"NUR NACH HAUSE GEHEN WIR NICHT …"
ANNEMARIE SURLYKKE

Annemarie Surlykke was born in Copenhagen, Denmark. She studied biology and got her degree in Experimental Neurobiology from Odense University, Denmark. Her research interests focus on sensory physiology and behavior. Most of her projects have dealt with echolocating bats and how they hear their prey, nocturnal insects. She was employed at the Department of Zoophysiology, Århus University, Denmark and then postdoc at the Lehrbereich Zoophysiologie, Universität Tübingen, Germany, before going back to Odense, Denmark, where she joined the group working on Acoustic Communication at the Institute of Biology. She has done bioacoustic field work on animals ranging from whales to insects in many different parts of the world, narwhals in Greenland, bats in tropical Panama, moths on the isolated Faroe Islands, butterflies in Venezuela and the world's smallest mammal, the tiny bumblebee bat, in the limestone caves of a Buddhist monastery in Thailand, to mention some. She was a member of the Centre of Excellence: Centre for Sound Communication 1993–2003. Since 2004, she has been a member of the Danish Natural Science Research Council (FNU) and lately also a member of the Swedish Science Research Council. – Address: Institute of Biology, University of Southern Denmark, 5230 Odense M, Denmark. E-mail: ams@biology.sdu.dk.

Going to Wiko?

There are no animals, no labs and no students at the Wissenschaftskolleg zu Berlin. Thus, for a scientist, it is with some hesitation that you dedicate a year of your working life to a stay at the Wiko. How should one keep the lab running, how does one stay midstream and remain active and present enough to catch up when the year is over, while still getting

sufficiently far away from all the daily obligations of administration and teaching to exploit this fantastic possibility? Thus, in some ways it seemed easier to stay home. However, when again would a chance appear to spend a year in such an unusual setting with diverse, many-facetted colleagues and not least the specific values of Wiko? The one place I've ever been that dares give complete freedom to decide what to study, how to study it and when and how to present the result. Something as remarkable as an institution that simply trusts the will and determination of scholars to work to find answers, if given the opportunity and time to sit down and think. No control is needed. Even the fact that a finished product might not appear within that year of opportunity seems to create very little concern – there is confidence that if not now, then the effects will show later on. That spirit is unique.

First impressions of Wiko and Berlin

Right from the beginning, all signs say that the Wiko is there for you, not the other way around. The staff provide all you can wish and a lot you hadn't even thought of, to make working and living at the Wiko as easy as possible: not only an apartment with room for kids and friends in Villa Walther, internet, meals and library service (fantastic), but also an intensive German course, allowing us to savor the full flavor of Berlin, because language is the key to opening the doors to people and culture, from theater to exhibitions, from restaurants to asking for directions on the street. The Fellows who were lucky or smart enough to come early in September and therefore to take part in the course not only got a head start in German, but also a social head start. We felt a bit like the "gang", the chosen ones, when the rest arrived at the beginning of October. We knew each other, we had laughed together at our own mistakes and mispronunciations. We had also gotten to know Berlin through the expertise and enthusiasm of Rolf Zimmermann, the architect, who took us around and opened the city to us.

The second proof that Wiko is there for you was when we arranged meetings and workshops. I organized a business and science meeting in October for the consortium involved in the EU-FP7 program: ChiRoPing – an EU-funded project carried out under the ICT Challenge 2: Cognitive systems, Interaction, Robotics. The aim of this project is to investigate how four species of bats really use their sonar and then imitate this accurately on a robotic base. From such data, we hope to develop robots with versatile and robust perception using sonar systems that integrate active sensing, morphology and behavior. The administration of EU projects requires frequent meetings. I had the luck to

be in Berlin when it was "my turn" to arrange one. The staff at Wiko arranged everything for us: housing, eating, meeting rooms, coffee for the breaks and even a grand piano for our student who's a talented pianist. I only had to be there. Everybody was deeply impressed and very envious of my luxury situation at Wiko. The arrangement of our focus group workshop in the spring went just as smoothly, thanks to the staff.

Interaction with fellow Fellows

The senses, their constraints and physiology and the way they influence the way we and other animals sense, perceive and react to the world are fascinating to most people. Thus, when I explain that I study such enigmatic animals as the nocturnal echolocating bats, it usually arouses curiosity and questions. However, I seldom hear new questions and only in extreme cases eye-opening ones. This year the Fellows included a number of biologists and other natural scientists. Some were scientifically rather close, i.e., with interests in perception, ranging from speciation to language and brain function. Relevant for perception was also the amazing drawings of the blind and their sense of perspective. Thus there were many opportunities for focused, detailed, pertinent, scientific discussions and interactions at lunch and after seminars. Also, there were possibilities to build more unconventional links to the humanities. There were Fellows studying how touch – haptic perception – figures in the European Enlightenment or how the self depends upon the level of embodiment. But interaction was not restricted to that. During the year and the various Tuesday colloquiums and other seminars a whole world of knowledge opened to me, which I would probably never have tapped into without Wiko. I learned about women's cloisters in Europe, Italian dialects as Dante saw them, point-of-view movies, shopping for law between countries, how to get to Sirius by committing suicide, Germans' view of Germany's role in the new Europe, the influence of memorized poems on everyday life, and emotions and culture as well as many other surprisingly interesting subjects. Equally interesting were the cultural differences between the sciences and the humanities. By the end of the year, we had all learned and adapted and nobody was offended when a scientist asked a short direct question or a humanist tried to give a second lecture. The language diversity – lectures in English, German and French – adds to the flavor of Wiko, but in my opinion not to the exchange of knowledge. I do understand and support the wish to spread knowledge about German language and culture, but I think that it's time to realize that English is the *lingua franca* not only of the natural sciences but of all disciplines and thus should be the official seminar language to allow all Fellows to get full value of

those seminars, which they are expected to come to. The obligation to show up on Tuesdays is crucial and a must for the spirit at Wiko, but times may be ready for a change to a more relaxed and lively form, where questions and interactions are allowed and not resented. We, who were lucky enough to be in the "Advanced German Class", had the pleasure of experiencing how it could be. Eva von Kügelgen, our patient teacher, invited the Fellows who gave their talks in German to come and discuss with the class. In that more informal intimate form, the discussions rose to a dynamic lively productive form, in a way that never happened in the more formal scenery of the Tuesday seminars.

The Project – Scene Analysis

Perception has been studied in many different systems and animals. Different animals may rely on different senses for their main sensory input. Scene analysis is part of perception, providing a layout of the 3-D world for animals' action and behavior. Scene analysis involves operations such as object recognition, figure-ground segregation and stimulus tracking to build up a scene consisting of objects, of which some may be in the foreground and others in the background. Humans use mainly vision and therefore many studies of scene analysis have focused on vision. However, the goal of our "Scene Analysis" focus group at Wiko was to assume another and broader view. We propose that many aspects of scene analysis will be best revealed and understood by studying different animals performing different behaviors like communication, mate finding, prey capture or predator avoidance, relying not only on vision, but on different sensory modalities, including the possibility for sensory modalities to interact. For humans it is clear, for example, that what we hear is influenced by what we see. These tasks require the animal to detect and recognize the objects in its world and adapt its active behavior accordingly. That might be to avoid obstacles while hunting for prey or to discriminate between conspecifics and other species or even between individuals of the same species. One promising model is the echolocating bat, since it actively probes its environment with its sonar, which permits us, the researchers, to eavesdrop on the acoustic and behavioral reactions to challenges from the surroundings. The echolocating bat uses its sonar for orientation in much the same way that humans use vision and sequentially sample objects and build a scene. Similarly, do we believe other animal models will provide other forms of insight. I've studied bat echolocation for a long time in collaboration with my colleague Cynthia Moss from the University of Maryland, who put together the focus group this year and defined the theme at the Wiko. The two other members of our focus group were Mike Lewicki, Carnegie Mel-

lon University, Pittsburgh and Bruno Olshausen, Neuroscience and Optometry, University of California, Berkeley, who are both experts on computer vision and have worked with perception for a number of years. We tackled the problem of scene analysis by discussing and reading relevant literature on all sensory modalities to write a provocative paper intended for a wide audience with interest in perception. One conclusion of our work, and thus a take-home from the paper, is to encourage more work with non-human models and with sensory modalities other than vision. Another is that in order to understand the evolution of scene analysis for natural behavior, we have to step away from overly simple experimental designs, for example letting people listen to single pure tone, to provide a more natural scene in experiments. The paper is not finished yet, but we got far in the last hectic weeks and the work continues.

Leaving Wiko

The end of the year is always marked by an *Abschiedsfest*. It is hard to imagine that every year can be as great a success as the one this year, but even with less dancing and singing the Fest is bound to bring Fellows together. At this point it added to the melancholy about going away and regrets that we didn't get to know each other better earlier. Had we had the party earlier, we would perhaps have profited even more – and found it even more difficult to leave: "Nur nach Hause gehen wir nicht …"