

## **Johann Peter Murmann is the winner of the Schumpeter Prize**

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Before I discuss the winner of this year's Schumpeter Prize, I want to discuss the nature of the competition and the judging process. This is the ninth award of the Schumpeter Prize. It is awarded every two years, and all works not published before June 1, 2002 were eligible. The prize is E10,000 generously funded by the German economics and business weekly, *Wirtschafts Woche*. It is intended to recognize an outstanding recent scholarly contribution related to Joseph Schumpeter's work. This year's topic is: Innovation, Industry Dynamics, and Structural Transformation: Schumpeterian Legacies.

A committee of five international scholars was set up to judge the competition. In addition to myself, the committee was composed of Bo Carlson, Professor at Case Western Reserve University in Cleveland, United States, Alfonso Gambardella, Professor at the Sant'Anna School of Advanced Studies in Pisa, Italy, Akira Goto, Professor at the University of Tokyo, Tokyo, Japan, and Dominique Foray, recently appointed Professor at Lausanne Institute of Technology, Lausanne, Switzerland.

There were a total of 29 entries into the prize competition this year, including 11 books and monographs and 18 articles. The plan was to have two rounds of judging. In the first round, each committee member was asked to nominate three submissions, which could be ordered. The plan for the second round was to select the five most nominated submissions in the first round and have each committee member read each of the five carefully and rank them. The process turned out to be much simpler than expected because of what transpired in the first round. Three of the five committee members felt one entry stood out above all others. Indeed, one of these three found it difficult even to nominate a second and third choice. The other two committee members also recognized this submission in their nominations and they quickly acceded to the judgment of the other three committee members and we converged on a winner of the competition in one round. This is a reflection of the truly outstanding scholarship of this year's winner of the Schumpeter Prize.

Before describing the winning contribution, I want to add a personal note about the winner. I had the opportunity to watch the winning contribution evolve over 11 years from an idea to an impressive book. Eleven years ago I organized a colloquium in the U.S. that brought together 25 or so doctoral students and an equal number of faculty primarily from leading business schools in the U.S. The goal was to help students who were writing dissertations in the nexus of economics, organizations, and technological change, which was the focus of much of Schumpeter's work. The winner of this year's prize was a participant in that first colloquium and I think in the next two as well as the colloquium became an annual event.

I had the opportunity to watch his work evolve, to comment on it, and to provide a public forum for a small part of it as one of a set of featured articles that I commissioned for the *Journal of Evolutionary Economics*. And I had the opportunity to observe the deft touch of his faculty advisor and mentor, who I and others admire greatly and whose imprint is all over this year's winning contribution.

So let me briefly describe what makes the winner of this year's prize so special. The topic of his book is one of the most important questions about economic growth: What are the forces that lead nations to specialize and excel internationally in particular industries?

The setting of the book is the synthetic dye industry that began in the 1850s with the discovery of the first synthetic dye made from coal tar. Not only was the industry large, important, and a lead innovator in its own right, but it launched some of the most famous chemical companies in the world that were also pioneers in pharmaceuticals, among other chemical products. These firms were largely located in one country, Germany, and in one form or another have been extremely successful innovators and competitors for nearly 150 years.

What makes this story particularly intriguing is that the industry began in Great Britain, not Germany, and by all accounts Britain, followed by the U.S., was a much more likely home for the industry than Germany. Both Britain and the U.S. had better endowments of coal, the key basic ingredient for synthetic dyes. Both had much bigger textile industries, which was the primary demander of synthetic dyes.

How German firms came to dominate the industry is impressively explored from multiple angles, which are fused together using an evolutionary lens. One part of the analysis involved tracking all the firms that ever produced synthetic dyes in Britain, Germany, and the U.S. from the inception of the industry in 1857 to 1912, itself a daunting task. Here we learn that Germany not only developed the dominant firms in the industry, but it had far more entrants, and also failures, than any other country. This was attributed to the absence of an effective patent system in Germany in the early years of the industry. Not only did this facilitate entry in Germany, but the ensuing competition appears to have forged superior survivors than in any other country.

The second part of the story recounts the importance of early firm investments in product and process R&D, marketing, and professional management in solidifying the positions of the early leaders of the industry. A key part of this story is the role that the German university system played in inducing German firms to become the R&D, marketing, and manufacturing leaders of the industry. This is demonstrated through a detailed reconstruction of the links between German professors and university graduates and synthetic dye firms throughout the world, especially in Germany. It is also demonstrated through an impressive set of paired comparisons in Germany, Britain, and the U.S. A leading and laggard firm are compared in each country and the German leading firm is compared to the lesser leaders in Britain and the U.S.

And there is yet a third rung to the story about the role that German firms collectively played in the development of the academic sector supporting the industry and in the evolution of intellectual property and tariff policy pertaining to synthetic dyes. Here a story is told of the coevolution of an industry and its institutional environment forged in a world of increasing returns.

So this year's winner of the Schumpeter Prize tackles in one book some of the most compelling questions of today's scholars of innovation and business. How does the market structure of new industries evolve? What influences the formation of firm capabilities that have such a lasting effect on the performance of firms? Why did the performance of firms differ so much across countries? What institutional practices in a country shape the competitiveness of its firms and what influences the evolution of these institutional practices? These questions are addressed using an extraordinary range of sources in both English and German.

I am pleased to announce that this year's Schumpeter Prize goes to Professor Peter Murmann of Northwestern University for his book, *Knowledge and Competitive Advantage, the Coevolution of Firms, Technology, and National Institutions*. And I might add that in honoring Peter, we implicitly honor his thesis advisor as well, a great scholar in his own right, Dick Nelson.