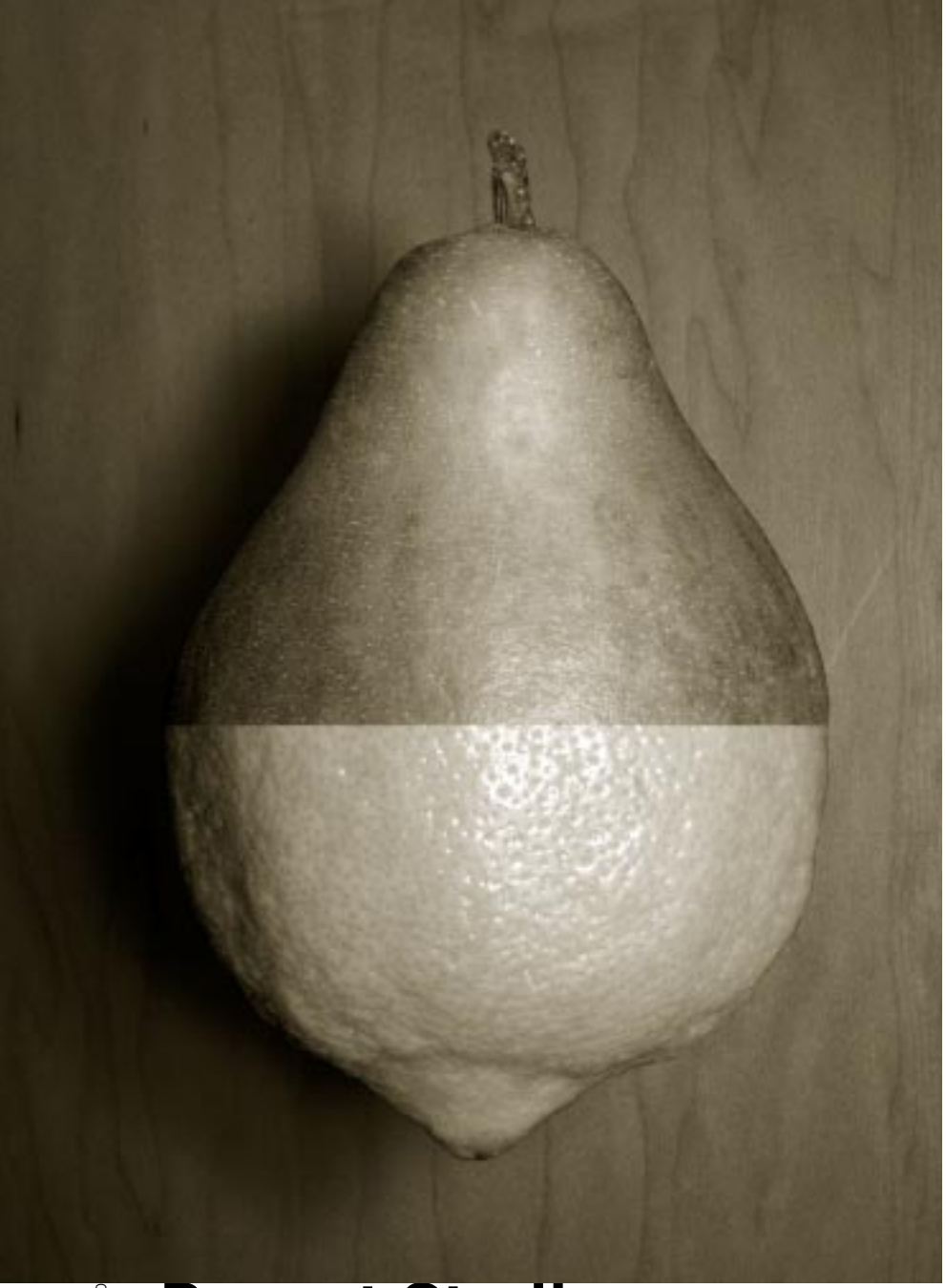

Photograph by Opto

Recent Studies

On emotion in advertising, manufacturing metaphors, corporate innovation, and other topics of interest.

Research Notes by Des Dearlove and Stuart Crainer

The Power in Mixed Emotions

Patti Williams (pattiw@wharton.upenn.edu) and Jennifer L. Aaker (aaker@gsb.stanford.edu), "Can Mixed Emotions Peacefully Coexist?" *Journal of Consumer Research*, Vol. 28, March 2002. www.journals.uchicago.edu/JCR/home.html

A recent ad for Diet Coke includes the tag line "She can make me laugh even when I am mad at her." The premise behind this appeal is that the mix of emotions — laughter amid disharmony — is persuasive and pleasing. Along similar lines, an advertisement for an insurance company features a grieving widow reassured by the presence of her dear departed husband's life insurance policy. The use of such mixed emotions, however, runs counter to advertising's traditional reliance on the persuasive power of single positive emotions.

Our ability to assimilate mixed emotions is, to some extent, a function of age and of culture. Older adults are more at ease with complex emotional issues. Cultural influences make an even larger difference. Americans are quite happy

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with mixed messages (such as images and wordplay), so long as they're not about emotions. In contrast, Asian cultures tend to be more comfortable with mixed emotions. In China, for example, good news is naturally accompanied by the realization that bad news may well be around the corner. The sweet comes with the sour.

These conclusions were reaffirmed in research conducted by Patti Williams, an assistant professor of marketing at the University of Pennsylvania's Wharton School of Business, and Jennifer L. Aaker, associate professor of marketing at Stanford University Graduate School of Business. Their research involved showing advertisements that invoked happiness and sadness to a group of students made up of Asian-Americans and Anglo-Americans.

They found that Asian-Americans were more at ease with appeals based on mixed emotions. The Anglo-Americans preferred the positive and happy emotional message. The reactions appear to have been deep-seated, based on emotional responses to the advertisements rather than more cerebral analysis.

This research suggests advertisers should reconsider biases against using mixed emotions in their ads, especially those trying to relate to rapidly growing niche market segments, such as the elderly and people of Asian descent.

The latest (unpublished) research by Professors Williams and Aaker explores the juxtaposition of emotional extreme still further. In particular, they are trying to determine what can make the mixing of emotions in advertising more appealing to people who might otherwise not respond positively.

Cellular Manufacturing Theory

Lieven Demeester (lieven.demeester@insead.edu), Knut Eichler (knut.eichler@insead.edu), and Christoph Loch (christoph.loch@insead.edu), "What the Biological Cell Can Teach Us about the Future of Manufacturing," INSEAD Working Paper Number 2002/82/TM. http://ged.insead.edu/fichiersti/inseadwp2002/2002-82.pdf

For the better part of the last century, the most commonly used metaphor in the business world was that of the machine. Companies strived for mechanistic efficiency; people were cogs performing their work amid complex corporate structures and processes. Over the last 20 years, this dominant metaphor has increasingly been challenged, often by those seeking to apply principles of biology to engineering.

Most comparisons between manufacturing and biological cells focus on their similarities — both cells and modern factories employ lean production systems, emphasize sourcing of high-quality materials, and use common components to make the production process as straightforward as possible.

A trio from INSEAD — Lieven Demeester, assistant professor of operations management; Knut Eichler, a research fellow; and Christoph Loch, professor of operations management — suggest that lessons can also be learned by looking at how cells and manufacturing processes differ.

One important way cells are different from those processes is in their ability to thrive on an astonishingly small number of basic materials — nucleotides, amino acids, saccharides, and fatty acids. These common building blocks create an array of unique products. For example, all proteins are made from 20

amino acids. This, say the authors, is akin to industrial machines being made up of a mere 20 different modules. Such simplicity in components is a worthy goal, and meeting that goal is not impossibly futuristic. The Franco-German drive engineering company SEW-Eurodrive GmbH produces motors with 50 million potential customer-specific variants, yet the motors have fewer than 1,000 different parts. Although this number is hardly as impressive in comparison with the flexibility of biological cells, for a manufacturing company, it is exceptional.

Another difference is that cells adjust to changed circumstances immediately. If this could be translated into production terms, manufacturing equipment would be added, removed, and renewed on the spot, as it is needed. The instant responsiveness of cells is matched by their autonomy and their ability to recycle materials. Cells are more efficient than machines — although they do have the slight advantage of having been in existence two billion years longer than industry.

The most interesting conclusion from this paper is the authors' expectation that local production will massively increase in importance. Large-scale production is naturally inefficient in that it tends to lead to overproduction, destroys resources, and relies on expensive and environmentally damaging transportation. They envisage a world in which moderately complex products, such as tractors, will be produced quickly and locally without the need for a large inventory or, indeed, any inventory. This scenario features the use of locally available universal components, the use of mobile universal production machines, and the continual local reuse of parts. It is radically different from today's production methods, but as the INSEAD team points out, there is evidence that isolated changes along these lines are under way.

Gender, Race, and the Internet

Fiona M. Scott Morton (fiona.scottmorton@yale.edu), Florian Zettelmeyer (florian@haas.berkeley.edu), and Jorge Silva-Risso (jorge.silva-risso@anderson.ucla.edu), "Consumer Information and Price Discrimination: Does the Internet Affect the Pricing of New Cars to Women and Minorities?" Yale School of Management Working Paper Number ES-15. http://papers.ssrn.com/abstract=288527

Much has been made of the Internet as the great leveler — the quality that makes comparing prices easier for the buyer. But the Internet also affords consumers a greater degree of anonymity, rendering invisible differences in their gender and race. In sectors like car retailing, in which price variation is widespread, the Internet can work to the advantage of women and ethnic minorities, according to research by Fiona M. Scott Morton, the James L. Frank Associate Professor of Private Enterprise and Management at the Yale School of Management, Florian Zettelmeyer, assistant professor at the Haas School of Business at Berkeley, and Jorge Silva-Risso, assistant professor at the Anderson School of Management at UCLA.

They began studying the issue by analyzing the relationship between offline car prices and demographic characteristics. Using pricing data on transactions completed in dealer showrooms for more than 700,000 new automobiles in 1999, they found that the pricing of new cars strongly depends on certain cues that salespeople use to assess how much a consumer is willing to pay. In particular, pricing is affected by salespeople's perceptions of a consumer's income, education, and search costs (how easily consumers can shop around to get the best deal on their chosen car). These perceptions are strongly influenced by ethnicity.

According to the authors' research, this results in minorities' paying a premium; African-American and Hispanic consumers pay 2.1 percent more than other car buyers (almost $500 on the average car). The average difference between price and invoice on a car in the sample was $1,700, or a 30 percent markup. As much as 65 percent of this price premium, the authors found, can be explained by salespeople's perceptions of a buyer's income, education, and search costs. (They found no evidence of statistical race discrimination.) They also identified a smaller price premium paid by women, 0.43 percent, equivalent to $100 on average.

Professors Scott Morton,

Zettelmeyer, and Silva-Risso then looked at an Internet referral service, Autobytel.com. As well as providing market information about cars, Autobytel.com allows consumers to submit a free purchase request, which is forwarded to one of 5,000 participating U.S. dealerships. A salesperson from the dealership then contacts the consumer within 48 hours with a price. The authors' analysis showed that when car buyers from these demographic groups purchased through this Internet channel, the difference in price was virtually eliminated.

Interestingly, Autobytel.com's price quote delivery process does allow the dealer to discover the consumer's race in most cases (for example, name and address information can be used to infer gender, ethnicity, and neighborhood). Yet the authors found that online minority consumers pay the same prices as do white consumers. This suggests that online pricing is not influenced by race.

The authors conclude that a number of factors are involved in this discrepancy. Consumers requesting prices via the Internet tend to be better informed, so their use of this channel signals a higher level of information and may itself be a cue for pricing. The Internet also masks some of their demographic characteristics, depriving dealerships of physical cues, such as clothing and body language, that affect offline pricing.

Rather than interpreting the data as evidence that dealerships treat minorities differently than white consumers because of their race, Professors Scott Morton, Zettelmeyer, and Silva-Risso argue that "price discrimination in car buying has a 'disparate impact' on minorities and whites rather than being evidence of 'disparate treatment' of these groups." Their research suggests that when an African-American or Hispanic consumer walks into a showroom, the physical cues dealers associate with minorities are more likely to trigger a higher quote. Online, however, these cues are neutralized: Dealers may detect the race of online customers, but this does not affect pricing. Indeed, all consumers who use the Internet channel are seen by dealerships as being well-informed and having low search costs — even if this is not the case. The authors conclude that the Internet is disproportionately beneficial to people who lack information or who have personal characteristics that put them at a disadvantage in negotiating on price in a dealer showroom.

The Big Company's Path to Innovation

Paul Geroski (pgeroski@london.edu) and Costas Markides (cmarkides@london.edu), "Colonists and Consolidators." Unpublished paper available from the authors by request.

Large companies are routinely exhorted to innovate (lest they die). The general consensus is that successful innovation requires two activities: invention (coming up with a new idea) and commercialization (creating a viable market from the idea). Much advice has focused on how large companies can become better at combining these activities. But, according to London Business School's Paul Geroski, professor of economics, and Costas Markides, the Robert P. Bauman Professor of Strategic Leadership, this approach is fundamentally flawed.

Professors Geroski and Markides argue that the competencies required for invention and com-

The competencies required for invention and commercialization are in conflict with each other.

mercialization are not just different, but in conflict with each other. Firms that are good at invention (*colonists*) are unlikely to be like firms that are good at commercialization (*consolidators*). Very few firms are good at both.

In general, they argue, small startup firms are natural colonists, whereas large established companies are natural consolidators. This means that attempts by large organizations to become more entrepreneurial — by imitating the culture and structures of small firms — are largely a waste of time, according to the authors. Rather, the challenge for big companies is how they can use their natural advantage as consolidators to "scale up" the ideas of others.

Effective colonizers are "able to explore new technologies quickly and effectively, and make the creative leap from technological possibility to something which meets consumer needs. They are good at creating new market niches." Natural consolidators, by contrast, are "able to organize a market, turning an idea into something which can be economically manufactured and distributed to a mass market," the authors write.

Professors Geroski and Markides base their assertions on a thesis about how new markets are created and grow from niche to mass. They illustrate their argument with examples, including the development of mass markets for automobiles at the beginning of the 20th century, supercomputers in the mid-1960s, and the evolution of the Internet since the 1960s.

Most new markets, they argue, are created in a haphazard manner. Typically, a new technology is discovered by accident. This is followed by a series of other incidents that seem to be accidents but that in fact are part of a recognizable pattern of how new markets evolve.

The early evolution of most markets unfolds in two stages. The first is an exploration phase, filled with technological and customer uncertainty. This encourages waves of pioneer firms (colonists) who "try their luck" by introducing a variety of products and business models. This phase constitutes a learning process for both producers and consumers, and ends with the arrival of a "dominant design" — the Model T in the case of automobiles. This is the decisive step in establishing the market. It signals a convergence of demand and supply to define what the product is, and ushers in the growth phase of the market.

At this point, most early entrants exit and the surviving firms invest heavily to exploit economies of scale, build brands, and create the distribution channels required to serve a mass market. The company that creates the dominant design (the consolidator) enjoys first-mover advantage — even though in most cases it was not the first into the market. It benefits from having been first when the market emerged, rather than when the product emerged, and ends up with most of the profits.

The authors do not argue that it is impossible to combine colonization and consolidation, but rather that the probability of doing both successfully is very low. Exceptions — what they call "ambidextrous organizations" — do exist, but they're a rarity.

So what does this mean for large corporations? The authors propose that instead of focusing on generating new ideas, big firms should focus their attention on "stealing" the ideas from small firms and scaling them up into mass markets. ✚