



FOCUS WITHOUT SOLITUDE
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Looking back on this year at Wiko, my mind's eye will see in the background Grunewald in shadow; the M-19 inviting us to adventures on the Ku'damm; the mango-sharp glow of stage lights as the hall hushes; voices of the past echoing off stone, glass and steel; my bicycle bags nearly bursting on the return from our little MEMA shopping; the breath of the forest filling our apartment; the Wiko restaurant dressed up for Thursday night; and my quiet office. But the foreground will be filled with faces of people. A wondrous constellation of personalities, histories, brilliances – when I close my eyes it is these stars that will shine. Have I known these people only a year?

I had, stupidly, not expected that I would react this way. Back in our home institutions, we live in what seems a constant crowd of people, meetings, deadlines, decisions. I often crave solitude. And that, I thought, was what Wiko had to offer: solitude, a chance to focus.

Focus was achieved; solitude was not, thankfully not. Seeking solitude, I found a community. I will treasure our little Wiko village always.

Our conversations, whether formal at the Colloquium or wine-warmed at dinner, stripped away years of calcification from my imagination. Here were people who weren't worried about MCMC convergence, or whether to publish in *Syst. Biol.* versus *Proc. Roy. Soc. B*. In finding what we had in common, we remembered what mattered most to each of us: the beauty of ideas. I was with people who love the way a new idea sparkles when it first appears, glows with colours as you turn it around, then goes thhhhhht as it falls into place. Our bond was a shared trust that ideas matter.

As I write this we are packing to go back home, and so I cannot yet say how I will be transformed permanently by this year. Will the glimpse of paradise lead me to insanity? Or will this year teach me how to find a little bit of paradise at my own university, to reach beyond my own building to other disciplines? At least, now I know what is to be gained by resisting calcification. Perhaps there will be a more specific effect on me: perhaps an idea, a pattern of thought, seeped in from some other discipline here at Wiko and will provoke a fruitful new direction in my work. But that is in a future hidden beyond the veil of my return.

I can, though, say what my stay at Wiko has done substantially for my research. In the 1990's there was growing interest in using our knowledge of the branching history of life's genetic descent, the phylogenetic tree of life, to understand the processes of speciation and extinction. How to do this could be distilled to a fairly simple question: if we have a model that specifies rates of speciation and extinction as these depend on the features of the species, what is the probability that the phylogenetic tree would take a particular form? If we could answer this question, we could do statistical inference that would help us understand these processes. But no one knew how to solve the mathematics to answer this question. I had attempted to work out the math in the mid-90's, and though I thought I had a promising start, I didn't find a solution.

By 2006 still no one had found a solution, but the freedom and peace of Wiko gave me the courage to try again. This time I found two collaborators (Peter Midford and Sally Otto), and we went back to my old attempt. With their help, the problem yielded. It turns out that I hadn't been that far from a solution in the 90's, but I had needed a few more millilitres of clarity and contemplation (and some assistance!). Our new solution opens up many doors in theoretical phylogenetics – we are just beginning to explore where they lead us, but are excited by the possibilities.

For the last few decades, phylogenetic theorists have been especially focused on epistemology, on developing methods to understand evolution. My usual mode of operation is to go beyond merely describing analytical methods and instead to implement them in computer programs, to permit biologists to use them. We thus programmed our new methods in a computer program and will release it when the paper describing them is published.

Writing computer programs may seem like a strange thing for a biologist to do, but they have come to play a key role in our field. The most-cited works in phylogeny, by an order of magnitude, are the computer programs that enable biologists to do analyses. Writing the programs is not merely a technician's effort: their options guide and constrain the concepts that can be realized empirically. In sculpting the program, one is almost sculpting the discipline. For this reason, the most-used programs in our field have been written by biologists who transformed themselves into programmers. This I did years ago, and it led to another major project this year at Wiko. The main recipient of my efforts, a program called Mesquite, has needed a major renovation of its infrastructure. The time at Wiko has permitted me to do this; the resulting new version will be available sometime this fall. Included in this effort is a new subproject, a collaboration with Co-Fellow Arne Mooers to realize methods for calculating conservation priority in a phylogenetic context.

The last of my three major projects has involved the collation, double-checking, reformatting, and analysis of a small mountain range's worth of previously accumulated data for my empirical work on spiders. Our goal is to answer whether the genetic histories of jumping spiders (Salticidae) on different continents are generally intertwined, or instead whether the evolutionary radiations on the continents were largely isolated from one another. Our results suggest strongly that they were largely isolated. The best explanation for this currently is that the radiations have been quite recent, only in the last 50 million years or so (only!), since the continents were separated. We are waiting for the computers to finish the last few analyses, and then we write up and submit. Next, we will gather more data, from African salticids (not yet included in the analysis) collected in Gabon on an expedition I was lucky enough to undertake this year.

There were other projects that were planned, but their doors were locked, or led to empty closets. We needn't speak of those.

The results of my research will be recorded in my *c. v.*; but etched in my mind, as I have said, will be people. I have mentioned the other academics here, but I have shared this year with my family. It has meant so much to me to watch my son Christopher opening his eyes to academia in such a spectacular setting, Teresa finding confidence in a new continent and

a new language, and Leticia (Fellow 2000/01) renewing her love of Berlin while accomplishing much research. And Coco, our dog, now has even more people to miss (especially Marta). As do we (sigh).

One group of people is so far invisible in my essay, the staff of Wiko. They design and maintain paradise, but keep themselves in the background to permit us to think we are alone in the Garden of Eden. We do recognize their existence, however, and are awed by their skills. I do hope they find some rewards in doing this year after year; they deserve much credit for our success here.

Most of the books and clothes are now packed in boxes. Thank you, Arne and Jeff, for your companionship phylogenetic and otherwise. Thank you, fellow Fellows, friends and families of Fellows, wonderful *Mitarbeiter*. A “thank you” is a wish that is, sadly, also packed in a box. This essay is a way to pack memories. Wayne, do you remember the laughter of children, the howling of the wind, the music that filled our lives, and the M-19 braking at Erdener Straße, one last time?

Epilogue, a few months later, to those of you reading this in Grunewald: there is life after Wiko. It is hectic. My consumption of wine and other disciplines has dropped considerably. But my eyes are more open, and I still feel the afterglow when something reminds me of one of my now-distant friends.