imposed by the environment” (p. 197).

Scholars from across the academic spectrum will find much food for thought, discussion, and disagreement in all the book’s chapters. Although there is probably broad agreement that integrating the currently fragmented sciences and humanities is a good idea, many will disagree with Wilson’s neo-Enlightenment, reductionist prescription. The problem is that the type of consilience envisioned by Wilson will not be a real “leaping together” of the natural sciences, the social sciences, and the humanities. Rather, he sees a total victory by the natural sciences and the reductionist approach in general. There are, however, several well-known problems with the strict reductionist approach to science (Williams 1997), and several of its contradictions show up in the book itself.

Wilson recognizes that the real issue in achieving consilience is one of scaling—that is, how understanding is transferred across the multitude of spatial and temporal scales, from quarks to the universe and everything in between. But he seems to fall back on the overly simplistic reductionist approach to doing this—that if we understand phenomena at their most detailed scale, we can simply “add up” in linear fashion from there to get the behavior at larger scales. Although he states that “the greatest challenge today, not just in cell biology and ecology but in all of science, is the accurate and complete description of complex systems” (p. 85), he puts aside some of the main findings from the study of complex systems—that scaling in adaptive, living systems is neither linear nor easy, and that “emergent properties,” which are unpredictable from the smaller scale alone, are important. And although he acknowledges on the one hand that analysis and synthesis, reductionism and holism, are as inseparable as breathing out and breathing in, Wilson glosses over the difficulty of actually doing the synthesis in complex adaptive systems and the necessity of studying and understanding phenomena at multiple scales simultaneously, rather than reducing them to the laws of physics.

The consilience for which we are really searching, I believe, is a more balanced and pluralistic kind of “leaping together,” one in which the natural and social sciences and the humanities all contribute equitably. A science that is truly trans-disciplinary and multiscale, rather than either reductionistic or holistic, is, in fact, evolving, but I think it will be much more sophisticated and multifaceted in its view of the complex world in which we live, the nature of “truth,” and the potential for human “progress” than the Enlightenment thinkers of the seventeenth and eighteenth centuries could ever have imagined.

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THE HUMAN FACTOR IN SUSTAINABLE AGRICULTURE


Facilitating Sustainable Agriculture is a major revision of the papers from a 1993 workshop at the 15th Congress of the European Rural Sociological Society. Although the essence of many of the presentations at this workshop remains, the papers were modified and updated as the book evolved. The resultant book is a work in progress in which the editors point out the “loose ends” of sustainable agriculture. Overall, this book provides a fascinating and usable perspective by examining the implications of ecologically sound agriculture for land users and other stakeholders.

It is the organization of the book and the information it contains that will make it a valuable addition to the library of any sustainable agricultural researcher or educator. The first section contains three excellent chapters that together ask some uncomfortable questions and challenge the reader’s thinking about the role of people in the environment. The book ends with a synthesis that addresses the basic questions of the book: Can we “learn” our way to a more sustainable agriculture? And if so, what does it take?

Facilitating Sustainable Agriculture is not just another sustainable agriculture book that is hung up on agriculture’s changing structure or its dependence on fossil fuels, chemicals, and pesticides. It probes, tries to answer, probes again, and often admits lack of conclusions because sustainable agriculture is, after all, about people. People defy quantification, and so, perhaps, does their environment. The book has many faults, some admitted to by the authors. Its largest hurdle, for me, at least, was the extensive use of sociological jargon. As an agronomist, I struggled with many of the coined words, but I assume my social-science colleagues have just as much of a problem with agronomic lingo in books pertaining to agronomic issues of sustainability.

The book starts with an introductory chapter by the editors that leads the reader into the deep waters encompassed in the book by defining what is meant by sustainable agriculture and the divergent opinions surrounding definitions of sustainability. Anyone who has followed the writings of Jules Pretty will appreciate his deep insights, expressed in the second chapter, about the lessons learned from policies at work. His chapter alone is worth the price of the book. Pretty even gets into the issue of sustainable intensification of agriculture, a term recently popularized by the World Bank to introduce the concept of making sustainable agriculture more productive.

The third chapter, by James Woodhill and Röling, has the intriguing title, “The Second Wing of the Eagle: The Human Dimension in Learning Our Way to More Sustainable Futures.” This chapter brings into play the basic premise of the book, that the environmental “cri-
sis,” although real, has to be understood as a part of the human experience. Environmental management has traditionally been regarded primarily as a technical task, whereas the causal agents of environmental damage are people. Until human behavior is brought into the equation, solutions will not be forthcoming. The third chapter introduces the concept of social learning and discusses the need for integration of the scientific and social disciplines to achieve social action. The authors want to get the eagle that is environmental management flying again. The figuative eagle is currently skirting the issues, madly beating the one wing it knows how to use. The coupling between “human systems” and “ecosystems” can only constructively be addressed using the social learning approach.

The middle sections (chapters 4–15) are chapters that I would describe as case studies. They build on the policy chapter and the social learning chapter in supportive ways. Problems and solutions in many countries, including Switzerland, Greece, the Netherlands, Germany, Indonesia, Australia, and the United States are used to provide a framework for the final synthesis. All 12 chapters have good value in their own right, and when put together help make this a powerful book.

The final chapter brings it all together. Röling and Janice Jiggins synthesize the ecological knowledge system about sustainable agriculture by drawing together the major lessons learned in the previous 12 chapters in an understandable fashion. Röling and Jiggins point out that these chapters show that ecologically sound (i.e., sustainable) agriculture puts more demands on professionalism and that changing to more ecologically sound agriculture makes far greater demands on scientific and sociological understanding than does conventional agriculture. This final chapter provides practical guidance for conducting learning in sustainable agriculture and on the implications of using the learning approach for facilitation, teaching, research, funding, and interagency collaboration.

The book is heavily influenced by the experiences with Landcare, the Australian approach to learning and facilitation of ecologically sound agriculture practices. It is a strong and powerful book that should be regarded as a turning point in the advancement of sustainable agriculture in today’s world. Perhaps, to paraphrase the book’s major lesson, “It’s the people, stupid.”

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