seph Pechman, an economist who has worked indefatigably in support of "comprehensive taxation"—that is, the taxation of all income—through laws that, as he has regularly demonstrated, would redound to the advantage of both Uncle Sam, as revenue seeker, and income earners at all levels who seek equity. Though Pechman's goals on this score have not been fully achieved, he has been a contributor to all the reforms in our Internal Revenue Service regulations that have moved toward this goal, including the reforms that began to go into effect in 1986.

The next contributor, Merton J. Peck, also an economist, has worked with a relatively small group of students and colleagues in support of the reform of regulations applicable to the transportation industry. This cadre played a substantial role in mobilizing and applying new "econometric" techniques that eventually informed arguments for the deregulation of air and surface transportation (and thus other industries) in favor of "cost-oriented" pricing systems. Their efforts have contributed to what, by the mid-1970s, virtually became a social movement.

It is worth noting that Peck and the members of his network recognized that its urgings would hurt some persons, most notably wage-earning truck drivers and airline pilots. But the reformers argued that the efficiencies realizable through deregulation would benefit the larger masses of citizens in what the late Adolph Berle usefully called "the American economic republic." Majorities of legislators were readily persuaded of the need for changes, and the social scientists' facts seemed compelling as weighed against the putative equities of the interest groups that, in regulated industries, benefitted from "monopoly"-like situations.

Peter Rossi's experiences as a sociologist who was called by public officials to help sort out the conflicting results of studies regarding the criminal records of released prisoners are interesting. What effects, the studies had asked, actually resulted from the practice, endorsed by several national administrations as a way of reducing criminal recidivism, of according unemployment insurance to released prisoners? Rossi was attracted to this inquiry partly out of interest in puzzle solving, specifically in connection with the studies' methodology, and partly out of interest in the "middle-class liberal" values that informed the experimental programs.

As it turned out, the finding of successes for an unemployment insurance program in Baltimore was not replicated in the national studies on which Rossi worked; not many of the interested parties, among them prison administrators, found it easy to endorse a program that, as Rossi's analyses suggested, generated "counterbalancing social processes": the programs provided work disincentives as well as crime disincentives. Modest successes in Maryland and California meantime seemed to be associated with program directors' ways, means, and commitments. The leaders of unsuccessful programs (in Texas and Georgia) did not pursue any of a variety of specific administrative initiatives pursued in Maryland and California.

In a candid overview, Rossi allows that "experts" can and indeed should contribute to the information available to partisans in policy debates but that resolutions ought to be struck by the interested parties in a frankly political process. Social science evidence is rarely as incontrovertible as it has been in studies of the economics of regulation. Peck, as well as Rossi and Coleman, recognizes that social science data may well not be dispositive of a given case on all counts.

The final contributor, political scientist and lawyer Alan Westin, has exercised significant influence on both public and private initiatives bearing on the protection of personal privacy, the rights and immunities of so-called whistle-blowers, and the civil rights, more generally, of all Americans. A well-organized publicist, Westin regularly presents the results of his sophisticated investigative reporting to television audiences, professional societies, American Civil Liberties Union members, corporate leaders, "oped" page readers, conference planners and their audiences, and book buyers. He is reassured, after over 40 years of efforts to protect the rights of citizens, by the fact that some of his apprehensions, about the impact of computer files on privacy, for example, have not substantially been borne out. The interplay of interests, as Janowitz also notes, helps to protect the rights of individuals on a variety of fronts.

Barber's own studies and his enduring professional engagement with policy issues, finally, have helped to protect the rights of social and other scientists' human subjects. Barber's respectful and kindly personal style undoubtedly (though he makes no such claims) contributes to his successes with impatient and sometimes self-righteous investigators who resent suggestions that their human subjects need formal protection against even well-intentioned "PIs" and their collaborators.

Reflections on the part of the contributors about the roles personal values have played in their work remind this reviewer that this year marks the 45th anniversary of Gunnar Myrdal's study of "the Negro problem and modern democracy," *An American Dilemma*. That book contained a thoughtful and widely discussed methodological appendix on the futility of claiming that any social scientist's work can be objective in any meaningful sense of the word. Myrdal's reasoning underlying what amounted to an attack on "positivists" and "rank empiricists" has never been persuasively refuted.

Myrdal's prescription for dealing with what would otherwise be a conundrum was wonderfully simple: social scientists should search their souls and, having discovered the personal values and preferences that inform their selection of problems and choice of methods and measurements and the philosophical premises that are embodied in their key concepts (like "equilibrium"), should report them to their readers and listeners. The audiences who attend to social scientists' work would then be far better able to apply appropriate discounts to the investigators' inferences, arguments, and conclusions.

While Myrdal applied his urgings to the social sciences overall, he made it a special point that those engaged in studies of matters bearing on pending policy decisions have a special obligation to disclose their predisposing "sets." Barber's questions to his respondents have elicited precisely the kinds of statements Myrdal invited, and the answers help to enrich non-social-science readers' understanding of some of the problems facing those who seek to be rigorous and systematic in studies of the ways and means of social actors in different times and climes.

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Ecological Complexities

Novel Aspects of Insect-Plant Interactions. PEDRO BARBOSA and DEBORAH K. LETOURNEAU. Eds. Wiley-Interscience, New York, 1988. xx, 362 pp., illus. $47.50.

With millions of insect species and hundreds of thousands of plant species, finding novel aspects of interactions between insects and plants should not be too difficult. Yet most papers on such interactions dwell on a few time-honored themes such as spatial distribution or temporal dynamics. There are, however, some newer themes that have been working their way into the limelight in recent years. Among them is how insect-plant interactions affect, and are affected by, species at other trophic levels. This collection of papers explores one of the major questions on tri–trophic-level interactions:

how does plant chemistry affect interactions between phytophagous insects and their enemies and symbionts?

Taken together, the chapters develop four general points. Point one: It is not only phytophagous insects, but also their predators and parasitoids, that use plant compounds to find their hosts. After illustrating how particular parasitoids use the compounds as cues, several authors argue that manipulating concentrations of plant compounds through breeding or genetic engineering could be useful as a means of attracting predators or parasitoids. But the effects of changing concentrations will not always be predictable. Different species will respond to changing concentrations in different ways. Increasing concentrations of particular compounds could increase attraction of particular parasitoids, but it could also increase attraction of host-specific herbivores. Achieving the concentration that minimizes damage to crop plants will not be easy.

Point two: Even in the absence of predators or parasitoids, interactions between insects and plants are seldom the pairwise relationships they are depicted as being. Most of these interactions are mediated by microorganisms that are either antagonistic to or mutualistic with these species. Insects often have endosymbionts that detoxify plant compounds, or, in some species such as wood-boring beetles, ectosymbionts that they release mechanically onto their host plants. Consequently, in some cases the evolutionary trajectory of insect-plant interactions may be determined as much by changes in the symbionts as by changes in the plants or insects.

Point three: Plant compounds affect not only the development of herbivores but also that of their parasitoids. Barbosa shows how different parasitoids respond quite differently to increasing concentrations of compounds such as nicotine. And a wholly different pattern of response occurs if the compound tested on the same group of parasitoids is rutine rather than nicotine. Moreover, host-specific and less host-specific species have very different responses to increasing concentrations of these compounds. There are few other studies with which to compare these results. So the emergence of any general patterns in how parasitoids respond to plant compounds (for example, differences between ectoparasitoids and endoparasitoids or between parasitoids of larvae and those of pupae) will have to wait.

Point four: Herbivores can sequester or transform plant compounds and use them as defenses against their enemies. Here variation in levels of compounds within plant populations can have important evolutionary effects. As Bowers notes, herbivores feeding on plants with different concentrations of a compound will themselves sequester different concentrations. Consequently, mimicry complexes based upon the sequestering of plant compounds may vary between Batesian (unpalatable model, palatable mimic) and Müllerian (all species unpalatable) mimicry over space and time. Variation in concentrations and mixes of compounds must surely be a common occurence within plant populations. How this variation affects the evolution of interactions among plants, herbivores, and higher trophic levels has only begun to be explored. Getting the answers will require a population approach and a focus on the variance rather than the mean outcome in these interactions.

Overall, these chapters highlight the diversity of ways in which the effects of plant compounds can ripple through herbivores to other species in a community. But the chapters also tell another story. The interactions that have been studied in detail are few and far between. Moreover, no study has shown how all four general points developed in these chapters mold a particular interaction between a plant population and its herbivores, enemies, and symbionts. But then these would not be called "novel aspects" if such studies were easy to find in the literature.

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Mutation

Eukaryotic Transposable Elements as Mutagenic Agents. MICHAEL E. LAMBERT, JOHN F. MCDONALD, and I. BERNARD WEINSTEIN, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1988. xvi, 345 pp., illus. $77. Banbury Report 30. From a conference, Cold Spring Harbor, NY, April 1987.

Back in 1923 Hermann J. Muller complained that studies of mutation were like a dingy basement beneath the imposing edifice of genetics. Fifty years later mutation was still considered one of the dullest subjects in genetics except among a few stalwarts. The dim view arose in part because there was little immediate prospect of analysis at the molecular level, in part because tautomerization of the bases was widely accepted as the principal mechanism of nucleotide substitution, and in part because a sort of mutational fatalism was assumed in which genes that got zapped stayed zapped.

Around 1970 there came some glimmers of light into the dingy basement. It was discovered that certain kinds of genetic damage could be repaired. A host of unorthodox chemistries were identified as more important than tautomeric shifts. And transposable elements were recognized as a significant cause of spontaneous mutation. Granted that Barbara McClintock had discovered transposable elements many years earlier and understood pretty thoroughly what they were, their existence had a broad impact on the field only after they were discovered in the right organism (*Escherichia coli*) and at the right time for molecular analysis.

This provides the background of the 30th in a series of Banbury Reports of conferences focusing on areas of molecular biology related to risk assessment in mutagenesis and cancer biology. The book includes 29 papers of which ten deal mainly with mammals, nine with *Drosophila*, five with yeast, two with maize, and three with bacteria. These papers are divided into five sections dealing with prokaryotic transposable elements, mutational effects of transposable element insertions, host effects in induction and regulation, genomic stress and environmental effects, and factors influencing retroviral expression. The list of participants reads like a Who's Who of transposable element researchers, and the papers are of uniformly high quality. They are, however, all quite short and therefore synoptic. They are also unequal in level. Some are rather general minireviews, whereas others resemble research reports in emphasizing experimental detail.

Melvin Green contributes a paper of each kind. His overview of mobile DNA elements and spontaneous gene mutation in *Drosophila* is one of the best papers in the book. His other contribution, with collaborators Pamela Geyer and Victor Corces, deals with the molecular analysis of insertion mutations and revertants of the yellow gene. I single out Green's contributions because a number of mutations he discovered in the dingy-basement era have proven critical in making the molecular analysis possible. (Some basement.)

I must also single out a paper by Nickolai Tchurikov *et al.* describing bursts of transposition of unrelated elements in *Drosophila* and claiming that deletions in the white-eye gene can revert to wild type. These observations are potentially of fundamental importance and may provide a way to study the murky issue of "genomic stress." I personally remain skeptical until alternative explanations can be eliminated.

There is also a discussion of radiation risks in which Krishnaswamy Sankaranarayanan argues that the occurrence of insertion mutations in humans would invalidate the doubling dose method for evaluating genetic