

by GERRY KOBE

Manufacturing Battle Plan

"Competition is war! And unless you treat it that way, you'll be one of the war's first casualties."—Sandy Munro

Sandy Munro

Sandy Munro, President of Munro & Associates in Troy, MI, is a veteran of "manufacturing war." Early in his career, he brought billions of dollars in savings to the bottom line at Ford, where he served as Corporate Coordinator of Design For Assembly (DFA)—a discipline he introduced to the company.

In 1988, Munro launched his own consulting company, specializing in DFA, benchmarking, manufacturing method evaluation, plant layout and product design/redesign. He has since worked successfully with automakers, electronics firms, appliance manufacturers, heavy equipment companies, toy makers and in aerospace design.



[competition]. To do this, he often quotes from *The Art Of War*, a compilation of military strategies of the ancient Chinese warrior-philosopher, Sun Tzu.

These are Munro's favorite Sun Tzu strategies, as well as real-life examples of how they figure in to the manufacturing battle plan.

—GK

As important as any of the productivity tools Munro uses to achieve improvement, he teaches that winning on the manufacturing floor draws parallels to winning on the battlefield. That is, understanding the physics, politics and psychology of conflict

So it is said that if you know others and know yourself, you will not be imperiled in a hundred battles; if you do not know others but know yourself, you win one lose one; if you do not know others and do not know yourself, you will be imperiled in every single battle. —Sun Tzu

"One of the scariest things I find when I go in to help a company is asking questions about the competition. If I ask how long does their product take to manufacture—they don't know. How much does it cost? They don't know. What are their plans? They don't know. In short they don't know the enemy.

"So you skip that part and focus on the company you're there to help. But they can't tell you cost versus estimation versus profit—nothing jibes. They don't know themselves, and the combination of those two is what got them into trouble.

"This illustrates the importance of benchmarking, which is absolutely critical. You need information. Sometimes as the Japanese have shown us, it's as simple as going to trade shows and just asking—the competition will tell you! I've seen people in management blurt out something that is very sensitive that they heard in a meeting. Why? They don't know the value of the information.

"A successful company needs to be doing more of that. The Japanese are always asking for detailed information. And they deliberately sit down before they even start asking, to decided what they need. That's how you know your enemy."

The one who figures on victory at headquarters, before even doing battle, is the one who has the most strategic factors on his side. —Sun Tzu

"When I go out to help a company in trouble, they share some common faults: The decision-makers don't have a clear vision of where they want to go; they don't have the detail knowledge to get themselves on track and generally won't accept that knowledge from subordinates.

"I was visiting a well-run engine plant in Japan. There were lots of people in front of me asking general management questions such as how many engineers on a project, how many people in the plant—things like that. The site manager was answering these right off the top of his head.

"When it got to me I wanted detail answers so I assumed he would defer to one of the people at his side. But he didn't. I asked him how a particular stud feeder worked, I asked about a numerical control system, I asked breakdowns of who did specific jobs on the floor, details on welding, reject rates on fasteners. And again, he knew everything off the top of his head.

"It was no accident that the plant ran smoothly. The decision-maker had detail knowledge—not just the big picture. You seldom see that in this country."

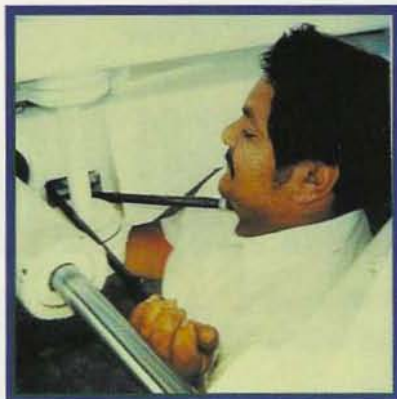
Plan for what is difficult while it is easy, do what is great while it is small.—Sun Tzu

"This is a failing I often see. Doing what is great while it is still small requires having vision. That means leaders must know exactly what it is they want, and have a strategy developed with clear, concise specifications. Everybody involved should understand what they must do.

"A vision should also be far-reaching, because it's always better to err in favor of greatness than to do something because it's easy.

"A good example is Sony. Phillips invented the CD player but it was as big as a suitcase. The head of Sony came down, took a piece of wood and cut it 6 in. x 6 in. x 1 in., painted it black, signed every corner, handed it to the chief engineer and said 'That's the size of the next Sony CD player.'

"The engineer thought it was impossible so he quit. The next engineer came in and made it that small, so the head of Sony came back to look at it. He picked up a shot glass full of water, poured it in and said 'There's still room. I



guess we can make it smaller.' Attainable goal-setting is a mistake. You need stretch objectives.

"I have an example I like to use to illustrate what happens when you don't do what's great while it's still small. I have a photo that shows an assembly worker on a piece of harvesting equipment where nobody envisioned the assembly process. He has to compress the suspension with two crowbars, which he then holds

under his chin while he feels his way into a blind opening to install a fastener. It's a classic example of a problem not being solved because the chief engineer didn't even know it was going on."

Good warriors seek effectiveness in battle from the force of momentum and not from individual people.—Sun Tzu

"This is one of the most common problems in the auto industry. I was part of a program where someone in management changed a vehicle that had already been approved.

"Clays were frozen and prototype parts existed, but they decided they didn't like a detail on the front end. Based on that one person's opinion, it was ordered changed. That decision set the program back by weeks and cost the company millions of dollars.

"We have to accept that once we get a well-trained team running in one direction, that the best thing we can do is get out of its way. When we break the momentum, the team turns into a bunch of people and it has to start over. Momentum is usually broken by managers that don't even know what they did. And if you told them, they'd defend their actions by saying all they did was ask for a little modification. In Japan, programs don't go backwards, and they won't shove a half-designed product on to manufacturing.

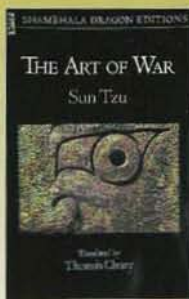
"In the US and Canada we make lots of engineering decisions way up front, mess around with them, and there is no documentation and no one looks back. Then we claim we don't understand how we got into trouble." **AI**

Recommended Reading

The Art Of War—Sun Tzu, translation by Thomas Cleary, Shambhala Publications, is a book of military strategy with legitimate applications to politics, business, competition and conflict.

The aim of the book is to teach the reader how to be invincible, how to assess strengths and how to secure victory without battle.

In Japan, *The Art Of War* and its insights into human nature have been a key to that country's competitive success. "I haven't met



anyone that works with the Japanese, that hasn't figured out that Sun Tzu is their MBA philosophy," says Sandy Munro.

This translation has been edited by Thomas Cleary to illustrate the meaning of the principals of strategy.

There is also an extensive introduction that outlines the background of the book. Cleary holds a Ph.D. in East Asian Languages and Civilizations from Harvard University.

—GK