Neural coding of attention and attentional set shifting in the rat medial prefrontal cortex
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Citation for published version (APA):
Lee, E. (2010). Neural coding of attention and attentional set shifting in the rat medial prefrontal cortex

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ACKNOWLEDGMENTS

Nothing in the universe is contingent, but all things are conditioned to exist and operate in a particular manner by the necessity of the divine nature.

- Benedictus de Spinoza -

Although the way to reach this very last stage of “Doctor of Philosophy” (Ph.D) was not straight and it took a long time, I have tried to learn from my mistakes, to enjoy all dramatic curves on the path and to be a real “Philosopher”. The brain, especially the prefrontal cortex, is a beautiful area as like in the universe. I really appreciate God, who creates the nature in order, with harmony, to open my eyes to see the beauty. Science cannot be carried out by one’s individual effort but is accumulated knowledge by all of us who love it. Thus, I really respect (renowned or anonymous, like a student) scientists who spent their life searching for truths and shared it without expecting any reward. Without their efforts, I am sure, it would be difficult to attain this step. Undoubtedly, conducting this Multimodal Attentional Set Shifting (MASS) project is owing a lot to many people who aided physically and mentally. I would like to give lots of thanks to them before closing this thesis.

First of all, my deep thanks go to Prof. Dr. Cyriel Pennartz, my promotor, who has supported me from the beginning, when I visited the Prefrontal Cortex group at the Netherlands Institute for Brain Research (NIBR, now Netherlands Institute for Neuroscience, NIN) for an internship from Korea, until this very last stage. When I arrived in Amsterdam for the first time, my impression of the Netherlands started with a culture shock, because he came to me to pick up with a car! (In my culture, we may send a fellow student in such a case.) During the internship in his group, my work was covered with full excitement, which thus brought me back to Amsterdam later again to work with him. Thanks again for initiating this exciting topic as my Ph.D project. It transferred easily to me, myself, because I was in the same situation, “Attentional Set Shifting”. Although sometimes circumstances played on my patience – for example, delaying the project due to working schedules in the workshop and reconstruction around the lab while I conducted very important steps of experiments – each step was fulfilled successfully with his advice and comments. Furthermore, with his help, this thesis gained in a beauty and clear explanations. Thank you, Cyriel, truly for your enormous precious time and your patience as well.
Dr. Tonny Mulder introduced me to real neurophysiology experiments with tetrodes and rats during my “Ph.D-track” fellowship at the NIBR. I still remember the first exciting moment when I heard sounds from neurons in the brain while a trained rat performed a task. His excitement in science and especially neurophysiology usually transferred to me and encouraged me and fellow AIOs whenever we lost our way in the experiments. Thank you, Tonny. I hope you continue to share your excitement with many following students and scientists.

Dr. Bruno Averbeck, principal investigator of my current post-Doc project, has allowed me to spend lots of time on this Ph.D project and supported me to finish this thesis. Without his move from UCL in London to the NIH in Washington DC, this thesis might not have been published within this year, 2010. Thank you, Bruno, indeed for your help.

Fruitful discussions with many scientists influenced this project positively and helped me to improve the way to approach it. At the beginning, Prof. Dr. Verity Brown encouraged me with good comments on the concept of attentional set shifting in the rat and behavioral tasks and introduced their work to me when I visited her lab in St. Andrews. When Prof. Dr. Trevor Robbins asked me “Which area do you think is most involved in attentional set shifting within the medial prefrontal cortex?” as he visited the lab, he supported my answer, “the prelimbic area”, strongly. It is critically important to keep implanted animals in optimal condition as long as possible and at the same time to have high quality recording sessions with many cells. Prof. Dr. Bruce McNaughton’s comments on these concepts, really helped me to extend the experimental duration of the recordings and to improve surgery skills for keeping the hyperdrives on rat’s skull longer. Dr. Francesco Battaglia initiated me into the use of antibiotics in the experiments and this greatly helped recording conditions as well. Thank you, Francesco for helping me to improve surgery skills to implant the hyperdrives as close to the sagittal sinus as possible, and for your comments on analysis in general. Electronic noise is the invisible enemy of neurophysiologists while conducting recordings. When Casey Stengel from Neuralynx Inc. visited Amsterdam, he helped me to deal with removing it and hence to improve the quality of recording data.

Plenty of courses, scientific meetings and summer schools helped me to broaden my horizons in Neuroscience. First of all, I cannot start without mentioning the interdisciplinary programme at the Institute for Neuroscience and Technology (INST) and Graduate school of Ajou University in Korea where I started my first PhD project, just before moving to Amsterdam for this exciting new PhD project. I attended most of the courses in Neuroscience during this period. Thanks to INST to support me to do so. I also want to give my special thanks to Prof. Dr. Youngtae Kim at Ajou University, my former Ph.D advisor in Korea, for understanding when to stop
there and to start a new project in the Netherlands. Two of the meetings by which I was strongly influenced among many meetings were the 5-weeks summer school on “Methods and Models in neurophysics” in Les Houches, highly inspiring and a beautiful place in France, and “Neuroinformatics: workshop on analysis of neural data” at the Marine Biological Laboratory (MBL), in Woods Hole, USA, with peaceful beaches and a beautiful blue ocean. These gave me the opportunity to meet and discuss with many renowned scientists and attendees including Prof. Dr. Emery Brown and Prof. Dr. Eve Marder. Emery’s kind reasoning in statistics with neural data, put me deep into neuro-statistics at that time. Eve’s passion on electrophysiology was easily transferred to me. I truly appreciate the help of scholarships that supported me to attend the summer schools.

Although it took a long time and required lots of patience to have the beautiful MMS setup in the lab, we had excellent technical support from workshop members at the University of Amsterdam (UvA). Thanks to Mattijs for mechanical designs and your creative solutions whenever I had problems, Wietze for the flat mono hyperdrives and your interest in the work, Ed for all the electronic setups, kind explanations and many trials in order to improve the licking detection system, Jan Kalwij for the beautiful odor system and the Faraday cage, Tjerk for the wonderful behavior cage, Hans for the control program for the MMS, Daan for the odor plate, Ben for general mechanical support and to Ron and Theo for conceptual contributions, your creative ideas really helped to improve the setup. I want to give special thanks to Rein and Rinus at the Netherlands Institute for Neuroscience (NIN) for sharing their knowledge of equipment at the beginning of the development stage of the MMS setup. Especially, Rein assisted me to add sound equipment to the odor setup at the NIN in order to conduct a pilot task. And Ruud Joosten, I liked your solutions whenever I asked and thanks for your help for performing the operations. Jolanda, I still remember our first operation at the NIN when Ruud was sick. Thank you for your quick decision to rescue my first implanted rat and helping me at the starting stage of this project. I enjoyed your performances with Djembé as well, especially the one during the party for Stefano’s defence. Els, I like your professional spirit, love of nature and beautiful photographs and thank you for the graphical illustrations of stained sections. Edwin Jousma, thank you for teaching me to stain brain sections. Bart Fisser at the NIN, thank you for your help for my accommodation to the beautiful apartment in the Portengenstraat. Do you know? Many foreign visitors really appreciate your excellent support!

…and my students. I had excellent students, Eveline, Ana and Henrique. I really appreciate their patience when we trained animals for several months during pilot experiments. Time to time having sweets from our reward box in front of the lab and drinking a cup of coffee/tea at the coffee corner at the end of the corridor after
experiments, became a good memory of that time. I am very proud of you guys to see you all doing science in different fields with passion.

Esther, Carien and Stefano …, my fellow AIO’s, I think we all have struggled to find our own way in science, haven’t we? Esther, I liked very much to have discussions with you and thank you for sharing the experimental setup at the NIN when we started to develop the MMS system. Carien, I still remember when you and Bas brought a “Dutch size” TV for me. Bas carried it up till the 4th floor by climbing the narrow stairs! Wow! A big thank you for your kind thoughts. Bethesda and Baltimore are quite close, right? Stefano and Barbara, thank you for the TV – I handed it over to another Ph.D student like you … 😊 – and your delicious Italian meals and “lekker” coffee. My colleagues at Cognitive and Systems Neuroscience (CSN) in the Netherlands; Marijn, Hemi, Jadin, Tobias, Sander, Wim, Willem, Pieter, Jan, Laura and AIOs who recently joined the group; Tara, Martin, Jeroen and many interns, I’m belonging to the “past” and you guys are “the future” at CSN. The best wishes for your projects. Jadin, thank you for your keen comments on my application and thank you, Martin for proofreading of the Dutch summary. My colleagues at the NIH in USA; Moon, Ana, Simon, David, Nick and Andy, I am belonging to “the future” there with you guys, right? Especially, Moon, thank you for conducting the behavioral experiments and for the exciting news from time to time, we are a good team! All my rats which did their best during their life; I learned from you a lot and thank you for showing me the beautiful world inside the brain. I really appreciate all of your efforts on this project.

Without support from secretaries, many things could not be handled as smoothly as they were, especially in a foreign country. I would like to thank to Heidi at NIN, Aly at UvA, Kully at UCL, Dionne and Michelle at NIH for their excellent help and patience as well. All your help moved me many times. Casper at UvA, thanks for your administrative support.

…my dear friends, without your support during my Ph.D-hood, I might have tried to escape the situations whenever I faced problems. Xandra, my landlady, I still love your beautiful rooms and thank you for your kind hospitality from the beginning till the end. Ajda, one of my “parafilms (English pronunciation for paranimfen)”, you have inspired me many times. After discussions with you, I usually had good ideas and solutions. Thank you for sharing many sunny and rainy days during the Ph.D-hood from the beginning and your exciting hypothesis in the project. Your support is like a cup of ginseng tea to me always. Soon-lim, you are like my sister, one member of the family, and thank you for your support without any condition and trust my ability in Neuroscience. I really wish you use your bright talent in science to improve our knowledge to help people. Of course, Michiel, like my brother-in-law, thank you for your kind support as well with Soon-lim and your parents. Bokyung, one of my
“paranimfen”, thank you for your kind care. Whenever you passed Kimchi to me, it moved me many times. We used to postpone short trips many times due to my graduation. Now that it has come, shall we go somewhere with a backpack? ☺ My friends in London (Vivian, Jewel, Dana, Sunyoung, Hannah, Soon, Petra, Adela and …) and Washington, DC (Suim, Sharon, and …); without you guys’ help and warm hospitality, it would not be easy to get settled in a new place during the short periods when I moved from one country to another. Your encouragement was like a bowl of hot chicken soup on a very cold winter day. I usually felt at home whenever I was with you guys. I miss your big smiles. Thank you, all for supporting me with your warm heart.

I would like to send my big thank to my spiritual mentor and my role model, Pastor Joshua, whenever I faced difficulties and reached my limit, your messages encouraged me to find other ways. During this Ph.D-hood in a foreign country, your prayers supported me to keep a right way to find truths, thank you very much, Joshua!

Finishing this Ph.D is opening another door to me to continue to search truths and explore the beautiful world ….

Spring, 2010
Amsterdam