

When the great Victorian economist Alfred Marshall took up the subject a hundred years ago, economics looked like a dying field. Its moral authority was in tatters, its methods under attack. Sociologists were scornful of the notion that the complex stew of human endeavor could be boiled down to a few simple laws. Historians argued that each epoch was subject to its own dynamic, discoverable only by those who studied history. Even after the publication of his best-selling *Principles* in 1890, it took Marshall years to persuade Cambridge University to offer a degree in economics.

Today, its survival is no longer in question. The White House has its Council of Economic Advisers, as does the chief executive of virtually every other government. Unlike sociology or history, economics has its own Nobel Prize. Recently, *The New York Times* added an economics column to its op-ed page. And an astonishing number of people – some 100,000 in America alone – list “economist” as their profession.

Yet widespread doubts persist about the legitimacy of economics. Irritated by economists’ disregard for psychological and social nuance as well as their penchant for mathematical complexity, many intellectuals consider the entire mainstream of economics

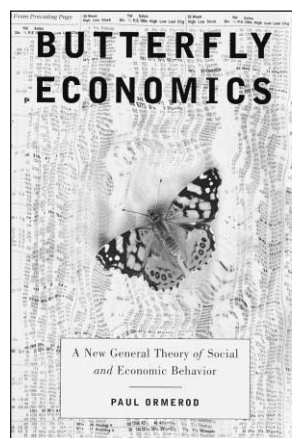
SYLVIA NASAR, the author of *A Beautiful Mind* (Simon & Schuster, 1998), is working on a history of modern economic thought.

**Butterfly Economics:
A New General Theory of
Social and Economic
Behavior**

By Paul Ormerod

Pantheon, 240 pp.; \$24

Reviewed by Sylvia Nasar



from Marshall on to be an aberration. Indeed, John Kenneth Galbraith, the Harvard economics professor who achieved best-sellerdom by dissing the dismal science, called it “a failed profession.”

Butterfly Economics: A New General Theory of Social and Economic Behavior is very much in the Galbraithian tradition of dissent. Paul Ormerod, also the author of *The Death of Economics* (Faber, 1994), is a British business consultant who studied economics at Cambridge. And in his new book he doesn’t just trash mainstream economic theory (“an empty box”), but offers his own heterodox alternative.

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Unfortunately, Ormerod's reach exceeds his grasp. Not only does he lack Galbraith's wit, verve and feel for real-world events, Ormerod is proof that critics are sometimes more prone to oversimplification and overgeneralization than their targets.

The trouble with "orthodox" economists, as Ormerod sees it, is their mindset: "In essence, the world is seen as a machine.... A lever pulled here or a button pressed there will have entirely predictable consequences." This mistaken metaphor, says Ormerod, has produced a host of regrettable outcomes, from misguided micromanagement of economies by gov-

ernments to the failure of anti-crime efforts. (Alas, the more aesthetically appealing butterfly metaphor of the title hardly figures in the book.) He is particularly fascinated by an experiment conducted by some entomologists in the early 1980s. Faced with two equally desirable food supplies, it seems that ants don't divide their time equally between the two piles. Most of the colony will feed at one, while only a small minority will go to the other. Occasionally, there's an abrupt flip-flop and the previously shunned pile will suddenly attract a swarm.

What explains this counterintuitive behavior? Ants usually copy the herd, but occasion-

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ernments to the failure of anti-crime efforts. To turn things around, Ormerod argues, economists should adopt a model more appropriate to a system as complex as human society – namely, nature.

Economists need to embrace a "fundamental view of society as a living creature which adapts and learns." Economies are like "living organisms," he writes. "Individuals do not act in isolation, but affect each other in complex ways."

The critical aspect of human behavior that he thinks economists ignore is the propensity of people to copy one another. Herd behavior, he says, is the key to everything from the stock market's wild swings to the triumph of an inferior technology over a superior one, like VHS over Betamax.

Ormerod thinks the key to understanding human society in general – and economic

ally they try something new. When, by chance, some ants decide to try this new thing, others follow the crowd.

Ormerod thinks that people are as prone to be followers as ants. Why else would currency traders plunk billions on francs or pounds that everyone agrees are grossly overvalued? Why would investors gobble up Amazon.com stock when the outfit has yet to earn its first dime? Or why, for that matter, would divorce and crime soar in some periods and not in others? "People or companies are influenced directly by what others do," says Ormerod. "Economics and the other social sciences will, I believe, eventually adopt this model."

Copycat behavior no doubt explains some of life's maddening unpredictability. But is it really true, as Ormerod claims, that the notion that popularity breeds popularity is a revelation to economists?

A glance at a few of the volumes on my “bookshelf of academic tomes” (which the blurb on the cover of Ormerod’s book says I can now toss) indicates that economists have not been as clueless on the subject of herd behavior as Ormerod claims. Economists have been borrowing models from biologists for years, and vice versa. So far I haven’t found one who portrays the economy as a predictable machine that can be controlled by fiddling with a few dials – which may be the reason that Ormerod never once attributes these silly sentiments to any particular practitioner.

Take Marshall. He was a great fan of Darwin, fond of biological analogies and a staunch believer in “the essentially organic character of the larger and broader problems towards which we are working our way.”

Marshall was particularly fascinated by one example of herd behavior: the tendency of businesses to set up shop in a particular location simply because other firms were doing so. In fact, he and his wife, Mary Paley, also an economist, spent part of every summer holiday visiting the Silicon Valleys and Route 128s of their day: Sheffield, the center of the cutlery industry; Staffordshire, where pottery was made; Nottingham, with its lace factories.

Extensive interviews with owners and workers gave Marshall some ideas about why firms (and workers) tended to cluster. A large market for people with specialized skills, he noted, gave employers insurance against labor shortages and gave workers insurance against unemployment. Likewise, a market for specialized services could support engineering, design and other skills. Finally, proximity promoted the exchange of information and hence the spread of new technology.

What’s most interesting here is that Marshall used these down-to-earth observations to infer the importance of positive feed-

backs, including increasing returns to scale, externalities and even the powerful role of historical accident. No wonder economists, who have spent the past quarter century working out the implications of feedback mechanisms, are the first to acknowledge that it was “all in Marshall.”

An important question lurks here. If the founder of modern economics did, in fact, view the economy as a complex, organic system that evolved over time and realized that herd behavior was important – all issues that Ormerod says are essential for his own theory – why did it take so long for economists to build them into their formal models? Ormerod’s answer is that economists are blithely unaware of life’s complexity and tend to suppress the insights of “apostate economists” and of “deviants from the true faith.” But as even a casual glance at convention-defying recent Nobel Prize winners reveals, this explanation won’t do.

Marshall himself suggests part of the answer: “It is true that the analogies offered by mechanics are simpler than those of biology and are therefore more helpful in the earlier stages of economic analysis.”

But a richer explanation can be found in *Development, Geography and Economic Theory* (Bradford Books, 1995), a lovely little book by Paul Krugman.

Why, Krugman asks, did economists discover, then ignore, then rediscover something as seemingly obvious as geography in modeling economic activity. “These fields were left untilled,” he answers, “because the terrain was seen as unsuitable for the tools at hand.”

Krugman argues that the study of location of economic activity was abandoned because the increasing rigor of economic thinking required simplifying assumptions. Economic theory was built on a foundation of assumptions about relatively few aspects of behavior

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– mainly self-interest and interdependence. Something was gained in the modeling process, Krugman says – but something was lost as well.

He compares the development of economic modeling to the evolution of mapmaking in the 19th century. As the field became more scientific, new maps of Africa initially offered less detail than earlier ones because details based on folklore and anecdote didn't meet the new standards of rigor. A model is good, Krugman writes, "if it succeeds in explaining or rationalizing some of what you see in the world in a way that you might not have expected."

In short, there's a huge leap between saying that new models capture some aspects of behavior that conventional models ignore and condemning all of economic theory for its tendency to oversimplify behavior. It also makes sense to be suspicious of grandiose claims.

The track record of heterodox models has not been overwhelmingly successful, either; in the case of herd behavior, that is perhaps because it is hard to model in revealing ways, or perhaps because it is less dominant than Ormerod thinks. For example, complex systems used to predict future demand and supply of natural resources – remember the Club of Rome? – have not added as much to understanding as the dreary old competitive, profit-maximizing models.

The most insightful – and fun to read – critiques of mainstream theory come from inside the field, not outside. One is *The Economics of Non Human Societies* (Pallas Press, 1994), by Gordon Tullock, in which Tullock uses observations of ant communities to throw light on the subject of coordination. Another is Krugman's *Peddling Prosperity* (W.W. Norton, 1994), an incisive description

of new theories of growth and trade that incorporated positive feedback principles. Still another is Richard Thaler's clever and well-written *The Winner's Curse* (Princeton University Press, 1992), an entertaining catalog of anomalies and paradoxes that involve herd behavior and other violations of economists' standard assumptions of rationality and selfishness. (Altruism, incidentally, is another subject that engaged Marshall, who flatly rejected the caricature of the "economic man"). Thaler's most striking paradoxes – including gyrations in prices far in excess of anything that new information about risk or return could account for – come from financial markets where players have the strongest incentives to behave optimally.

It's telling that those who have done the most to challenge conventional thinking are least prepared to toss out all those "academic tomes." "What are we to make of these anomalies?" Thaler writes. "Do they together call for the demise of economic theory? For several reasons, the answer is no." Among other things, he says, "There is no good substitute available." Note that he's not saying there never will be a substitute – only that, until there is, the old tools are still worth using.

In short, Ormerod should have looked beyond the caricatures of economists to scholars like Krugman, Tullock and Thaler. For, whatever its shortcomings, conventional economics is the only game in town worth playing.

"There are at most a handful of non-economist social scientists who have seriously studied financial markets, and there is nothing resembling a behavioral alternative to the capital asset pricing model," concludes Thaler, adding that, "if one should emerge, it is more likely to come from behaviorally oriented economists than from psychologists or sociologists." **M**