



SOCIAL INTERACTIONS AMONG  
EVOLUTIONARY BIOLOGISTS AND THE  
EVOLUTION OF SOCIAL INTERACTIONS  
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Timothy A. Linksvayer is an evolutionary biologist who studies the genetic and behavioral underpinnings of insect societies in order to understand how these systems function and evolve. He received his B.A. in Biology at Carleton College in 1998 and his Ph.D. in Evolution, Ecology, and Behavior at Indiana University with Michael Wade in 2005. He was a US National Science Foundation Biological Informatics Postdoctoral Fellow at Arizona State University with Robert Page and an EU Marie Curie Postdoctoral Fellow at the Centre for Social Evolution, University of Copenhagen, with Jacobus J. Boomsma. He joined the Department of Biology, University of Pennsylvania in 2011 and is currently an Associate Professor. – Address: Department of Biology, University of Pennsylvania, 433 South University Avenue, Philadelphia, Pennsylvania 19104, USA.

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Having previously spent some time at the Wissenschaftskolleg as a short-term Fellow in 2010 while I was a Marie Curie postdoctoral fellow at the University of Copenhagen, I already had some idea of what to expect. I had also been fortunate to attend a couple of small workshops at the Wissenschaftskolleg organized by previous Fellows over the last several years.

Thus, I was absolutely thrilled when Mike Wade contacted me to see if I might be interested in applying to be part of a working group focused on “Syngenomics: Evolution – from Conflict to Cooperation to Mutualism” that he was organizing at the Wiko for 2018/2019. I completed my Ph.D. in Mike’s lab in 2005, so we knew each other well and worked together very well. However, we had only collaborated on a few small projects since my Ph.D., mainly because assistant professors are often discouraged from collaborating

with their previous mentors. I was also thrilled to learn that the other two members of the working group would be Jason Wolf and Judie Bronstein. I greatly admired Jason's work and had previously missed an opportunity to work with him. I had not previously met Judie, but had heard great things and also really liked her work. Overall, I was extremely excited, imagining that our working group would be something of a dream team, each of us bringing complementary expertise to make progress on a range of topics.

All of my expectations and more were met by the wonderful working group. We met regularly each week (including over marvelous meals cooked by members of the working group) and made progress on an array of projects. We spent much of our time developing a population genetic model that aims to elucidate the major factors affecting the co-evolutionary dynamics of interacting species. We also started and made progress on several additional manuscripts, including one discussing the importance of context dependence for the evolutionary ecology of mutualisms. Thus, this Wiko working group has catalyzed what is sure to be a very fruitful and long-term set of collaborations.

In addition to collaboration in the working group, I also finished and published one paper about re-thinking approaches to elucidating the evolution of sociality, considered a major evolutionary transition. This paper in particular considers how several widespread misconceptions of evolution have long affected and continue to affect research on this topic. I also nearly completed several other manuscripts, including a second manuscript more broadly considering prospects for using comparative genomics to elucidate major phenotypic innovations, in particular in light of misconceptions of evolution. Finally, while in Europe, I took the opportunity to visit several colleagues and collaborators in Switzerland, Germany, and Austria.

Beyond the focused working group and my own personal projects at the Wiko, I was also very excited from the start that there happened to be another working group focused on "The Major Evolutionary Transitions in Organismality" with leading evolutionary biologists who were also very closely aligned with my own specific research interests. In fact, Koos Boomsma, who organized the second working group, was the group leader at the University of Copenhagen during my second postdoc. This working group included Joan Strassmann, Dave Queller, Nancy Moran, Ashleigh Griffin, and Howard Ochman, most of whom I had met previously and was eager to get to know better. In addition to this amazing lineup of evolutionary biology Fellows in the two working groups, there also happened to be a number of other biologists with interests complementary to my own, including Thomas Bosch, Simon Elsässer, Thomas Lewinsohn, Arunas Radzvilavicius,

Hassan Salem, Victor Sojo, and Kirsten Traynor – and amazingly there were several others who unfortunately had left by the time I arrived on December 31st. While I did not (yet) start any formal collaborations with these researchers (sadly, the six months I was at the Wiko flew by even faster than usual!), I really loved the opportunity to chat about science (and everything else) over seminars, the wonderful Wiko meals, and other social events. I certainly hope to collaborate with some of these people in the future, and I look forward to seeing everyone at scientific meetings and beyond.

All of these comments also of course apply much more broadly to all of the Fellows, since the greatest strength of the Wiko is not just bringing together academics with overlapping and complementary interests to spark new and exciting collaborations, but also bringing together and encouraging interchange between researchers from seemingly widely disparate fields with diverse backgrounds and experiences. As a result, even though my stay at Wiko was certainly dominated by intense social interactions within my focused working group, as well as equally insightful social interactions with members of the other closely aligned working group and other scientists, I was also strongly affected – albeit somewhat more subtly – by attending the regular Wiko functions, in particular the weekly seminars and regular meals and social interactions. I suspect that I'll need another year or so to more fully digest the impact that all of these varied interactions and my overall time at Wiko have had on me.

I have already been strongly recommending many colleagues to apply to the Wiko as regular Fellows or short-term Fellows in the College for Life Sciences. My only further comment to them is to encourage them to spend as much time as possible: I could only spend six months, but I would have loved to spend more time at the Wiko (interestingly, I notice that I made a similar comment in my previous final report from my short stay in 2010!). Finally, I would like to thank all of the staff and Fellows for making the experience so wonderful!