February 1994

Book Reviews

Barry Fast
Academic Book Center

Follow this and additional works at: <https://docs.lib.purdue.edu/atg>

Part of the [Library and Information Science Commons](#)

Recommended Citation

Fast, Barry (1994) "Book Reviews," *Against the Grain*: Vol. 6: Iss. 1, Article 18.
DOI: <https://doi.org/10.7771/2380-176X.1509>

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.

Book Reviews

Column Editor: **Barry Fast** (Academic Book Center)
*If you have a title to review or one to submit for review,
please send it to — Book Review Editor, Against the Grain,
11 Orlando Avenue, Ardsley, NY 10502. Thanks. — BF*

In Pursuit of DNA

Review of **Unraveling DNA** by
Maxim D. Frank-Kamenetskii,
translated by **Lev Liapin**. New York:
VCH Publishers, July 1993.
ISBN: 1-56081-617-1
216 pages, tables, figures, glossary

Review by **E. Starr Hazard**, Ph.D.,
Manager, Biomolecular Computing
Resource, Medical University of South
Carolina, Charleston, SC

This is a time of on-going revolution in the field of molecular biology. The popular press is replete with stories of the discovery of the genetic basis for inherited diseases, such as cystic fibrosis, Huntington's disease and ALS (a.k.a. Lou Gehrig's disease). There are rumors that the genes involved in familial breast cancer are rapidly being tracked down. French investigators have recently released a 'geography' of human genes and the Human Genome Project is consuming millions of dollars per year. Genetically manipulated foodstuffs such as milk and tomatoes will soon be available commercially. Lurking in the background are a myriad of attendant moral and ethical issues which will spring from the application of all of this knowledge. Both the layman and academic alike can easily feel overwhelmed by all of these advances. Getting a basic understanding of the underpinnings of this knowledge is probably essential for everyone.

At the core of biology AND at the core of the molecular biology revolution is the blueprint molecule, DNA. Frank-Kamenetskii's little book is intended for beginners, including advanced high school students, the layman and scientist readers, and college and university students interested in modern biology, and includes a thorough glossary of relevant terms for the DNA impaired! The title of the book is an especially well chosen double entendre having both figurative and literal meanings that become apparent upon reading the book. For those with deeper interest in the subject, addi-

tional sources are listed. The book does not explain everything about DNA, but it does cover a surprisingly wide range of topics and offers a concise introduction.

Frank-Kamenetskii has adopted a historic perspective and endeavors to provide the reader with a sense of what was known about the molecular basis of heredity at particular times, and then to tell why certain experiments were crucial for revealing the nature of DNA and its function. This is an especially compelling feature of the book because such presentations are usually reserved for textbooks and are generally unavailable to the layman. The content of the book is heavily informational with a light sprinkling of the personality of the researchers which enhances its readability. The chapter and paragraph transitions are not always smooth and several times the analogies are a bit hard to follow, but Frank-Kamenetskii generally gets back on track quickly enough. On the down side there is no index and while the text is cross-referenced, the glossary is not.

The double-helical structure of DNA has been known for forty years. What the author skillfully presents are the complications inherent in this elegant structure. How, for example, does the very long DNA molecule get stowed into the very small cell nucleus? How does the cell avoid kinks and knots in its DNA? Understanding of the coiling and superhelicity properties of DNA is illustrated by the straightforward use of Mobius strips and the elegance of mathematical knot theory. Gyrase and topoisomerases are defined and revealed as the biological tools for handling the twists and writhings of DNA.

The basic methods for manipulating DNA are described. The usefulness of the plasmid follows logically from the structural arguments. Recombinant DNA and the potential for therapeutic diagnosis and design are greatly clarified as well. The author succeeds at providing the reader with a sense of the interconnective nature of science. A lecture by Niels Bohr regarding the nature

of light and life and the timely tutelage of the Russian geneticist Timofeef-Ressovsky inspired Max Delbruck and led to the creation of the field of molecular biology. The author further recounts how mathematical theories from topology led to the enhanced understanding of coiling properties of DNA. He then closes the loop by demonstrating how the technically straightforward process of electrophoresis has been used to corroborate the predictions of the mathematical theories. During these passages, as well as in others throughout the book, the author lends a sense of mystery and detective work to the story which are illustrative of the core mechanisms of science as a creative process in the pursuit of knowledge.

It would be difficult for anyone to offer sensible counsel about where the current revolution in molecular genetics will lead, but in the final chapter the author offers some relevant thoughts focusing first on the complicated nature of cancer. Distinctions between an oncogene, which can instigate cancer, and protooncogene, a sort of benign brother of the oncogene, are drawn. The role of LDL (low density lipoproteins) in heart disease, and the search to control heredity via novel DNA analogs are also presented.

Frank-Kamenetskii's book was originally published in Russian in 1988. The present English translation was prepared by Lev Liapin. This edition is an updated version of the 1988 text. The author demonstrates a forgivable nationalism when referring to Russian scientists, who seem to be at the center of genetic research at several critical moments. This approach is a refreshing change from the disbelief expressed by Western scientists generally accompanying any reference to the former Soviet genetics as dominated by followers of Lysenko. That there were genuine researchers is comforting as we look back on the detritus of

the Cold War. Politics aside, Frank-Kamenetskii's book is a good place for the uninitiated to start in pursuit of background information regarding DNA and the molecular biological revolution.

If You Don't Have Time, You Need to Read This

Review of

**The Overworked American:
the Unexpected Decline of Leisure**

by Juliet B. Schor. NY: Basic Books.
ISBN 046505433 (cloth): 1991;
046505443 (paperback): 1992, \$12.00.
247 pp., index, bibliography

Review by **Ellen Duranceau** (MIT)

On the few occasions in my life I have felt I've gained some insight into American society and culture, I've always been in another country. So my understanding of American life has come only with a rather high price tag and at very long intervals. Fortunately, there is now a much less costly and time-consuming way to gain perspective on what makes Americans tick: Juliet Schor's *The Overworked American*. This is a book that could change your life, or at least make you think much more consciously and carefully about the choices you face every day, month, and year in the perpetual struggle to balance time at work against time with your family and time for leisure. This is a book that has deservedly climbed the bestseller's list and fueled a much-needed dialog about what Schor, Associate Professor of Economics at Harvard, calls the work-and-spend cycle: the American proclivity for long work hours and avid consumerism. She demonstrates that this work-and-spend cycle is self-perpetuating, driving Americans to work longer hours to buy more and more material goods, at the cost of their families, their health, and their quality of life.

It may sound as if I'm setting you up to tell you about yet another book that will help you manage your time, plan a family budget, and organize your life efficiently. But Schor is quick to point out that she has not written a self-help book. It is central to her thesis that the problem is not with individual Americans and their materialistic desires, but rather with the economic foundation of our capitalist society. Capitalism, in Schor's view, has reduced leisure time

by favoring long work hours, promoting consumerism, and undervaluing work in the household. It has brought us "a dramatically increased standard of living, but at the cost of a much more demanding work life," according to Schor. She points out that we have a level of material comfort in this society that is unknown anywhere else in the world, and has not been equaled at any other time in history. Yet this comfort comes at a high price, for the intense pace of work life in the United States has been a major factor contributing to many of our social problems, including stress-related illness (heart disease, hypertension, gastric problems, depression, and exhaustion); sleep deficit and its attendant perils (accident, ill-health, lack of productivity); conflicting demands of job and family which puts intense pressure on many marriages; and child neglect, including its lesser form, a deterioration of quality parenting. In short, says Schor, "time poverty is straining the social fabric."

Schor's book does more than describe this problem. She explains how it came to exist and how we can fix it. Her goal is to help Americans "regain a reasonable balance between work and leisure," and her book is an important contribution to that effort. Moreover, it is a book that will appeal to a broad audience, for she writes without an economist's jargon, and always with clear, clean prose that flows smoothly and convincingly.

Schor builds her argument with a careful review of work hours, focusing especially on the last two decades. She shows that every category of the workforce — male and female, married and unmarried, childless and with children, in every social class and industry — has seen an increase in work hours over the last twenty years. We work longer hours and have fewer weeks off. (Unlike our counterparts in western Europe, where the trend has been towards shorter hours.) In addition to working women, who shoulder more of the household work, professionals and other salaried workers are particularly hard hit by this trend: universities, publishers, small firms, and large organizations are all pushing their salaried workers for a bigger commitment, longer hours, and less time off. So how DID we get into this "squirrel cage," as Schor calls it? We are caught because employers have put pressure on employees to work longer in response to economic retrenchment, competition, and innovative business management. Thus,

as Schor points out, "'workaholism' is to some extent a creation of the system, rather than its cause." Employers prefer a smaller number of workers, because as the cost of benefits becomes a larger and larger chunk of each salary, it is cheaper to make a smaller workforce work longer hours than to hire additional workers. In addition, employers prefer to have a large pool of applicants for their positions, since a large pool allows them to hire better workers at lower salaries. Reducing work hours tends to expand employment, making fewer candidates available for any one job, and is therefore unattractive to employers. Thus they prefer the status quo: fewer workers employed, for longer hours.

We have not always worked this hard. In precapitalistic societies, work was leisurely and there were many holidays. Then, along with the rise in capitalism in the eighteenth and nineteenth centuries, workers found themselves working longer hours than at any other time in history. Schor shows that it was only because of the demands of labor unions that work schedules were reduced from their nineteenth-century peak and the six- and then five-day work week adopted. Work hours were being gradually reduced when the Great Depression forced organized labor to put aside their demand for fewer work hours. Then World War II spurred a production boom that fed the following decades of expansion and economic growth that have brought us to where we are today: with the average worker working one full MONTH per year longer than in previous decades.

The American household, Schor convinces us, is a perfect reflection of the market forces operating on our work and buying habits. She examines housework "in economic terms — such as the 'cost' of a housewife and the 'efficiency' of home technologies," revealing what "economic structures . . . have determined how we feed ourselves, clean our houses, even raise our children." At first, I felt vaguely uncomfortable with this notion. I was reminded of frustrating days as an undergrad huddled over a economics text, wondering how "market forces" could possibly determine my own individual, free, very personal, choices. But Schor convinced even me, that the market economy does drive us and force choices upon us. Although she shows this in many ways, her analysis of housework is a good example of how she makes her point.

She shows that housewife's hours have been absolutely constant throughout the past century, despite technological revolution in the home. Housewives have toiled a magical, unchanging 52 hours per week inside their houses since 1910. Why haven't they been able to save time with all of the new labor-saving devices available to them? Because housework is low cost labor; there is nothing in the American market — or hasn't been until recently — to drive a reduction in housework hours. Standards for cleanliness and childrearing have simply risen with the availability of products to make higher standards possible. Schor summarizes the reason for a lack of decline in work hours despite improvements thus: "The most important explanation . . . was the increasing isolation of the housewife from the market economy and the resulting devaluation of her time in comparison with what she could be earning in market work." Thus, the "opportunity cost" of each hour of her labor has been reduced by the fact that women have not been employable in the way men were. Restricted from many jobs, especially in the 1950s, there was no "market wage" to act as an "alternative and lucrative use of a housewife's time." Since women couldn't work anywhere else and earn good money, their time was not valuable, and there was no pressure to reduce the hours worked in the home, so their working hours continued to expand to fill the time available.

Only in the most recent decade or so has this constant number of housework hours begun to decline. As women have entered the workforce, Schor shows, the "opportunity cost" of having them work only at home has risen, and the pressure on housework hours has increased. Housework hours have actually dropped for the first time in one hundred years as a result of this market pressure.

If I haven't yet convinced you that this is a relevant, important book, then please hold on for Schor's gripping finale: her discussion of the "insidious cycle of work and spend" that has taken hold of the American (mostly white, mostly affluent) middle and upper classes. Americans, Schor notes, are spending more and more, the use of credit cards having promoted a "shopping frenzy" which has many Americans reporting shopping as their key leisure-time pursuit, and has left us looking "to consumption to give satisfaction, even meaning" to our lives. Never content

with bland abstractions, Schor backs up this thesis with tangible examples, many of which will make you cringe. She points out, for instance, that each of us now has 16 square feet of shopping center space somewhere in the US to call our own. But unlike many writers who blame Americans for their greed and materialism, Schor does not think that materialism is inherent in American culture or in human nature. She has an optimistic view of people, and believes that "consumerism is . . . a specific product of capitalism."

In a capitalist market system, she says, business wants consumption to fuel growth and profit, so puts pressure on workers to buy, then work more so that they can buy more. Industry markets products knowing that consumerism is based on "the idea of dissatisfaction. As much as one has, it is never enough." It is not the "absolute level of consumption that matters, but how much one consumes relative to one's peers" that leaves an American satisfied, or, more likely, dissatisfied. Well beyond the level of material comfort, we have become trapped in a "quest for relative standing" that makes consumption an addiction. Workers have no choice to reduce their hours, in most cases, since American business channels profits into higher wages, bonuses, and raises, not into longer vacations or time off; workers therefore find themselves with more money and socially-created needs for more goods. It is a difficult cycle to break out of, since our society is set up to maintain this system: men, for example, cannot find part-time work at all; few employees can bargain for reduced hours, and we all remain committed to "keeping up with the Joneses." Schor rightly points out that this cycle pushes us into a commitment "to perpetual growth" in spite of the glaring fact that "the world has finite resources." We live in a world where resources are distributed inequitably, yet we continue to buy more and more and more, in an insatiable quest for the unattainable. Schor's message is that we must act now, and learn, painfully, to "gain happiness by reducing desires," rather than by increasing the number of possessions we own. She calls this the "'Zen' path to happiness." We don't have to renounce "material goods," but "materialism" as a way of life.

So where do we begin? Schor has some definite, achievable goals to get us

out of the work-and-spend trap. We need to establish the right to free time; to create incentives for employers, since it is they who cause the pressure for long hours; to establish reasonable, standard work hours for each profession and enforce them; and to have employers offer an option between more time or more money when it comes time to return profit to the workers. Part-time work should be made "more feasible" by giving part-timers prorated health benefits; mandatory overtime should be outlawed; job sharing should be promoted; government should mandate increases in free time, including a mandatory four-week vacation for every worker; wage differentials between the top and bottom of a corporation should be reduced; and the distribution of work in the household between men and women (who currently do much more of the work) should be equalized.

Schor believes that these changes will improve our health, our quality of life, AND lead to increased productivity, as shorter work hours have been seen to do in all countries in which such a scheme has been tried. If we made these changes, we would have more time for others — our families, our children, nonprofit groups who need our leisure time — and we would be, dare I say, a kinder, gentler people. Don't take my word for it, though: read Schor's words instead. And if you don't think you have time to read this book, it's all the more clear that you need to. ☛

SCHOEN BOOKS

JUDAICA IN ALL LANGUAGES

THE HOLOCAUST

EXILE LITERATURE

PSYCHOANALYSIS

ZIONISM

MIDDLE EAST

Catalogue on Request

Tel. 413-527-4780 • FAX 413-529-9748

Open Shop

One Cottage St., Easthampton, MA 01027

Kenneth Schoen • Jane Trigrè

Will Travel

BUYING & SELLING
LIBRARIES & COLLECTIONS