

Questions and answers on *Wisdom of the bees – principles of biodynamic beekeeping* by Erik Berrevoets, SteinerBooks, 2009, ISBN 978-0-88010-709-9, 145 pp., \$18.00.

I have read this book and find it a useful contribution to the literature on bee-appropriate beekeeping.

Q: But does it do justice to the content of Rudolf Steiner's lectures on bees?

A: Yes it does, because it collects together all the bee material, largely leaving out the material on, for instance, ants and wasps, and then presents Steiner's findings in an orderly fashion in book form, whereas the lectures are from a translation of stenographs unedited by the speaker. I have read Steiner's bee lectures a few times and not only easily recognise the content in Berrevoets' work but also he has drawn out one or two ideas of Steiner that I had not fully registered in my own reading. An example is the possibility that the *Apis mellifera* races are adapted to the vegetation of their own locality but not necessarily to that of other localities. This may have implications for bee health regarding shipping package bees all round the world.

Q: What is the use of a book containing the findings of spiritual science in a field such as beekeeping which is primarily intensely practical?

A: One might as well ask what is the use of a book on physics to a builder faced with the problem of building a house. The answer is probably not a lot. The builder very likely does not understand physics, but an enormous amount of physics goes into modern house design. Furthermore, just as the builder is not competent to judge the value of or engage in discussion on the physics book, so also the beekeeper who is not trained to the level of cognition required to make observations in spiritual science is not qualified to judge those findings *unless* those findings have immediate impact in the world of apicultural phenomena observable by the ordinary senses.

I take as an example one well known comment from Steiner's bee lectures which was very obscure at the time, indeed was challenged by an experienced beekeeper in the audience, but which seems now to be finding its counterpart in the world of the senses. Steiner said that with the introduction of mechanical-artificial apiculture, bees would die out in 80-100 years time. That was in 1923 and we are seeing massive losses of bees in several parts of the world.

Q: Does the book add much to what others have written on beekeeping who are also conversant with Steiner's ideas on bees?

A: Yes it does because it first of all goes through the ideas meticulously, detailing which ones have been researched and applied and which have not. The other books I have read in the same genre are Matthias Thun's *Die Biene Haltung und Pflege Unter Berücksichtigung Kosmischer Rhythmen*, Günther Hauk's *Toward Saving the Honey Bee* and Michael Weiler's *Bees and Honey from Flower to Jar* which I translated from German for English publication. I ignore for the moment the fact that Thun's book is not yet available in English. All three books are very different; they have the author's individual stamp on them. If you want to find out what that particular author holds dear in bee husbandry, you have to read his book, not another beekeeper's book. The same applies to Berrevoets' book. I single out for special commendation his section on bee breeding.

Q: The book is about the principles of biodynamic beekeeping: should it be read by beekeepers who are not interested in biodynamic principles?

A: Probably not, unless they are willing to read it with an open mind. There are gems in there which are now regarded as the common property of natural beekeepers, for example the consequence of interfering with the intimacy that should normally prevail between queen and colony. In a sense, thinking amongst a certain very limited section of the beekeeping public has independently already caught up with some of Steiner's ideas, so that certain ideas may now seem obvious. Steiner was following a holistic, i.e. a spiritual and material, approach to cognising the living world and was doing so decades before the New Age holistic scientists such as Brian Goodwin came on the scene. Much of what he advocated as methodology for studying the living world was also to be found in Goethe's scientific writings. But Goethe had been largely overlooked by science in his time. Steiner was chosen by a German book publisher to edit Goethe's scientific works and took the opportunity to bring out their full import for the future of science. The whole of Steiner's bee thinking is permeated by the epistemology of a holistic science which is appropriate for the study of *living* organisms. He puts the *bio* back into biology. This is deeply reflected in Berrevoets' book.

Q: One of the principles of biodynamics is the connectedness of life on earth with the movements of the planets and their positions in relation to the so-called fixed stars: as a scientist trained in materialistic science did you have any difficulties with this aspect of Berrevoets' exposition of Steiner's ideas.

A: There are indeed indications from Steiner that are currently inexplicable in terms of ordinary astronomy and earth sciences. I have no difficulty with the moon-related rhythms and earth pulsations, for which a plethora of physical and biological observations now exist in the mainstream scientific literature, for example the pulsations in tree widths according to tidal cycles indicating that the entire hydrosphere, i.e. wherever water is, has some connection to the moon-earth relationship. But the effect of the positions of the planets in relation to the sidereal zodiac seems more obscure. However, I have seen statistically sound research on mistletoe berries indicating that they change in width according to the moon's position in the zodiac. Furthermore, many successful horticultural field trials have been carried out with reference to cosmic rhythms. Thun has applied this approach to beekeeping and describes it in some detail in his book, but as it is not presented in the form usual for the results of scientific research, it not possible to say whether it is more than anecdote.

Q: What practical value does Berrevoets' book have?

A: The second half of the book looks at the implications for practice of the principles derivable from the first half. This begins in Chapter 5 of eight chapters. Topics covered include hives and their management; movable frames; wax foundation; queen excluders; smoke; breeding; artificial insemination; holistic breeding; natural reproduction of colonies; bee health and disease; nutrition; feeding; migratory beekeeping versus the migratory beekeeper; the relationship of bee to keeper; guide to hive design. This part mentions bee-appropriate and occasionally questionable features of Demeter-biodynamic beekeeping guidelines. It gives particular emphasis to top-bar hives, not only the Kenyan TBH but also Warré's 'People's Hive' which is a vertical, storified top-bar hive.

This whole second half is not intended to be a manual for beekeepers, least of all for beginners, but then again the book's title does contain the term 'principles'.

Q: You have spoken rather positively about the book: are there any ways in which it could have been improved?

A: Yes, there are several ways. As so commonly happens with cheaply produced books, it does not have an index. An index would have been useful. I think the 'discussions' at the end of each chapter would have been better called 'summaries'. I found a number of typos scattered here and there throughout the book. These show a degree of neglect by the publisher's copy-editor, but can easily be ironed out in a second edition, as too can a number of factual errors that are minor enough not to fatally flaw the book. Astrophysics has moved on since Steiner's day and frequency of rotation of the sun mentioned by Steiner probably needs re-examining in relation to the modern findings.

To sum up: I took away some ideas that I would like to follow up in further research or observation with my own bees. So, although I have been keeping bees for a number of years, I found reading the book worth the effort.

Questions and answers by David Heaf