

A Case for Listening

Making Connections. The Relational Worlds of Adolescent Girls at Emma Willard School. CAROL GILLIGAN, NONA P. LYONS, AND TRUDY J. HANMER, Eds. Harvard University Press, Cambridge, MA, 1990. xiv, 334 pp. \$25; paper, \$10.95.

Are women really different from men? At the dawn of the 1990s, feminists Gilligan, Lyons, and Hanmer give us a collection of papers telling us, once again, that they are. This new collection is an extension of Gilligan's much-praised and much-criticized earlier book, *In a Different Voice*, where she first developed the argument that men's and women's personalities predispose them to distinct moral sensibilities and voices—a woman's morality of care and a man's morality of justice. Women's morality, centered on issues of connection, is an injunction not to turn away from someone in need, to respond to particular people by understanding their particular situations and needs; men's, centered on issues of inequality and separation, is an injunction not to treat others unfairly, to reciprocate and meet one's obligations impartially and objectively.

The new book, like the previous one, is addressed primarily to a tradition of developmental models in psychology, including the works of Piaget, Erikson, and Kohlberg, among others. Gilligan and her colleagues (mostly students of hers at Harvard) criticize this tradition for basing conceptions of development and morality on observations of males. That tradition, Gilligan argues, when it recognizes women, devalues them, casting them as less mature than men. Not only do Gilligan *et al.* distinguish woman's morality from man's but seek to valorize it. The vehicle for this effort is a specification of the point in girls' maturation when their distinctive morality unfolds and an analysis of the processes that frustrate its expression.

The authors studied approximately 30 adolescent girls over a three-year period at Emma Willard School, a single-sex boarding school for upper-middle-class, primarily white, girls. They chose to study adolescence because it is a "turning point," a critical moment when, they observe, a girl is in danger of losing not only her distinctive voice but also her sense of self. Adolescence, traditional psychological theory tells us, is a time of separation and a search for auton-

omy, marked by turmoil and rebellion. For females, according to recent theories of development, the importance of strong relationships does not abate. Adolescent girls often experience a dilemma—whether to respond to and care for others or to care for themselves.

Eleven- and 12-year-olds, Gilligan claims in the preface, are often outspoken resisters, insistent on their own selves and points of view. But at this time many also begin to notice that women are told to keep quiet, that women's relationships with one another are strained. By the age of 15, girls often preface their answers by saying "I don't know"—a sign of repressing knowledge and disagreement—yet sprinkle their comments with the phrase "you know," denoting a shared but hidden world. That world, especially girls' relations with one another, is sometimes repressed and more often hidden because adults (parents and teachers) do not see or hear it and thereby devalue it. Girls are in danger, then, of losing self-confidence while boys gain it. But girls maintain relationships while boys disconnect.

The papers in this collection address a number of issues meant to illuminate that dilemma—including Emma Willard girls' ideas about their bodies and eating disorders (anorexia nervosa, for example, becomes a way of coping with a culture responsive to autonomous careers but not relationships). Many address girls' relationships—with parents (especially mothers), friends (who figure prominently in these girls' moral accounts), and boys (who figure less prominently but pose a threat because so

many are viewed as separating sex from intimacy, something the girls cannot do). Others assess the girls' desires and fears about their futures—about combining careers (which almost all want) with marriage (which many view ambivalently). In a piece that quite nicely lays out the problematic of the entire book, Lori Stern analyzes how 23 Emma Willard adolescent girls, over a three-year period, answered the question, "How would you describe yourself?" In all three years, these girls define themselves in terms of relational abilities (especially with their mothers), but they also come increasingly to describe themselves as independent (especially from their mothers). To them independence is a moral issue—something they believe they should seek because it involves an increased capacity to care for themselves and an increased ability to appreciate others without depending on them. Thus these girls do not see relations and independence as mutually exclusive but instead as reinforcing virtues. Emma Willard girls, then, solve the dilemma of adolescence. If they develop well (as most do, many pieces in this book remind us), they do not vacillate between separation and independence. Instead, they come to believe that separation and independence occur within the context of a relationship. Like most of the other authors in the book, Stern hints at why such development might have to occur (for example, because these adolescents discover "independence is an unavoidable fact of life") but does not attempt to explain what factors—in families, in schools, in friendship, in heterosexual relations—might explain its progress and variation. Although the agenda stated at the outset is to understand change, most of the papers do not explain, and few even describe, it.

In a particularly intriguing piece that does try to show change, Elizabeth Bernstein and Gilligan argue that for adolescent girls fairness becomes intimately related to listening. Girls in the lower grades do not connect unfairness (which, for them, occurs in the

Prices of Books

Average per-volume prices of books reviewed in *Science* 1985–1990. The average prices per page for the technical books in the natural sciences for the years covered were 12.7¢, 12.2¢, 12.5¢, 16.1¢, 16.9¢, and 17.8¢. (Data are for hard-cover books except where books were available only in paperback.) For earlier data from *Science* and other relevant information see *Science* **211**, 933 (1981); **235**, 95 (1986); and **239**, 81 (1987).

Category	Price (dollars)					
	1985	1986	1987	1988	1989	1990
All books	47.02	47.02	47.37	54.05	54.58	54.43
Technical books in natural sciences	49.66	53.57	59.06	71.70	73.73	75.57

public context of school) with listening (which occurs in the private contexts of family and friends). Girls in the higher grades integrate the two (older girls make explicit that fairness is defined as listening or listening as fairness) or reverse them (not listening is characteristic of authorities in public; unfairness is an attribute of peer relations). Listening becomes a moral concept and fairness an interpersonal one. This concept is useful in other contexts: the phrase "we can't communicate"—oft heard from women talking about their spouses—takes on new meaning. It is about equality and fairness, not simply talk.

The essay on listening and fairness serves as a coda for the book as a whole. It is a plea to listen to adolescent girls, to value their knowledge and relationships, and to shape education to their special ways and needs. That new education, the authors tell us, should entail not just a revision of the curriculum, wherein women authors and books are included, but a reshaping of the manner in which those authors and books are taught. Because girls have a distinctive morality, a sense of connection, they can learn best by collaboration with other students and faculty. The lone-scholar approach devalues and undermines their confidence and development.

The general argument of this book will make a fair number of people unhappy, for difference has been too often equated with inequality, has fed into stereotypes that not only overvalue men but dangerously and mistakenly romanticize women. And although this book has richly detailed interviews over a three-year period, it cannot substantiate its claims that girls, in fact, do have a "different voice." These researchers studied no boys. If we were listening to boys talk, how can we be sure we would hear different struggles? To be sure, there are many studies of boys, but none that address the same issues in the same way. Perhaps we have learned a good deal about adolescence in this book, even if we have not learned the ways it is gendered. But even that praise may be too profuse. For we have learned something about a small slice of adolescents—those who can afford to go to a girls' boarding school. They have more money than most. Their struggles necessarily revolve primarily around relations with other girls (and it is the favorable character of this experience that leads the editors to recommend single-sex education). But the Emma Willard girls' experience of youth is likely atypical in still another important way. Living away from home may well shape the very moral dilemmas, centering on independence and caring, that the authors seek to explain. Often, these adolescents live away

from home because their parents are divorced. That, too, might inform the dilemmas they experience in trying to both connect and separate. Neither Gilligan *et al.*'s theory nor their data, then, can bear the weight of their far-reaching conclusions. Gilligan's early work raised important ideas others had not voiced. This collection expands and specifies those. But now it is time to put them to a rigorous test.

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Condensed Matter

The Superfluid Phases of Helium 3. DIETER VOLLHARDT and PETER WÖLFLE. Taylor and Francis, New York, 1990. xx, 619 pp., illus. \$165.

This book provides a comprehensive treatment of the theory of superfluid ^3He and thereby illustrates many of the principal themes of theoretical condensed matter physics over the past two decades. Among these are spontaneously broken symmetries and their associated collective excitations (Goldstone modes), topologically stable defects and excitations (solitons), and the utility of algebraic topology for the analysis of complex ordered phases. The superfluid phases of ^3He were discovered at Cornell University in 1971. They are the most complex homogeneous ordered states of matter known to date, exhibiting aspects of the orientational ordering characteristic of liquid crystals, of the spin ordering characteristic of magnets, and of the quantum-mechanical phase ordering characteristic of superconductors and superfluid ^4He . The particularly exotic properties of superfluid ^3He arise because these three apparently distinct aspects are not really independent, since they all derive from a single quantum-mechanical order parameter with the properties of a two-particle wavefunction with total orbital angular momentum $L = 1$ and total spin $S = 1$. For example, an entirely new absorption line appears in nuclear magnetic resonance because of Josephson tunneling between superfluid spin components parallel and anti-parallel to an external magnetic field, the motion of liquid-crystal-like textures can cause the decay of an otherwise stable superfluid flow, and the formation of vortices in the rotating superfluid generates a small spontaneous magnetic moment.

Vollhardt and Wölfle begin with a concise but reasonably thorough review of the theory of normal ^3He , using the phenomeno-

logical framework due to Landau and his school. Here and in what follows, the treatment highlights another theme of modern condensed matter theory: the most interesting properties of a physical system on a particular scale of length and energy depend on the underlying microscopic structure only through the symmetries of the microscopic constituents and their interactions and through the values of a small number of effective interactions. After summarizing the generalized BCS (Bardeen-Cooper-Schrieffer) pairing theory and the experimental properties of superfluid ^3He , the authors turn to an extensive treatment of broken symmetries and their relation to macroscopic order and of the closely related topics of superflow and textures, defects in the order parameter field, and the dynamics of the nuclear spins as probed by nuclear magnetic resonance. The discussions of broken symmetries, textures, and defects make extensive use of group theoretical methods. I found this to be the most successful and self-contained part of the book. The following chapters treat the dynamics of superfluid ^3He from three perspectives: hydrodynamic theories appropriate at very low frequencies and long wavelengths, the kinetic equation for Bogoliubov quasiparticles and its application to the calculation of transport coefficients, and the quantum kinetic equations needed to describe collisionless collective modes and their interactions with sound waves. The presentations here are less complete and frequently need to be supplemented by reference to the original literature. The book concludes with a brief discussion of some very weak but exotic consequences of the macroscopic quantum coherence of the superfluid phases.

This book covers a large and important subject from a coherent point of view and will be a valuable reference for anyone working on superfluid ^3He or on the closely related topics of unconventional superconductivity in heavy-electron metals and superfluidity of neutron star interiors. In their preface, the authors say that they have tried to give an account that will be accessible to anyone with a general background in quantum mechanics and statistical physics. Here they have been less successful. The introductory sections have a tendency to repeat conventional shorthand explanations that will be understood by experts but will leave many beginners bewildered. A reader who has not previously encountered a quasiparticle or a spontaneously broken symmetry will probably not find this to be an adequate introduction. On account of its breadth of coverage, this book will without question be the standard reference on superfluid ^3He for many years to come. From this point of view