanted to reject the idea, I started to believe that it was actually true). So: take nothing for granted. If you are open-minded as an academic you might surprise yourself.

Q Is there any advice you want to give to current and future doctoral candidates?

A Have fun, focus on your strengths, be open-minded, get in contact with others, stay calm.

i Dr. phil. Jan Prause-Stamm is a coach, communication and behavior trainer for Ph.D. students and inter-disciplinary research groups (Impuls-plus). He was a member of doctoral cohort 3 (2009–2012).

Q & A — Ryszard Auksztulewicz

Q *What are you doing at the moment?*

A I'm a postdoctoral researcher at the Wellcome Trust Centre for Neuroimaging, University College London. I started some months ago and I'm designing experiments to carry out over the course of two years — this mostly involves talking to new colleagues, learning more computational methods, getting some experience with magneto-encephalograpy, etc. I'm also trying to get used to the often hectic pace of life in London.

Q *How did you get the job you are doing right now?*

A It was a combination of things. Karl Friston, in whose group I'm doing my postdoctoral research, has been publishing some of the most inspiring and influential papers in the whole of neuroscience, so his lab seemed like a great working environment. I met him at a small MPI/UCL symposium on computational psychiatry and a few weeks later sent him a project proposal which he seemed to like. Then I applied to the German Research Foundation (DFG) for a scholarship which I luckily received.

My supervisor's encouragement and some coincidences did the rest.

Q *What were your career ideas — before and after the doctorate?*

A When I was five I wanted to be a singer-physician so I guess my career ideas have always included something creative, something useful and something geeky. Then at some point during those first years of studying psychology there came the realization that I would probably be a better researcher than therapist. Right now I'm enjoying the freedom of doing research but I also like the occasional bit of work teaching and supervising so the plan is to try to stay in science/academia as long as the taxpayers support it.

Q *How would you explain your work to a non-expert?*

A First I take your brain ... The big question is how we come to be conscious — what brain mechanisms might underlie it and how conscious perception can be affected by other factors, such as attention. For a while now there has been the idea that conscious perception relies on neurons not only passing the information onwards, but also engaged in feedback

RYSZARD AUKSZTULEWICZ

loops with other neurons. Currently I'm working on refining these theories and understanding what these feedback loops between neurons are actually doing. To answer these questions I'm comparing theoretical models of neural processing with neurophysiological data I collect in studies with healthy participants.

Q *What is the best part of the work you do — the part that gives you the most satisfaction? Conversely what is the downside of your work?*
A The sense of discovery is great — those days when you see that your experiment has worked and you might have learned something new about how the mind/brain functions. That doesn't happen every day of course, so I do enjoy learning about the research of others and discussing new ideas, especially if it happens at a conference somewhere sunny. The daily data grinding has something almost playful about it and can be quite rewarding in itself. I also like telling people who don't have anything to do with neuroscience about quirky experiments or useful applications — for instance that thanks to neuroscience we are more and more able to communicate with patients who are in a minimally conscious state or suffer from locked-in syndrome.

The only downside I can see is that second reviewer, really.

ⓘ *Dr. rer. nat. Ryszard Auksztulewicz is a postdoctoral researcher at the Wellcome Trust Centre for Neuro-imaging, Imaging Neuroscience and Theoretical Neurobiology (Professor Karl Friston FRS), University College London. He was a member of doctoral cohort 3 (2009–2012).*

Q & A

So Young Q Park

Q *What are you doing at the moment?*

A After my doctorate, I worked as a postdoctoral researcher in the laboratory for social and neural systems research at the University of Zurich, Switzerland. In 2014, I started setting up my own lab of social psychology and decision neuroscience at the University of Lübeck in Germany.

Q *How did you get the job you are doing right now?*

A The Berlin School of Mind and Brain offers a mentoring program among various other soft skill courses. I participated in the mentoring program and requested Professor Philippe Tobler as my mentor. After a few meetings and discussions about science and a scientific career, he offered me a job in his lab as a postdoctoral researcher, which I accepted.

Q *What were your career ideas — before and after the doctorate?*

A Before the doctorate I wanted to do research. During my doctorate, the school provided a very valuable platform from which to pursue this goal. And it was fruitful both

in science and in areas that enrich a scientific career. I had great opportunities to present my work at conferences and meet international scientists with whom I could collaborate. After the doctorate, I was even more confident about my future career in science.

Q *Looking back at the start of your postgraduate career — what motivated you to apply for the Berlin School of Mind and Brain?*

A I was part of the school's second year, joining in 2008. Back then, I was fascinated by the new concept of the school. It was very refresh-

So Young Q Park

ing. Specifically, I was attracted to the opportunity to be part of a large community of amazing scientists and at the same time to be closely supervised by two supervisors from different fields (mind and brain).

Ⓠ What is your research topic? What questions are you trying to answer in your work?

Ⓐ I investigate the neural mechanisms of decision-making in the human brain. Specifically, I am interested in economic and social decisions. For example, how does our brain compute cost–benefit payoff when making an economic decision or what is the underlying brain mechanism when we decide to trust someone?

Ⓠ How did doing your doctorate in an interdisciplinary and structured doctoral program help you in your career?

Ⓐ Unlike many other doctoral programs, the Berlin School of Mind and Brain provides extensive teaching weeks in which the candidates are introduced to different disciplines. Some of them will be unfamiliar to students but are related to what they are actively working with. These teaching weeks help you to gain new perspective on your own research topic. Also it provides a great opportunity to have playful and casual discussions with other candidates who are experts in other fields. We always helped each other by explaining things and helping others to view the question from a different angle. One can only benefit from such an environment, in which doctoral candidates who have shared interests but are from different disciplines are able to work together.

ⓘ Dr. phil. So Young Q Park is Professor for Social Psychology and Decision Neuroscience at the Institute of Psychology, University of Lübeck. She was a member of doctoral cohort 2 (2008–2011).

Q & A THORSTEN KAHNT

Q *What are you doing at the moment?*

A After I finished my doctorate, I worked as a postdoctoral research fellow with Professor Philippe Tobler at the Laboratory for Social and Neural Systems Research at the University of Zurich. I spent three years studying the neural foundations of human learning and decision-making using computational models, behavioral learning tasks and fMRI. In June 2014, I started my own lab at the Northwestern University Feinberg School of Medicine in Chicago, IL. Here, I joined the research faculty as an Assistant Professor (tenure-track) in Neurology investigating the neural representation of food rewards and how these representations change with learning.

Q *How did you get your postdoctoral positions?*

A I met my previous PI several years ago at a conference. Because our research interests overlap we stayed in touch. When he started his new lab in 2010, he suggested I work with him as a postdoctoral researcher. To get the job at Northwestern University, I went through a two-day interview process, which included a job talk and a number of meetings with members of the faculty. This is standard procedure for faculty searches in the US and gives the applicants and the faculty a chance to get to know each other.

Q *What were your career ideas — before and after the doctorate?*

A Before I joined the Berlin School of Mind and Brain I was interested in doing research on human learning and decision-making. After the doctorate this interest remained the same, but I was convinced I wanted to continue this research and pursue an academic career in this field.

Q *What questions are you trying to answer in your work?*

A I aim to understand how the brain represents all aspects of the environment that are necessary for making adaptive decisions, that is, decisions which maximize reward and minimize punishment. These aspects can be the reward or hedonic value (e.g., the nutritional value or taste of food items) of the expected consequence of a decision but also qualitative sensory features defining its identity. Moreover, I study how

these expected outcome representations are learned from experience, and how we generalize from previous experiences to novel situations.

Q *How did you profit from being a member of the Berlin School of Mind and Brain?*

A The time at the school was extremely beneficial, not only for my doctorate but also for the time after graduation. Among others, two aspects have been exceptionally important for me. First, some of the soft skill courses such as the grant-writing workshop were really helpful. Second, the distinguished lectures offered the unique opportunity to meet top scientists from various fields of neuroscience and psychology.

Q *What is the best part of the work you do — the part that gives you the most satisfaction? Conversely what is the downside of your work?*

A The freedom to choose and investigate scientific questions based on my personal interest is the most exciting part of my work. How many people get the chance to investigate a question in which they are truly interested, and can make a living based on it? It is satisfying when you

THORSTEN KAHNT

run experiments to test scientific hypotheses and see the result confirm your predictions. The downside is that sometimes your predictions will not be confirmed by your data. Failed experiments can be extremely frustrating but are at the same time vital for progress in science.

i *Dr. rer. nat. Thorsten Kahnt is Assistant Professor in Neurology at the Ken and Ruth Davee Department at Northwestern University Feinberg School of Medicine in Chicago. He was a member of doctoral cohort 1 (2007–2010).*

Q & A — VERA LUDWIG

Q *What are you doing at the moment?*

A I have a postdoctoral position funded by the Berlin School of Mind and Brain working in Professor Walter's Division of Mind and Brain Research at the Charité University Medical School for one year. I'm filling in for a colleague who is on maternity leave and leading her research team on the topic "Volition and Decision-Making" this year. I'm also teaching in the Berlin School of Mind and Brain's master program.

Q *How did you get the job you are doing right now?*

A I did my doctorate here, supervised by Professor Henrik Walter. So I basically just continued in his group.

Q *Looking back at the start of your postgraduate career — what motivated you to apply for the Berlin School of Mind and Brain?*

A I was fascinated by topics like consciousness and the will, and I was convinced (and still am) that such topics should be approached in an interdisciplinary way. I was intrigued by the idea of working together with people from many different backgrounds and of receiving training in different disciplines including philosophy. The Berlin School of Mind and Brain offered the perfect environment to do the research I wanted to do and to learn about the topics I wanted to know about.

Q *How did you profit from being a member of the Berlin School of Mind and Brain?*

A I profited in many different ways. The teaching weeks and soft skill courses were very useful. Moreover, I profited from the fact that the Berlin School of Mind and Brain often invites great scientists for talks and organizes the opportunity for students to meet them personally. The financial support offered by the school was of course also very useful, for example in allowing me to present my work at conferences around the world. Finally, I enjoyed all social aspects of the school: it has been very stimulating to interact with so many people who are deeply interested in what they are doing.

Q *What is the best part of the work you do — the part that gives you the most satisfaction? Conversely what is the downside of your work?*

A I like analyzing data and discovering interesting results in them. What I don't like very much is the administrative work.

Q *If you could do one thing differently in your career, what would it be?*

*A* I would focus even more on learning programming, statistics, mathematical modeling, etc.

Q *Is there any advice you want to give to current and future doctoral candidates?*

A For your studies, choose a topic that you feel really passionate about.

i *Dr. rer. nat. Vera Ludwig is a postdoctoral researcher at the Division of Mind and Brain Research, Charité – Universitätsmedizin Berlin. She was a member of doctoral cohort 4 (2010–2013).*

VERA LUDWIG
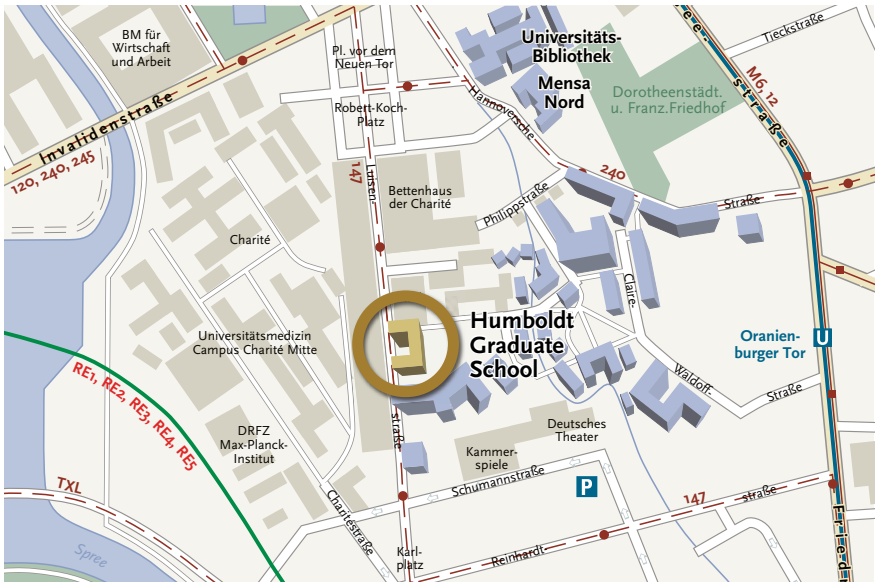
CONTACT

If you would like to talk to us about research at the Berlin School of Mind and Brain and our doctoral program, please get in touch!

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DOCTORAL PROGRAM IN INTERDISCIPLINARY MIND AND BRAIN RESEARCH

APPLICATION DEADLINES

General application deadline for all students (with and without funding)
15 January

Additional application deadline (for students with funding only)
15 July