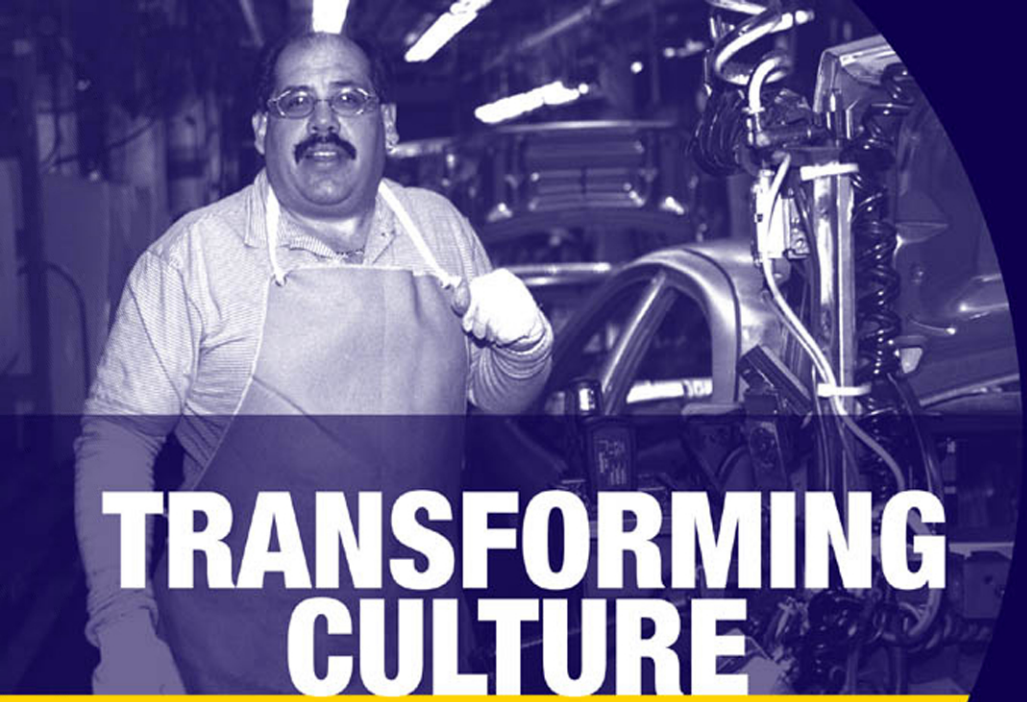

TRANSFORMING CULTURE

Creating and Sustaining a Better Manufacturing Organization

Elizabeth K. Briody
Robert T. Trotter II
Tracy L. Meerwarth

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Elizabeth dedicates this book to Marc Robinson
for his wisdom, support, and love.

Bob dedicates this book to Sally Trotter for all of her encouragement and support over the years, to his kids (Hara, Talbot, David, and Rayne) for the stimulus and excitement they have given in their lives, and to his colleagues and friends for interesting times and valuable opportunities in the overall scheme of things.

Tracy dedicates this book to the men and women at the stamping plant that allowed her to learn from their stories.

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Preface

The auto industry of the last thirty years has not been for the faint of heart. The U.S. domestic industry, in particular, has been in continuous transformation for most of that time period. The modern auto business is one of the few truly global industries. Today, there are more similarities than differences in the product designs, materials used, and processes of manufacture among the global competitors. Yet, significant differences are found in the various results of each. Success is difficult and eludes many.

I began working in the car business as a young engineer over three decades ago. As I prepare to retire from a senior leadership position at General Motors (GM), I look back on a career that never lacked for challenges and opportunities. I come from a family of autoworkers. My father was an hourly employee who provided for his family by working in the factory every day for over forty years. My first engineering assignments started on those same factory floors. My extensive plant experience has given me a unique perspective from which to consider the waves of change that buffet the domestic automakers. I have seen incredible acts of initiative and selfless contributions from hundreds of employees like my father. The value of their conscientious acts could be counted into the many millions of dollars. Yet I have seen firsthand the errors and acts of waste of demotivated workers as well. Both groups entered the work force to do their very best. At one time, they all shared the same excitement and sense of wonder at how cars and trucks are produced. Yet, somewhere along the way, that excitement was lost for some and replaced with boredom, apathy, and—at times—resentment. Like my colleagues, I have read much on manufacturing and workers. Some of what I have read has been insightful. Much of it is of little use to the supervisor or manager on the front lines of the factory floor attempting to deal with these circumstances.

The Lansing Delta Township facility is GM's newest American assembly plant at the time of this writing. The location, building,

facilities, and tools represent the latest manufacturing technology from around the world. Yet the work force is men and women from a combination of several older and closed facilities in central Michigan. It is a work force from one of the most strongly unionized areas of the country. During a routine review of the project, a simple question was asked: What's the plan for the people? We had spent hours reviewing details related to the physical attributes of the plant but much less time on the preparations related to the readiness of the work force. All present at the review recognized that the men and women who would someday staff the facility were the real key to success of this billion-dollar investment. Future meetings would review reporting relationships and team sizes, as well as other metrics, but how would we prepare the people to work together? How would we create a culture of world-class safety, quality, and productivity?

The answer would come from the unlikely source of cultural anthropology in the person of a dedicated scientist from GM Research. In addition to the best practices found in management texts, the study brought to our effort a process that created learning events from the very problems and issues that we hoped to avoid. These events, often unseen, can sow the seeds of future distrust and disruption and—ultimately—demotivate portions of the work force. This effort has generated a set of lessons and tools that continue to grow and bear fruit. When I began my career as a manufacturing engineer, I had a keen interest in understanding how to reliably reproduce a particular result or product. I am grateful to Dr. Elizabeth Briody not only for her contribution to the successful launch of a world-class manufacturing team but also for her documentation of these efforts in such a way that others can reproduce these results to the benefit of the teams of which they are a part.

Troy A. Clarke
President of GM North America
September 13, 2009

Acknowledgments

Many people played a role in the publication of this book. We are extremely grateful to GM for its financial and technical support of this research program for six years. We also thank the people of GM. Over 400 employees shared their time, their stories, and their experiences with us so that we could understand their views of manufacturing culture—past and present—and their expressed hopes for the future. This book is their book as much as it is ours. It is their story of life on the plant floor and of cultural transformation that we did our best to capture. For confidentiality reasons, we do not reveal their names.

The idea for the project, originating with Steve Holland at GM Research and Development (R&D), was quickly supported by other managers at R&D including Alan Taub, Jan Aase, and Tom Seder. Support grew within GM's manufacturing organization, with Troy Clarke serving as the original project sponsor, executive advisor, and, ultimately, manuscript reviewer. His global perspective and his manufacturing background positioned him to add considerable value to the final product. Randy Thayer, who became plant manager of GM's newest U.S. assembly plant, Lansing Delta Township, was an ongoing source of support for our work. His interest in innovation and plant culture predated the plant's construction, continued through the plant's successful start-up, and was maintained long after our research group reported its results and delivered the tools. He and his Joint Leadership Team worked tirelessly with us to refine our ideas and develop and validate customized applications to help build and maintain a collaborative plant culture. Local union leaders Art Luna and Steve Bramos were an integral part of Randy Thayer's team, as were plant Quality Network leaders; in particular, Don A. Smith and Mark Strolle were always available to answer our questions and offer insights into emerging cultural patterns. GM's Global Manufacturing System employees, working directly with the manufacturing plants, acted as advocates for the project. We especially appreciated the interest and perspectives offered by Gerry Knesek, John Ciupak, and Chris Turner.

Several senior manufacturing executives provided assistance and guidance in disseminating project results in GM's U.S. facilities and in sponsoring the pilot testing of the tools we developed. They included Larry Zahner, Joe Ponce, Bill Boggs, Arvin Jones, Jim DeLuca, Joe Spielman, and Gary Cowger. The project was supported by Greg Fedak, Mike Hall, and John Bussineau of the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW)-GM Quality Network. Several GM employees, including Karen Sutton, Matt Albee, Sharon Zielinski, Mark Beltramo, Tom Schenk, and Jeff O'Neal helped in the identification or compilation of documentary data and/or library support services. We were very grateful for their assistance.

A number of researchers worked with us during the research, validation, analysis, and applications-development phases of the project. Gülcin Sengir, a computer scientist by training, adapted quickly to the world of anthropological fieldwork. Her perspective and modeling efforts led to the creation of the Ideal Cultural Model, which became a core element of the study. Linda Catlin, an experienced consulting anthropologist (Claymore Associates, Inc.), also participated fully in the fieldwork. Her skill in facilitating discussions with manufacturing leaders, while offering insights from a variety of field projects in which she had been involved, always proved highly relevant and useful. Emily Altimare contributed her expertise in anthropology during the pilot-testing phase of the study and in the testing phase of the *ExplorePlantCulture* computer game. She also built on our research to design her own dissertation fieldwork at the Lansing Delta Township plant. Lee Ridenour adapted some of our tools for additional testing as part of his honor's thesis. Wolf Gumerman, Honors Director for Northern Arizona University and a fellow anthropologist, documented and chronicled parts of the Ideal Plant Culture project for dissemination to the American Anthropological Association. He also contributed to our understanding of the culture through his photographs and videos and his excellent questions about working within GM culture.

The artwork for the book's cover was done by Perry Kuey. He also used his artistic style to design all of the graphic illustrations. The photograph on the cover was taken by Linda Johnson. George Dan Pirvu, the patient and creative developer of the *ExplorePlantCulture* computer game, created the computer graphics screenshot.

On a personal note, Elizabeth Briody would like to thank some special people who have been great sources of support for her. Her husband, Marc Robinson, played an important role in the book. He offered many technical contributions, including a broad economic

and strategy perspective that helped situate the findings within a broader context. He provided insights on the perspective over time of both GM management and the UAW. He offered editorial advice and encouragement and adapted his schedule, as much as possible, to the book's pace. Their children, Andrew, Kathleen, and Anton Robinson, understood the importance of the project and helped out in many ways. Urszula Wawer easily and cheerfully took on many of the Robinson household and childcare responsibilities during the writing phase of the book. Two other individuals deserve special recognition for what they personally taught Elizabeth about the importance of collaboration. Both Ina Rosenthal-Urey, professor emeritus of anthropology at Wheaton College, Norton, Massachusetts, and Bob Frosch, retired vice president of the GM Research Labs, modeled a collaborative research style that became the basis of the way in which the Ideal Plant Culture research group worked with each other and with those who participated in the study.

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About the Authors

Elizabeth K. Briody, PhD, is a cultural anthropologist who has been engaged in cultural change efforts for over twenty-five years. She founded Cultural Keys LLC, a consulting firm specializing in improving work culture, increasing partnership effectiveness, and enhancing health care satisfaction. Her projects have included improving health care integration and the effectiveness of research partnerships, technology transfer, and joint product development. She recently edited and contributed to *Partnering for Organizational Performance* with Robert T. Trotter, II (Rowman & Littlefield, 2008). Much of her career was spent at GM R&D where her most recent position was Technical Fellow. She is an adjunct professor at Michigan State University, Northern Arizona University, and Wayne State University. She is past president of the National Association for the Practice of Anthropology, a section of the American Anthropological Association.

Robert T. Trotter II, PhD, is an Arizona Regents' Professor and current chair of the Anthropology Department at Northern Arizona University. His research interests include cross-cultural–health care issues, organizational models for change, social networks and social structures, innovation and cultural models, exploring advanced ethnographic methods, and applied anthropology. He is the coeditor of *Partnering for Organizational Performance* with Elizabeth K. Briody and coauthor of *Ethics for Anthropological Research and Practice* with Linda M. Whiteford (Waveland, 2008). He has conducted applied anthropological research for GM, the World Health Organization, the Centers for Disease Control and Prevention, the National Institutes of Health, and the Surgeon General's Office of HIV/AIDs Policy.

Tracy L. Meerwarth, MA, is a Corporate Officer at Consolidated Bearings Co., Cedar Knolls, New Jersey. She worked at GM R&D from 2001 through 2008, prior to which she received her MA in applied anthropology from Northern Arizona University with an emphasis on organizational studies. She applied her interests in cultural modeling,

and cognitive and symbolic anthropology to various projects at GM, including collaboration and workspace studies. She and her coinventors hold a U.S. and international patent entitled, "System and Model for Performance Value Based Collaborative Relationships" (U.S. Patent No. 7,280,977, October 9, 2007). She is coeditor of *Mobile Work, Mobile Lives: Cultural Accounts of Lived Experiences* with Julia C. Gluesing and Brigitte Jordan (Blackwell, 2008).

Chapter 1

Introduction to the American Manufacturing Culture Story

The modern automotive assembly plant is a wonder; in fact, tours—virtual or real—of assembly plants are popular features of Disney's Epcot Theme Park and The Henry Ford Museum. Thousands of parts from a vast array of suppliers arrive daily, often in the precise quantity and sequence that will be needed during that day or even that hour. Workers at hundreds of stations wield sophisticated, specialized tools to put those parts into systems and subsystems and integrate them with vehicle underbodies and sheet metal. The metal parts are welded by advanced robots and painted in high-technology booths using cutting-edge chemicals and processes. The final products that emerge are often beautiful and symbolic dream machines, as memorialized in countless songs, but are also increasingly electronic marvels with chips controlling everything from engine performance, to braking, to satellite communications. Despite being produced with a dizzying variety of body styles, models, options, and colors on a single assembly line, vehicle quality is at levels far above a generation ago.

It is easy to be blinded by the technology of product and process and miss the people who do the work—whether they are production workers, managers, skilled tradesmen, manufacturing engineers, or support staff—or to view them as little different from the welding robots. Yet forgetting the people would be a profound error. The production system is dependent on people. They solve the problems. They come up with the innovations. And, they have the capacity to adapt to changing conditions—whether a temporary breakdown on the line, the launch of a new product, or a streamlined change in the production process.

Both the recent turmoil and the longer history of the automotive industry make it clear that change is relentless—coming from tougher vehicle requirements and fluctuations in tastes of customers and

policymakers, from fierce competitors both old and new, from ideas and inventions, and from dramatic swings in the economic environment. Competition, globalization, ingenuity, and work practices all play a role in the automotive evolution. Innovations appear, traditions are reshaped, mistakes are made, and winners and losers can switch places in the process. The stakes get higher and higher as more players arrive in the global marketplace to offer their products, services, and knowledge. With more consumer choice, organizations must cope by exploring new options for getting to market faster with higher quality and lower cost. The ability of people to adjust and respond to change effectively is critical to success in automotive manufacturing, and, indeed, to success in most work settings. Yet change is often perceived as difficult. At a minimum, obstacles to change must be overcome, including resistance to new ideas and initiatives, and the whole change process must fit into a number of important cultural environments (e.g., organizational, national).

Culture plays a critical role in this cyclical process of innovation and adaptation, though its explanatory impact is not often explored or understood. Our definition of culture, "assumptions, expectations, beliefs, social structures, and values guiding behavior,"[1] targets the organization and specifically the manufacturing function. We view the elements of culture as fluid and interdependent; a change in one part of the culture (e.g., how employees are treated) can have broad ramifications in other parts of the culture (e.g., how problem solving does or does not occur). Culture affects how a plant or workplace functions, how managers and line workers relate to each other, and how change is perceived. Culture also influences the type of response that people make and which approaches to change will be effective and durable. Indeed, ignoring culture is a major reason why most change efforts fail.[2]

This pattern of adaptation and response is part of the cultural change or transformation process, a core concept around which this book is written. Examining cultural transformation within the automotive industry provides a view of the past and present, as well as potential insights into a future trajectory of work and culture. There is no "one best way" for any culture to function or to change. Indeed, there are often multiple "best ways" and "worst ways" that play out. In this book we offer a process for finding out what individuals in the culture (and not just a subset of the culture, such as the senior leadership) think is the "best way forward."

We describe and explain the cultural transformation process using our multiyear, multisite ethnographic study[3] of General Motors (GM) manufacturing operations in the United States. We link the historical

record with anthropological field data to portray the evolving process of cultural change and to point a way forward. It turns out that a consensus view from inside the culture suggests a "one best collaborative way" for the future of the firm. Across the board, we found an emphasis on the importance of a cohesive, unified, and collaborative approach to work as a strategy for improving organizational effectiveness. GM's cultural-transformation story, including its successes and failures, offers lessons for other organizations and industries as they try to adapt in a rapidly changing world.

The Decline of an American Icon

GM was once the archetype of the American organization and is now under attack as a failure of American competitiveness. For most of its hundred-year history, GM has been viewed as the embodiment of American culture. Hard work, technological innovation, and successful products were all part of the American dream. GM was, at one time, the master of mass production methods, generating high-volume products characterized by their styling and power. Yet, GM was slow to make the transition to lean production in which flexible production methods and multiskilled worker teams produce high-quality results;[4] it was also slow to change its overall cultural orientation in the face of new vehicle models in both the United States and abroad.

GM, and the American automotive industry generally, found itself losing ground to competitors as Toyota, Honda, Nissan, and then Hyundai, took advantage of both their cultural milieu and structural advantages, such as protected home markets, to compete, increasingly successfully, in the global market. These Asian firms first spearheaded quality improvements and then became masters at reducing waste and cost, reducing lead time to market, and learning effectively from their mistakes. Though Detroit's vehicles have improved dramatically in recent years, often exceeding the ratings of competitors, their customer base in the United States continued to slip because of cost disadvantages and the lagging customer perception of their product quality. As the twentieth century came to a close, GM was beset with other problems. It found itself overstaffed, lacking a strategic plan, and making decisions consistent with its parochial Midwestern mindset rather than a global orientation (e.g., lacking "sophistication in its understanding of foreign competition"[5]).

In addition to product development and marketplace difficulties, GM and the other Detroit automotive companies also faced challenges

in implementing changes in manufacturing practices. Hourly workers at almost all of GM's U.S. facilities are represented by the UAW.[6] The UAW is a powerful union with a long history of contentious relations with U.S. auto manufacturers, including GM. Historically, the UAW has been concerned with preserving the jobs, plant floor work rules, and lifestyles of members and has been resistant to key management efforts to make changes. The power of the UAW ensures that most changes on the plant floor require its tacit or explicit cooperation. Gradually over the last twenty-five years, the confrontational stance was muted somewhat, though the devastating 1998 strike at GM signaled that the conflict persisted. As the UAW became increasingly convinced that Detroit's survival was at stake (ca. 2005), it agreed to a series of concessions that reduced the competitive gap in wages, benefits, and work rules with foreign manufacturers, particularly those on U.S. soil. After a historic labor agreement with the UAW in 2007, GM management was convinced that the company was poised for success.

And then GM's world began unraveling at breakneck speed. Experiencing bankruptcy, leadership changes, massive restructuring and downsizing, GM had to grapple with, redefine, and then manage its core operations despite the changeable and unpredictable conditions in the world around it. Some of the traditional strengths of GM and American culture (e.g., the individual nature of work and creativity, the emphasis on meritocracy and career advancement) are no longer sufficient for ensuring survival. To thrive in the twenty-first century requires breaking down the barriers associated with GM's autonomous and decentralized (i.e., silo-based) cultural tradition, improving the ability of the collective to learn and adapt, and shoring up the sense of community within the GM work force.

The erosion of GM's market share, the decline in value of GM's brands, and the high cost of labor at GM and at its key supplier, Delphi, created a life-threatening crisis. These problems were compounded in the late 2000s after a spike in fuel prices, a collapse in demand for profitable GM trucks, and a global credit crisis that froze credit and destroyed consumer confidence—all in rapid succession. GM was forced to seek U.S. government assistance to continue operating and was vilified in the process by Congress, the media, and much of the American public. All parts of the political spectrum found fault with past GM decisions—whether related to labor, fuel economy, or product—and exhibited significant resistance to public support of private companies. GM was ultimately supported by both the Bush and Obama administrations because of its importance and because of the

vulnerability of the economy. However, the Presidential Task Force on Automotive Restructuring viewed the company's plans as insufficient, forced out CEO Rick Wagoner, and helped push the company through bankruptcy.

Prompted largely by external (and to some extent internal) critiques, and shaken by the demands of the Task Force, GM leaders launched an intense effort to change the dysfunctional culture of the "old GM." As the company emerged from bankruptcy in July 2009, new CEO Fritz Henderson described a "new culture" for the restructured company focused on customer and products, speed (especially with respect to decision making), risk taking, and accountability. One of the strategies for influencing the change process, and one that GM employed, is storytelling—on broadcasts, in meetings, and in other places where employees gather. "Cultural-change agents" exemplifying the new culture tell stories that express their hopes for the future, including stories that "correct" some failure from the past. This approach to cultural change promotes both the messages and the individuals themselves who model the behavior of the new culture. Cultural change may have been accelerated when Henderson was replaced by an outsider, Ed Whitaker, in December 2009. The jury is still out on how effective GM's cultural change efforts will be and whether they will yield long-term success.

Genesis of the Project

Though the research on which this book is based was complete before GM appealed for government assistance, the need for the book became even clearer as GM continued to make the headlines day after day. This book focuses on the process of cultural change that is going to be necessary to reshape U.S. manufacturing and other American workplaces if the United States is to be successful in the current drive for innovation and global competitiveness. The basic research was triggered by an initial series of questions about American culture and the American workplace that were raised during a discussion involving our anthropological research group and a senior GM executive, Troy Clarke, who, at the time, was GM's executive in charge of manufacturing and labor relations. He had previous international experience with GM manufacturing in Mexico, Asia, and other international locations. His ideas are reflected in these questions, which linked differences in manufacturing plant culture with the national cultures in which those plants were located: