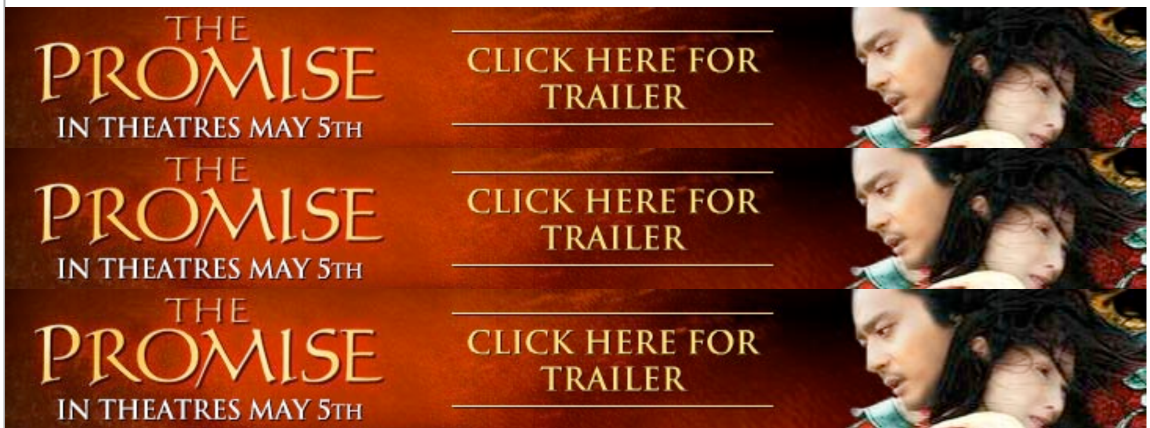

'KNOWLEDGE AND THE WEALTH OF NATIONS,' BY DAVID WARSH

The Pin Factory Mystery

Review by PAUL KRUGMAN
Published: May 7, 2006

ECONOMIC ideas play a large role in shaping the world. "Practical men, who believe themselves to be quite exempt from any intellectual influences," John Maynard Keynes said, "are usually the slaves of some defunct economist." So it's odd how few popular books have been written describing the social and personal matrix from which economic ideas actually emerge. There have been no economics equivalents of, say, James Watson's book "The Double Helix," or James Gleick's biography of Richard Feynman.

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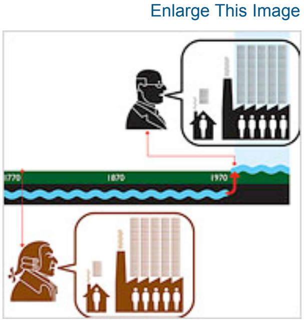

Nigel Holmes

KNOWLEDGE AND THE WEALTH OF NATIONS
A Story of Economic Discovery.
By David Warsh.
426 pp. W. W Norton & Company. $27.95.

Readers' Opinions

David Warsh has now made a major effort to fill that gap. "Knowledge and the Wealth of Nations" is the story of an intellectual revolution, largely invisible to the general public, that swept through the economics profession between the late 1970's and the late 1980's. I'll come back to the question of how important that revolution really was. But whatever one thinks of the destination, Warsh, a former columnist for The Boston Globe who writes the online newsletter Economic Principals, takes us on a fascinating journey through the world of economic thought — and the lives of economists — from Adam Smith to the present day.

I should mention here that I was a prominent player in some of the events Warsh describes. My closeness to it all makes me aware of, and perhaps oversensitive to, the things Warsh doesn't get quite right. But let me focus on the book's virtues before I talk about its minor flaws.

Warsh tells the tale of a great contradiction that has lain at the heart of economic theory ever since 1776, the year

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in which Adam Smith published "The Wealth of Nations." Warsh calls it the struggle between the Pin Factory and the Invisible Hand. On one side, Smith emphasized the huge increases in productivity that could be achieved through the division of labor, as illustrated by his famous example of a pin factory whose employees, by specializing on narrow tasks, produce far more than they could if each worked independently. On the other side, he was the first to recognize how a market economy can harness self-interest to the common good, leading each individual as though "by an invisible hand to promote an end which was no part of his intention."

What may not be obvious is the way these two concepts stand in opposition to each other. The parable of the pin factory says that there are increasing returns to scale — the bigger the pin factory, the more specialized its workers can be, and therefore the more pins the factory can produce per worker. But increasing returns create a natural tendency toward monopoly, because a large business can achieve larger scale and hence lower costs than a small business. So in a world of increasing returns, bigger firms tend to drive smaller firms out of business, until each industry is dominated by just a few players.

But for the invisible hand to work properly, there must be many competitors in each industry, so that nobody is in a position to exert monopoly power. Therefore, the idea that free markets always get it right depends on the assumption that returns to scale are diminishing, not increasing.

For almost two centuries, economic thinking was dominated by the assumption of diminishing returns, with the Pin Factory pushed into the background. Why? As Warsh explains, it wasn't about ideology; it was about following the line of least mathematical resistance. Economics has always been a discipline with scientific aspirations; economists have always sought the rigor and clarity that comes from using numbers and equations to represent their ideas. And the economics of diminishing returns lend themselves readily to elegant formalism, while those of increasing returns — the Pin Factory — are notoriously hard to represent in the form of a mathematical model.

Yet the fact of increasing returns was always a conspicuous part of reality, and became more so as the decades went by. Railroads, for example, were obviously characterized by increasing returns. And so economists tried, again and again, to bring the Pin Factory into the mainstream of economic thought. Yet again and again they failed, defeated by their inability to state their ideas with sufficient rigor. Warsh quotes Kenneth Arrow, who received a Nobel in economic science for work that is firmly in the Invisible Hand tradition: increasing returns were an "underground river" in economic thought, always there, yet rarely seeing the light of day.

1 | 2 NEXT PAGE »

Paul Krugman is an Op-Ed columnist for The Times.

Next Article in Books (4 of 9) »

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