Book review

SLEIGH, C. 2007: Six legs better: a cultural history of myrmecology

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What do people think of when I mention the following words: cooperation, division of labour, policing, slavery, collective defence, war, nepotism, production, and storage of common goods? Even if I added "queen" to the list most people would think of our own societies, either historical or present day. Of course, readers of the present journal would have anticipated that I in fact had insect societies in mind, but considering the terms one would quickly realise that the vast majority of even the scientific vocabulary for the study of insect societies is borrowed directly from the realm of man. How the study of ants grew into a modern scientific discipline as a product of the social and cultural context with all its metaphors and allegories is the theme of the recent book by Charlotte SLEIGH, a Senior Lecturer in the History of Science at Kent. In *Six legs better: a cultural history of myrmecology* she explores how prominent scientists of the field developed their view of ants in interplay with their life, often involving hard struggles with colleagues. Very appropriately, the title alludes to George ORWELL's *Animal farm*: the societies created by us with two legs may be good, but the question of what kind of society is "better" runs as a connecting thread through the convoluted history of myrmecologists. In an elegant writing style – however tending to compromise the ease of reading – she draws upon an impressive body of material to document their biographies.

SLEIGH has structured her book around three key figures, each representing both an epoch and a characteristic view of ants as a model with potential implication for humans and society. First we meet the rather eccentric Auguste-Henri Forel (1848 - 1931) who defined the start of myrmecology by his *Les fourmis de la Suisse* in 1874. Working professionally as a psychiatrist he focussed on defining "instinct" in man and ants alike, and saw the ant colony as a moral and political model for man. Moving from psychology SLEIGH lets William Morton Wheeler (1865 - 1937) represent a sociological approach, defining food sharing (the ants' trophallaxis) as pivotal to any kind of community. Not by chance was this during the Great Depression, although Wheeler stated "don't go to the ant" for learning a lesson. Lastly the focus shifts to communication and cybernetics where Edward O. Wilson (1929 -) acts as a link to linguistic theories providing a common framework for understanding the language of any kind of being, man and ant, making SLEIGH conclude that "Wilson's ants were the perfect linguistic cyborg". Characteristically, in her optic Wilson was constructing sociobiology solely as a science of communicating individuals. Here it seems that the role of William D. Hamilton's early and seminal work on kin selection theory, often drawing on examples from the social insects, is underplayed as an inspiration to Wilson. To keep the story within myrmecology's first hundred years, SLEIGH ends with the publication of *Sociobiology: the new synthesis* in 1975. As much as I acknowledge the author's need to set a limit I regret that it wasn't set after the debate initiated by this book, as her biographic approach would surely shed new and relevant light on this battleground where myrmecology crossed society. This could have been an important complement to the treatment by Ullica SEGERSTRÅLE's (2000) *Defenders of the truth: the battle for science in the sociobiology debate and beyond* (Oxford University Press, Oxford).

Even though the three key figures, Forel, Wheeler and Wilson, are very different with respect to what aspects of the ants' life they focussed on, and in particular how their foci related to other scientific disciplines and to human society at their time, they share a remarkable similarity in their devotion to taxonomy. For example, Forel's own collection comprised more than 6,000 species, subspecies and varieties, about half described by him. May be this is not by chance: good taxonomy is rooted in the pure observation of nature and makes use of a diversity of other disciplines, from morphology to biogeography. Natural history fascination and experience coupled with an integrative mind could thus be one of the factors making these people so influential, also outside the field of science.

While there is no doubt why historians of science should be interested in how the field of myrmecology has evolved into a genuine and multifaceted scientific discipline – the entire book of SLEIGH provides the argument – it may be less clear why the modern day practitioners of the field should bother. Wouldn't another day with ants in the laboratory or field always be the better alternative? Not necessarily: today's myrmecologists will also benefit from learning how their science is constructed as a product of history and culture, and that the development of the field comes by an intricate interplay with the lives of its key scientists. Interestingly, the previous congress of the International Society for the Study of Social Insects (IUSSI) in Washington 2006 introduced a special session with personal accounts of the discipline's history, an event that will be made a tradition by the upcoming congress in Copenhagen. The most appropriate preparation for this will be reading *Six legs better*, realising that what you think scientifically about ants is inevitably tainted by culture and your own experiences.