Today’s worldwide electricity grids use a technology called alternating current, AC. When invented, however, the electricity grid started with a different technology, called direct current, DC. The innovator of the DC system was the formidable Thomas Alva Edison. How he won the battle for electricity over the gas networks only to lose the standards war with the upstart AC technology is the tale in this book. It is a tale well told, spicy, racy, nuanced, and well informed. With this unputdownable book there is no excuse left for a dull book on standards!

Electricity was long a mystery. To understand it, let alone, utilize it, took time and effort in two continents. Many of the leading discoverers and inventors were self-made men. Benjamin Franklin, Michael Faraday, and Thomas Alva Edison: amateur scholars and school dropouts. People outside of the official academic world often saw more clearly than those in it. There must be a tale here too, waiting to be told. The saddest tale in the book is about the one genius who did have an academic education: Nicola Tesla.

The electricity system started in order to energize light bulbs. It was a disruptive innovation that completely destroyed the existing distribution networks for gas lighting. Edison invented the electricity grid system lock, stock and barrel. His laboratory at Menlo Park, opened in 1876, was one of the world’s first industrial laboratories. One of the standards of his system was its DC technology. This system was subsequently uprooted by another disruptive innovation: the competing AC system. In the US, George Westinghouse came to pioneer the AC system.

The battle between DC and AC was a standards battle for market dominance. There is no evidence of any standards bodies getting involved. That the market would decide does not mean that prices and qualities settled the issues concerning AC and DC. Both sides did their best to use other tools too. They turned to promotion, information, and demonstration. Edison realized early on the need to educate people on the new electricity system. The battle became a public affair. The most inspired
parts of the book contain the far reaching attempts at manipulation by, notably, the Edison camp. They framed the competition between DC and AC as a battle for safety. One trick Edison’s camp used was to apply the launching customer idea against the AC camp. Edison got involved, somewhat halfheartedly, in the invention of the electric chair. He based it on the AC technology in order to create a link in the public perception between AC and death. Edison had invested strongly in DC. He pioneered the electricity system. He felt the market was his to lose. He believed in DC long after momentum in the market in the US had gone to AC. He lost a great deal of personal integrity and reputation in this fight. In the end, his electricity company was merged, and the Edison name scrapped, into General Electric Company (GE).

Reading the book is a joy for lovers of business history, innovation, celebrities, animals, or standards. The book contains some valuable lessons. While the story focuses on the US an international dimension lurks in the background. The AC technology had strong roots in Europe. The main engineer for the AC system, the brilliant Nicola Tesla, was a Serb who came over to the US to sell Edison on the idea of AC. Once Edison’s electricity company tried out the AC technology, it acquired the AC patents on a Hungarian system. One lesson is to pay attention to the international dimension that many standards battles have. When technological evolution or market conditions prematurely lock out a technology, it may yet get a second chance in a different place of the world with different needs and resources.

Another lesson from this tale must be that the winner is the one who forms the winning coalition. Usually that meant that Edison won his battles, for he keenly managed the business side of his inventions. Among his AC rivals, George Westinghouse also had the executive skill to form a competing coalition. His Westinghouse company succeeded in getting its message across to the US public and business. Whatever were the reasons for AC’s superiority over DC were facts which had to get communicated and understood, and that adds an extra dimension to standards battles.

The market can decide about standards and get it right too. Notwithstanding Edison’s manipulations, his towering reputation, and his incumbent pre-eminence over the upstart AC system, the latter did win. McNichol’s message is: standards create a market. The best standard is the one with the biggest market potential. Whether that is the best standard in terms of some technological merit is immaterial. The market will, ultimately, get it right and adopt the best standard. It happened with the Betamax - VHS battle, it happened with AC/DC, and it will happen again with the Blu-Ray – HD DVD battle. The market is not just a trade platform for supply and demand, however. It consists of people, with their relationships, expectations, fears and ambitions. Who, like Edison, misses some sensitivities here, may end up holding the short straw. This seems a message worth listening to.

Marc van Wegberg,  
University of Maastricht,  
The Netherlands
BOOK REVIEW
Organizing International Standardization: ISO and the IASC in Quest of Authority
Marc van Wegberg, University of Maastricht, The Netherlands

Kristina Tamm Hallström
Organizing International Standardization: ISO and the IASC in Quest of Authority
Cheltenham, UK: Edward Elgar
214 pages
Copyright 2004

This is a penetrating study in two international standardization efforts. The Technical Committee TC 176 of the ISO (International Organization for Standardization), the ISO/TC 176, develops and revises standards for quality management and quality assurance under the ISO 9000 label. The committee was established in 1979. The IASC, the International Accounting Standards Committee, develops international accounting standards. It was established in 1973. Both are international organizations trying to develop international standards in a field where national standards or rules existed before. Both are hugely interesting organizations, and the results of their work are considered extremely important. ISO 9000 has become a household word. Accounting standards are widely discussed in business journals. For these reasons alone, a book about these two organizations has merit.

Mrs. Tamm Hallström studied both work groups by interviews with participants and by carefully reading huge numbers of documents created by these organizations in the course of their work. This work occurred in 1994 to 1998. The background to her work is the Scandinavian sociological approach one can also see in ‘A World of Standards’ by Nils Brunsson and Bengt Jacobsson (2000, Oxford University Press). Standards are rules for the people who follow them. Standardization is rule setting. It is part of the regulation activities in a society, a form of governance of activities taking place in society. The key question for study is how standard setters can bring people to follow these rules. Which strategies did the ISO TC 176 and the IASC pursue to achieve compliance with their standards?

It is relatively late in the book, in chapters 7 and 8, that the author provides answers to her research question. Up to that point she discusses her theoretical background, briefly, her methodology, also commendably brief, and information about the two standard setting committees. For people specifically interested in these two committees and their standards, chapters four to six already contain much that is interesting. The beef, however, is in chapters 7 and 8. Here she combines information, much of it already presented, in a way that sheds considerable light on the difficulties and paradoxes of how organizations set standards with an aim to get compliance with them. Anyone who intends to get into this world as student or practitioner should read these chapters. They are very re-
They do not contain how to statements with things to do or to leave. Instead, they show what choices are made and which tensions and conflicts this gets these committees and their participants into.

I got out of these two chapters realizing that it is all very well to praise standardization for due process, while recommending the need to focus on user needs, but that these two aims are highly conflicted. User needs may well call for speedy and efficient standardization work processes, which may put considerable stress on the due process needs for participation, comment and debate. Standardization on merit by experts may guarantee high quality standards, but also acts as barrier to participation by users and other stakeholders of the standard. Involving participation in standard setting brings in resources that enable the process to get funded and started, but also ties the process to external influences that may compromise the integrity of the process and its stated aims.

The book teases these and other tensions out of a very careful study of what the participants in the process say in interviews and publish in written documents. Few of these insights follow from a priori formulated theoretical perspectives. The careful deduction of these insights from a friendly and caring study makes them all the more credible and relevant to practice. Standardization is a messy process. As with Bismarck’s sausages, they are best consumed without knowledge of how they are made. There is more than one conflict of interest at the heart of standards work. Incentives and stated motives may be less well aligned than rhetoric would make us believe.

I do also have some critical comments to make on this book. Something I miss in the book is that the international dimension itself is not object of study. The international standard setters set out to harmonize international standards. This is problematic for two reasons. First, national differences are there for a reason. National standards are responsive to the national environment, and countries have different technical, economic, legal, and cultural systems. Secondly, the technical term harmonization may well, as the book hints, stand for global extension of Anglo-Saxon norms. Empires go with imperialism, and the Anglo-Saxon empire is thoroughly commercial.

The theoretical background to the book implies that differences between the ISO and the IASC are due to their different institutional environments. Standard setters, apparently, respond in a functional or optimal way to their environment. But do they? Environments may impose conflicting demands upon an organization. And decision makers may respond in different ways to external pressures. People do make mistakes. The ISO TC 176 and the IASC represent extremely successful forms of standardization. That may distort our understanding of how standardizers respond to external cues. We need case studies of failures to better understand actual work processes and conflicts. Hiperlan2, anyone?

In the final chapter the author explores one particular finding. Standards committees stimulate compliance to their standards by cooperating up-front with relevant actors in the field where the potential adopters of their standards exist. The rhetoric has it that standards are voluntary. The reality is that both committees, especially the IASC, tied up with important actors who could compel organizations to comply with their standards. There is a grey area between voluntary standards and mandatory laws and regulations. While the ISO did more effort than the IASC to claim a voluntary status for its standards, both committees sailed into this grey area. The ISO and the IASC established networks around them to provide resources for standardization and stimulate compliance to their standards. Active participants in standard setting may work in relevant organizations and may have personal networks of their own. Formal liaison links coupled with these informal links create extensive networks. These network links are transient and partially informal.

The latter point does, interesting as it is, introduce my main gripe with this study. To understand the dynamics of transient network links one needs to move beyond perceptions by...
insiders in this process. It becomes necessary to see how the standard intervenes in real life work processes. The book however, focuses entirely on self-revealed perceptions by participants in the process. This enables the author a critical study of great depth, more than I would have expected from this kind of data. But to really get behind statements and images, one needs to involve those who actually complied with the standards. Barring that, it is not possible to study transient networks where resource flows wax and wane as experience with the process and its standards grows.

For all its merits, this is yet again a study about standards limited to the making of the standard. As Brunsson and Jacobsson write in their book (p. 10): ‘Standardizers and standards are more important than is often thought by students of society, and even by those who claim to be standardizers themselves.’ Now why would that be? Perhaps because we study standards but forget that they are interventions in the wider world? Standards are means not ends. The stated aims of standard setters such as, for example, to stimulate trade by reducing uncertainty about quality, are not only symbolic outputs (statements) meant to attract support. They are also criteria against which their performance is measured. Only if we see to which extent, and how, standards intervene in real life processes can we begin to understand the dynamics of transient networks around standard setters. Still, notwithstanding my gripes, a fascinating study that stands highly recommended.

Marc van Wegberg,
University of Maastricht,
The Netherlands.