Family Decision Making

The Economics of Women, Men, and Work. FRANCINE D. BLAU and MARIANNE A. FERBER. Prentice-Hall, Englewood Cliffs, NJ, 1986. xvi, 365 pp., illus. Paper, $18.95.

The social phenomena of marriage, housework, and discrimination would once have been thought to have little to do with the usual market transactions studied by economists. In the past 20 years, however, economists have invaded the field of family decision making, which was previously the exclusive domain of sociologists and anthropologists. Has this intellectual imperialism enriched our understanding, or has it obscured what are basically social concepts? By bringing a large amount of material together in a clear text, the authors of the present work give readers a chance to judge for themselves.

Though the book presents little original material, it develops the neoclassical paradigm in considerable detail. A synopsis of the authors' description might be as follows. Individuals are assumed to maximize well-being, subject to a budget constraint. The decision to marry is, therefore, affected by the material gains that may occur as spouses are able to specialize in home or market production. Viewed in this light, housework differs from market work only in location, not in intrinsic worth—housework is elevated to an equal status with market work.

Each person is viewed as being willing to enter mutually advantageous trade agreements—some people will decide to specialize in home services, which they will then trade for market goods produced (or bought) by their spouses. The authors show that from a methodological point of view, a decision of two people to get married is similar to a decision of two countries to trade—in both cases there are potential gains from comparative advantage.

If there is going to be trade within a marriage, the crucial question is who will work in the market and who will work in the home. Neoclassical economists answering this question focus on differences in home and market productivities, rather than resorting to explanations based on social norms. Economic theory predicts that women are more likely to work in the home because they are more likely to have a comparative advantage in home production. The authors argue that this is a result not of biological differences but of discrimination against women in the market—if the husband can earn a higher wage than the wife for equal work, then it is advantageous to both spouses for him to work in the market.

In having had to resort to discrimination to explain why women work in the home, it would seem that the paradigm being reviewed in this book ultimately has to rely on sociological explanations of marriage and the division of labor within marriage. However, as the authors show in great detail, discrimination itself is amenable to economic analysis.

Probably the most novel economic theory of discrimination is based on the insight that it is costly for employers to judge each individual on the basis of his or her own qualifications. The authors focus on statistical discrimination based on differences in average characteristics. A more complete model would predict that discrimination can occur even if two groups are recognized to be equally productive on average. All that is necessary is for the cost of identifying above-average males to be lower than the cost of identifying above-average females. The result is that discrimination can exist without prejudice or misinformation.

Having developed an economic explanation of discrimination, the authors show that one can now explain why women seem to train for women's roles—if they know they will gain less than men in the market, it is rational for women not to invest as much in marketable skills. Therefore, they are less likely to have a comparative advantage in the market. The circle is complete.

Though favoring this neoclassical paradigm, the authors take a somewhat broader perspective. A central tenet of neoclassical analysis is that tastes and technologies are taken as given (that is, a given utility function is maximized subject to a given production constraint). The authors stray from the strict neoclassical model by devoting a good deal of space to taste formation and the development of technologies in different historical periods. Similarly, they give at least passing attention to the power relationships in marriages, a subject of considerable concern to those starting from a Marxist perspective. This alternative paradigm argues that women are not maximizing their own well-being, but rather are a subordinated class used to maximize the well-being of the males in society. The authors further show their nondogmatic approach by discussing sociological factors that would not fit well in a more rigid neoclassical model.

Though the overriding neoclassical approach of this book can still be faulted for putting too much stress on material gains and ignoring social norms, the book reviews an approach that sheds a new light on old questions. Those interested directly in the subject matter will find it an excellent overview of a very large field, with ample references for pursuing special topics of interest, especially those that can be analyzed in the neoclassical paradigm. For people interested in how economists think the book offers an interesting and lucid example of how neoclassical economists apply what they consider to be very general tools to an area most would not associate with economic analysis.

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Pharmacogenetics

Ethnic Differences in Reactions to Drugs and Xenobiotics. WERNER KALOW, H. WERNER GOEDDE, and DHARAM P. AGARWAL, Eds. Liss, New York, 1986. xvi, 583 pp., illus. $90. Progress in Clinical and Biological Research, vol. 214. From a meeting, Titisee, F.R.G., Oct. 1985.

This is a valuable, if decidedly mixed, collection of papers describing recent work on human variability in the metabolism of drugs and other chemicals. The reader will find here papers on virtually every extensively researched human polymorphism that is suspected to affect drug response and considerable documentation of variability from nongenetic sources. The book resulted from a rather recent conference, and several papers show the effects of the limited time for editing.

Although the book fills an important function in bringing together recent research in pharmacogenetic and other human variability, its emphasis on the rather small fraction of the differences that can be associated with "ethnic" groupings is less helpful. In the first paper, the author offers an anecdotal account of the origins of his interest in the subject. Working in an ethnically diverse university community in Toronto, he found that several students who showed distinctive patterns of metabolites for amobarbital turned out to be of Chinese origin.

There is more serious documentation for several specific cases of substantial differences across populations in the frequency of genes associated with adverse reactions to drugs and environmental exposures. The most important of those listed in the book seem to be differences in aldehyde dehydrogenase isozymes (reportedly leading to incidences of 55 to 85% for adverse responses to alcohol in several Oriental populations versus 4 to 12% among European populations), adult lactose intolerance (50 to 90% among Oriental populations versus 6 to 24% among Caucasians), low *N*-acetyltransferase phenotype (60% among Caucasians and black people versus 10 to 20% among Orientals), $alpha_1$ antitrypsin deficiency (the

gene frequency for the "Z" allele associated with serious problems in the homozygous state appears to be about 1 to 2% among Caucasian populations versus less than 0.1% among Oriental and African black populations), slow hydroxylation of mephenytoin (4% among Caucasians and Chinese versus 18 to 23% among Japanese), and the well-known associations of appreciable frequencies of abnormal hemoglobin and X-linked glucose-6-phosphate dehydrogenase deficiency genes with regions of the world that historically had a high incidence of malaria. There are also quite a few cases where the researchers report no difference or differences of twofold or less, including the clearance of paracetamol, primaquine, phenytoin, antipyrine, caffeine, and diphenhydramine, the frequency of genes for slow hydrolysis of paroxon, and levels of catechol-*O*-methyltransferase.

Two of the strongest papers in the book provide an important counterweight to the emphasis on interethnic differences. Masatoshi Nei reviews earlier work analyzing overall human genetic variation based on differences in proteins, blood groups, and mitochondrial DNA using data from the three major human racial groups. When the overall heterozygosity is subdivided into within- and among-population components, it is found that differences among the major racial groups account for only 6 to 11% of the total variation. Presumably genetic differences that could be associated with smaller "ethnic" differences would be less. Elliot Vesell, in a section emphasizing methodological difficulties in determining interethnic differences, provides a critical review of past claims of interpopulation differences in antipyrine metabolism. Among other things, he contrasts the ease with which four- to sixfold interindividual variability in antipyrine clearance can be demonstrated in small groups of subjects within populations with the difficulty of documenting average differences of twofold or less between groups distinguished by diet, geography, or ethnic origin.

Prudently, the papers in the final section of the book, Implications and Consequences, essentially ignore the "ethnic" component of variability. Drug regulatory authorities in different countries may well find the possibility of cross-national differences in response worrisome enough to require some local clinical testing and adaptation of clinical criteria and recommended dosages. However, there are in the book no proposals to use the "color coding" or ethnic origins of people as an important input for selecting either drug therapy or occupational or environmental health protection measures. The final discussion by Gilbert Omenn of implications of differential susceptibility to occupational and environmental exposures is a helpful review and guide to much other material.

Despite the distraction of the "ethnic" theme, this book is a good starting source of quantitative information on human interindividual variability as currently measured by clinical and experimental researchers. What is perhaps lacking in the book is what is lacking in the field itself—a more statistical/mathematical modeling perspective and analysis of the quantitative implications of all this variability for human health risk assessment. Current procedures for carcinogenic risk assessment essentially assume uniform susceptibility in populations, and procedures for setting tolerances for non-carcinogens use an arbitrary tenfold "safety" or "uncertainty" factor that has relatively little basis in empirical observations such as those which can be found in this book.

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Fish Behavior

The Behavior of Teleost Fishes. TONY J. PITCHER, Ed. Johns Hopkins University Press, Baltimore, 1986. xvi, 553 pp., illus. $57.50.

Birds and fishes are often compared because they are the dominant, obvious vertebrate animals in their respective media. Bird behavior, for which there is a vast literature, has been central to the conceptual development of ethology and behavioral ecology despite the fact that birds are a relatively conservative and, in some ways, atypical group. Because fishes occur in a hostile and inaccessible environment, comparatively little is known about their behavior. Aquarium observations of fish behavior, particularly aggression, contributed to the progress of ethology, however, and with the advent of scuba diving studies of fishes are becoming increasingly important to sociobiology and behavioral ecology.

The editor of this compendium has chosen a wide variety of topics that provide a good background on the subject. But I missed accounts of recent studies of territoriality and mating systems among coral-reef fishes and experiments on combat, through which the study of fish behavior has made exciting contributions. Overall, the book has a didactic tone, though some essays are written at a more advanced level. It will be useful to people getting started in the field and might serve well as a supplementary textbook for an ichthyology course or as the basis of a course in fish behavior. For a course, however, the emphasis is uneven: over half the chapters in the section on behavioral ecology treat feeding and predator-prey relationships, introducing an element of redundancy.

The book starts with a section on the bases of behavior, covering genetics (D. L. G. Noakes), motivation (P. Colgan), and development (F. A. Huntingford). Then comes a group of chapters on sensation. Written by physiologists, they form an impressive set giving the basics for vision (D. M. Guthrie), hearing (A. D. Hawkins), olfaction (T. J. Hara), and the lateral line (H. Bleckmann).

The largest section is entitled Behavioral Ecology. The chapters by P. J. B. Hart on foraging theory and A. E. Magurran on individual differences take a general perspective whereas the others address problems that are more distinctly piscine. Thus G. Turner describes mating systems. And R. C. Sargent and M. R. Gross theorize on the generality of male parental care, arguing that it can be explained by the cost to the female, in growth, of being the caretaker. Pitcher presents a masterful and lengthy essay on shoaling, shifting the emphasis away from the traditional concern for synchronization and polarization to the functional aspects of feeding and predation. He also uses "shoaling" as an inclusive term for aggregations and restricts "schooling" to the narrower set of polarized and synchronized groups. The remaining chapters here deal with the day-night turnover in fish communities (G. S. Helfman), intertidal fishes (R. N. Gibson), cave fishes (J. Parzefall), and sticklebacks (G. J. FitzGerald and R. J. Wootton). Much of the literature on cave fishes has been in German, so Parzefall's chapter, making it available to the English-speaking audience, is welcome.

Fisheries biologists have been reluctant to accept the study of behavior as important to their tasks. Yet many fisheries questions have behavioral answers. Fisheries biologists, for example, want to know when and where to find fish and how they get there. How can they be caught with nets, traps, baits, or lures? In the last section, C. S. Wardle presents an impressive demonstration of how, by incorporating information about behavior and physiology, one can design a superior trawl, even one that sorts the catch and permits the escape of undesired species. In fresh waters, managers need to know how to improve habitat, to guide fishes, and so on (K. O'Hara).

The authors were charged with establishing principles, giving the evidence, creating