

Bi-Directional Sociobiology

Theodore D. Kemper
Social Structure and Testosterone:
Explorations of the Socio-
Bio-Social Chain
New Brunswick, NJ: Rutgers University
Press, 1990. 271 pp.
ISBN 0-8135-1550-5 (hardcover);
0-8135-1551-3 (paperback). \$35.00
hardcover; \$13.95 paperback

Review by
J. Philippe Rushton

Theodore D. Kemper, professor of sociology at St. John's University (Jamaica, New York), is chair of the American Sociological Association's Sociology of Emotions Section, author of A Social Interactional Theory of Emotions, and editor of Research Agendas in the Sociology of Emotions. ■ J. Philippe Rushton, professor of psychology at the University of Western Ontario (London, Ontario, Canada), was 1988-1989 fellow of the John Simon Guggenheim Memorial Foundation. Rushton is author of Altruism, Socialization, and Society and coeditor, with D. N. Jackson, of Scientific Excellence: Origins and Assessment.

Scientists have long linked high levels of testosterone to sexuality, dominance, and aggression in humans and other animals. Hormone levels have also been used to explain some of the more enduring sex differences that occur. An optimal biochemical balance is implied, the inherent possession of which helps one to attain status in the social hierarchy. Theodore Kemper's aspiration is to show that because hormonal processes are themselves susceptible to social influence, a more liberating self-controlled social fate is possible.

Kemper is a sociologist with an unusually positive attitude toward both endocrinology and psychology. His emphasis on the "socio-bio-social chain," in which social structure affects biological processes that in turn affect social relations, presents a unique addition to the transdisciplinary analyses sprouting so profusely at the fertile pivot of the biological and social sciences.

Kemper's argument is that testosterone level in both men and women is influenced by dominance acquired through valued social attainments. He reviews several studies showing that testosterone levels became elevated in young men who won tennis games, wrestling matches, or entry to medical school, but they showed a decline in the losers. Kemper explores three sets of relations in detail to make his case.

Kemper's first topic is male sexuality as a function of social class. He argues that lower class white-collar men have opportunities to assert their dominance among peers when they are young, and

thus they become more sexually active than higher class men, who have comparatively fewer opportunities for social dominance. As the lower class white-collar men age and fit into jobs with relatively little autonomy, they find fewer opportunities for dominance, and their sexual behavior lags behind that of higher class men, who become more sexually active as they move into better jobs. Many of the data on social class differences in sexual behavior come from the Kinsey studies recently cleaned by Gebhard and Johnson (1979).

Kemper's second topic deals with women's visuospatial abilities, which are generally considered inferior to those of men. Certain theories suggest that the sex difference is due to the action of testosterone, either at the time of fetal brain development or at the moment of spatial judgment. Kemper proposes that in an increasingly egalitarian social structure, women may experience surges in testosterone more frequently, with a consequent improvement in visuospatial ability.

Finally, Kemper examines the opportunities for vicarious dominance experienced by lower class men who watch sports events, especially football. This group of men, Kemper argues, has little opportunity for dominance at work. Vicarious dominance through mass spectator sports produces surges in testosterone that impart a sense of well-being. The false potency experiences in sports spectatorship allegedly help pacify the lower class men.

Kemper has provided a useful service

by emphasizing the more neglected side of the reciprocating processes among genes, mind, and culture. Despite the author's openness to reductionistic bio-social causal chains, however, there remains a strong sociological orientation, governed by an historical fact: "The confrontation between sociology and biology [was] not a happy one" (p. 1). Kemper provides some of this history in an opening chapter. Strong value statements in favor of ideological egalitarianism also permeate the book, reassuring readers that social Darwinism is still out of fashion.

Although lip service is paid to the reciprocal process in which genes as well as environments affect hormones, so little of the theorizing takes genetic causation into account that the book becomes one-sided. There is no discussion, for example, of the twin and adoption studies showing moderate heritabilities for many of the variables of most interest to Kemper, including aggression, personality, sexuality, and status attainment (Bouchard, Lykken, McGue, Segal, & Tellegen, 1990). Genes, of course, do not cause behavior directly; they code for enzymes which, under the influence of the environment, lay down tracts in neurohormonal systems, inclining individuals to one course of action over alternatives.

Curiously, the book contains no proper description of the neurohormonal system. Tutorial diagrams that sufficiently emphasized the underlying anatomy might have helped anchor some of the speculation. For example, because the testes are directly related to testosterone production and women lack testes, one doubts that equalizing employment opportunities for women will eliminate the gender gap in testosterone!

From the egalitarian perspective of the book, the worst may be yet to come. There are both social class and racial differences to be found in average testosterone levels. For example, Mongoloid people appear to have the lowest testosterone levels and Negroid people the highest, with Caucasian populations having intermediate levels (Ellis & Nyborg, 1992; Lynn, 1990). Moreover, some of the studies cited by Kemper, including Gebhard and Johnson's (1979) cleaned-up Kinsey data, provide support for a corresponding racial gradient in sexual and other behavior (Rushton & Bogaert, 1987).

Interdisciplinary research from sociology to endocrinology to evolutionary biology is causing a scientific revolution to occur, from which a true paradigm for

psychology may emerge. Biology is sometimes assumed to be a fixed condition that causes, but is not caused by, social effects. If Kemper's book helps lead to the acceptance of a more complete analysis of biological processes, with both social and genetic factors having influence, he will have done us all an important service.

References

Bouchard, T. J., Jr., Lykken, D. T., McGue, M., Segal, N. L., & Tellegen, A. (1990). Sources of human psychological differences: The Minnesota study of twins reared apart. *Science*, 250, 223-228.

Ellis, L., & Nyborg, H. (1992). Racial/ethnic variations in male testosterone levels: A possible contributor to group differences in health. *Steroids*, 57, 72-75.

Gebhard, P. H., & Johnson, A. B. (1979). *The Kinsey data: Marginal tabulations of the 1938-1963 interviews conducted by the Institute for Sex Research*. Philadelphia, PA: W. B. Saunders.

Lynn, R. (1990). Testosterone and gonadotropin levels and r/K reproductive strategies. *Psychological Reports*, 67, 1203-1206.

Rushton, J. P., & Bogaert, A. F. (1987). Race differences in sexual behavior: Testing an evolutionary hypothesis. *Journal of Research in Personality*, 21, 529-551.

Examining the Multifaceted Nature of Psychology

John M. Darley, Sam Glucksberg,
and Ronald A. Kinchla

Psychology (5th ed.)

Englewood Cliffs, NJ: Prentice-Hall,
1991. 733 pp. ISBN 0-13-734377-9.
\$34.50

Review by

Stephen F. Davis

John M. Darley, professor of psychology at Princeton University (New Jersey), is known for research on bystander response to emergencies, dynamics of self-fulfilling prophecies, and stereotyping and prejudice and is past president of the Society for Personality and Social Psychology. ■ Sam Glucksberg, professor of psychology at Princeton University, was editor of the Journal of Experimental Psychology: General from 1984-1990 and is known for his research in figurative language comprehension. ■ Ronald A. Kinchla, professor of psychology and director of graduate studies at Princeton University, is known for research on visual perception and attention. ■ Stephen F. Davis, professor and chair of the Department of Psychology at Emporia State University (Kansas), is recipient of the 1987 Psi Chi/Florence L. Denmark National Faculty Advisor Award, the 1988 American Psychological Foundation Distinguished Teaching in Psychology Award, and the 1989 American Psychological Association (APA) Division 2 (Teaching of Psychology) Teaching Excellence Award. Davis is coauthor, with R. D. Wight, of the forthcoming Division in Search of Self: A History of APA's Division Two, the Division on the Teaching of Psychology.

The advent of shorter and shorter textbook revision cycles has raised eyebrows and resulted in concerns that some editions contain few, if any, relevant changes or improvements. In the Preface, John M. Darley, Sam Glucksberg, and Ronald A. Kinchla promise that the fifth edition of *Psychology* will contain new, updated material and that it will assist students in finding answers to the questions "Why should I care about this?" and "What does it have to do with psychology?" Two new textual elements, the Summing Up . . . Moving Forward sections and the Study Outlines have

been added to assist students in answering these questions.

The Summing Up . . . Moving Forward sections are five topical essays placed at strategic points where the book and psychology turn a corner and take a different direction. The Study Outlines, which replace chapter summaries, reiterate the opening chapter outline and provide a synopsis under each heading.

As one surveys the 20 chapters that comprise this text, the changing, multifaceted nature of our discipline is apparent. Traditional topics such as the biological bases of behavior, sensation, per-

ception, conditioning and learning, memory, motivation, and emotion are complemented by two chapters on developmental psychology, two chapters on social psychology, and one chapter on stress and coping. In short, this text is reasonably thorough in its introduction to a large and diverse discipline.

Although research that is at the forefront of progress in psychology is highlighted, the authors have not slighted their responsibility to the classic works that form psychology's foundation. For example, Thorndike's use of puzzle boxes (pp. 179-180), Kohler's studies of insight learning (p. 188), and Tolman's research on latent learning (p. 189) are integral components of Chapter 6, titled "Conditioning and Learning." Contrasted with these seminal projects are considerations of such current developments as massively parallel connectionist networks and computers and the location of the N-methyl-D-aspartate receptors that may form the biological basis for contiguous associations.

Although the inclusion of 20 full chapters results in a comprehensive text, those instructors who teach the typical 14- to 16-week semester may find this many chapters to be a bit unwieldy. It will be difficult to cover more than one chapter per week and to allocate class time for tests and other activities. On the other hand, for those instructors who teach a two-semester or two-quarter introductory psychology course, 20 chapters could be an appropriate number, and this text may suit their needs perfectly.

The level of coverage and the more serious, no-nonsense writing style suggest that this text will be appropriate for use with more academically capable students in courses designed to directly challenge their abilities. Although the content and style of writing are appropriate for classes and students of this nature, a bit more cross-referencing among and within chapters would have created greater unity and coherence in this text.

Although the breadth and scope of coverage is reasonably thorough and the blend of classic and current research findings is acceptable, there are some flaws in this otherwise excellent volume. Unfortunately, the Summing Up . . . Moving Forward essays do not seem to serve their intended purpose. Rather than exciting the students by making new directions in psychology come alive, these sections tend to be somewhat bland and dull. Although they serve the role of summing up, these sections simply do not point the way to the psychology of the future.