

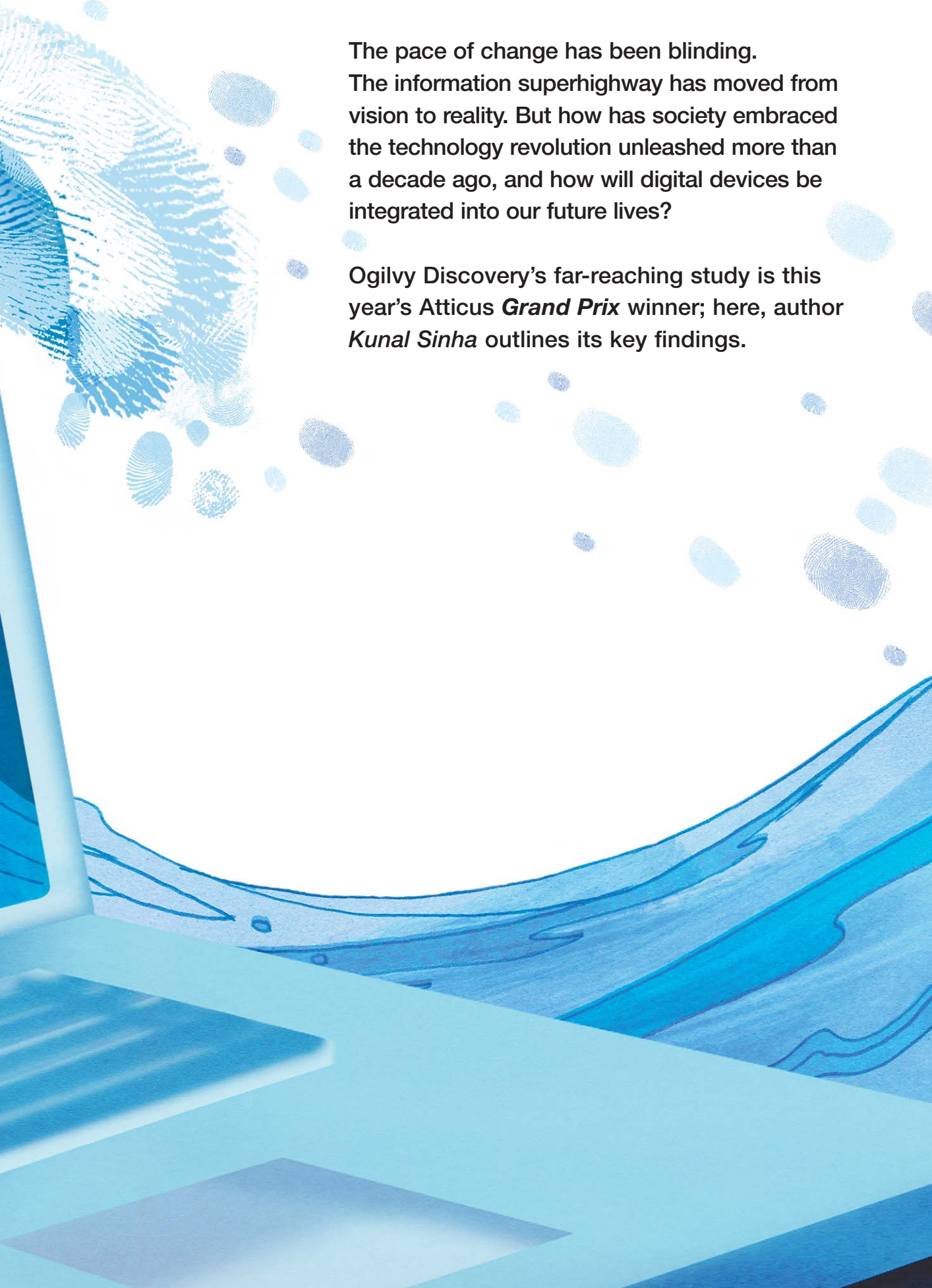
Michael Gillette



# The human wave

The pace of change has been blinding. The information superhighway has moved from vision to reality. But how has society embraced the technology revolution unleashed more than a decade ago, and how will digital devices be integrated into our future lives?

Ogilvy Discovery's far-reaching study is this year's Atticus *Grand Prix* winner; here, author *Kunal Sinha* outlines its key findings.



One of the constant debates that rage among social scientists who observe the effects of technology has to do with whether humans desire greater simplicity or complexity as they progress. Many technology creators extol the value of convergence. While that might drastically reduce the number of ‘devices’ that we need and use, it also adds complexity to the task of using a device. Alternately, people like Al Ries have written about how we desire purity, and will therefore look for technologies that will do one thing, and do it extremely well.

Our first hypothesis takes off from this debate.

**Broadly, all technology will eventually fall into two categories: network, and interface. One will connect devices, the other will connect a device with a human.**

Genevieve Bell, an anthropologist at Intel, has quite accurately said that people inhabit homes, technology powers houses. It is that sensitivity which creators of domestic technologies need to keep in mind. While most domestic technologies embody notions of efficiency, so-called labor-saving devices have not actually had that effect. The change she advocates is to design not for efficiency, but for experience, effect and desire. Her manifesto is – think domestic, not digital. As an anthropologist, she believes that technology creators must draw and learn from the rich cultural heritage of the home and the hearth. Philips’s Home of the Near Future is based on the belief that “the Home of the Future will look more like the home of the past than the home of today”. Philips designed a wooden breakfast tray that provides a secure surface for a leisurely breakfast in bed. The soft base forms a stable, comfortable ‘interface’ with the body. Thanks to the magnetic metal contacts integrated into the tray, cups and plates do not slide about. Though cool to the touch themselves, the contacts also provide power to the crockery, keeping coffee and croissants warm, or orange juice and cereals cool. CounterActive, a prototype kitchen at MIT, exemplifies how the kitchen experience can be enhanced. Concealed beneath the one-inch-thick counter is a capacitive touch sensor: the recipe is projected down onto the counter, and the cook touches the countertop to move through the recipe or to glean greater details. Recipes contain side

links and facts; a cherry tart recipe will tell you the number of cherries on an average tree, and a recipe for *Chicken Provençal* includes the sights and sounds of a typical French market. CounterActive blends in with the environment and architectural space of the kitchen. Its focus is not to make meal production more efficient, but to enhance the experience of cooking. It gives the cook the feeling of being able to consult others, share her own perspectives.

Much of what we can do with technology has, quite obviously, been enabled by networks. Online social networks are simply human activities that ride on technical communications infrastructures of wires and chips. And wireless communications is ramping up our ability to connect. Though it seems, at the beginning, that WiFi is largely for the business traveler who must always be in touch with his or her office, the applications are diverse and surprising. Its need is felt the most when people are otherwise disconnected. For example, on the top of Mount Everest. Or in Baghdad, described as the most wireless dependent city on the planet, with phone lines down. While WiFi is seen as a luxury in some places, in others it is a weapon, elsewhere the only way to communicate. MIT has installed WiFi base stations on intervillage buses in South India. In Tokyo, mothers can know where their fourth-graders are: the kids can carry a wireless GPS-based tracking device called Cocosecom.

The challenge before technology innovators, clearly, is to enable technologies to communicate with each other, and sort problems out, pretty much the way humans do (or at least try to!).

**Technology will enable diverse cultures to collaborate more efficiently, in every sphere. It will bring people and organizations together, closer.**

There is no mistaking the shift in society’s focus from thriving on competition to the need for collaboration. Communication and conversation are among the keys to learning. Today’s knowledge economy is driven purely by technology. In the field of English language instruction, the rise of the new technologies has ushered in the age of collaboration. The internet and the World Wide Web have created a global English learning environment with new needs and new challenges. There is the challenge of a paradigm shift from faculty-centered

instruction to learner-centered initiatives. A teacher's role is shifted from a content provider to a learning facilitator. Collaboration is making a deep impact in corporate training environments. Technologies enable communication among learners, remote presentations from experts or instructors, online meetings and virtual classrooms. It is likely that live or synchronous training on the Web will become more cost-feasible and effective.

The promise is enticing: get workers together online to solve problems faster and become more responsive to customer needs. Collaborative tools such as Microsoft Live Meeting, Lotus SameTime, SharePoint, Groove, TeamThink and Team Direction make it easy to coordinate large groups by enabling members to post questions, work jointly on documents, schedule meetings and track progress towards goals.

Corporations are beginning to see the value of collaborations not just within, but outside. Kodak's traditional strength lay in imaging. As image storage has moved from film to digital, it has been forced to look for alliances in image capture, which is the traditional domain of camera makers. In 2001, Kodak tied up with Olympus in a cross-licensing agreement that was aimed at growth in the digital photography market. By licensing the iPod and offering iTunes on their desktops, HP moved itself immediately to the front of the line (alongside Apple). HP was able to offer their customers (who probably know and trust the hp brand but never owned anything by Apple) a superior experience to the competition. Literally overnight HP becomes not just a player in the online music race, but a leader.

**As opposed to the 'first wave' of technology adoption when men were the early adopters, the 'second wave' will see women adopting and using technology earlier. The gap between the two genders in technology adoption will reduce; however their motivations for adoption will be quite different.**

In the 19th and 20th centuries, technology was about machines. Heavy machines that needed muscles to maneuver, and it seemed only logical that the more physically powerful masculine gender would be the master of technology. Today, robots do the physically challenging jobs. The new opportunities are in technology-mediated communications, in services, and it is here that the female sex comes into its own.

Various researches suggest that when women's representation is no longer biologically based, as it sometimes happens on cyberspace, the Internet can be empowering to women. It allows women to be active and constructive. It allows their voices to be heard, and serves as a mechanism for the consideration of their ideas and insights. A study by N. Kaplan & E. Farrell – *Cyberfeminism as New Theory* (1994) – stresses that as more and more women grow up with new information technologies forming part of their everyday reality, the stereotyping of technology as a masculine domain and practice will necessarily fall apart.

While men are interested in the mastery of the technology, it is the wider social context that interests women, the study asserts. Donna Milgram, founder and executive director of the Institution for Women in Trades, Technology and Science found that where there is a computer lab, boys rush to the machines and girls hold back. If a girl is in the middle of a project, there are moments when she needs a computer to do something, and there are other times when she doesn't need the computer. Boys, on the other hand, will gravitate to the computer even when they don't need it because they just like the object, sitting with it and playing with it. Praveen Cheria of IBM in India puts it rather well when he says: "Women tend to bring technology into their sphere, while men reach out to technology".

Advertising for mobile handsets exhibits a sensitivity towards gender differences. Models targeted at women focus on the end-use whereas those targeted at men carry greater technical information, and are indicative of their symbolic value.

**The creators of future technology products and brands will no longer be engineers/scientists but people and teams with multi-disciplinary skills. An engineer-doctor; or a psychologist-engineer; an artist-engineer and so on.**

Squishy, left-brain science is slowly gaining its place alongside hardcore technology, as competitive tech firms try to get an edge on what their users are thinking... and buying. So are artists, as companies grapple with how technology appearance and interfaces become as critical to the acceptability of new products as the circuitry inside.

Lingaraju Sawkar, general manager, IT Services, at IBM India has interesting role definitions: the purist and the practicalist. The

purist's role is to develop 'better' technology – revolutionary. They are mostly the scientist-engineers. The practicalist's role is to find a market value for the technology. It is an incremental role, one of adding value. Many marketing people perform it. But he feels that "the industry needs an interface between the two, someone who can take technology and the user need and create a bridge". This is the key gap that the 'soft skill' people fill. Artists provide engineers and scientists with stimulation. "They provide us stimulation, asking What If?" says Allen Saur of Kodak.

**People will increasingly look for and find ways to 'get inside' technology. It will no longer be that 'black box', and technology brands will be built not on 'features' but on the basis of how 'human' and 'soft' they appear to be. In that sense they will assume dimensions that have emotional underpinnings.**

To have lasting impact – and to win enduring customer loyalty – innovative products must make an emotional connection to users, changing the way they think about wearing a parka or using a laptop. In other words, businesspeople should think about how they want their products to make their customers feel. Apple owners seem to enjoy a much stronger 'emotional connection' with their computers. The warmer colours, the softer curves of an iMac or an iBook, in no small way, contribute to the emotional bond.

In Japan, robots are deemed considerate and friendly. They fulfill a role of companionship that draws from social reality – a shortage of space that prohibits ownership of real pets, and the need for companionship for an ageing population. (Besides keeping company, they can also alert others if something goes wrong – like the owner does not move for a long time.) Though these robots do not attempt to understand their owner's emotional state, they do have the ability to create emotions in their owners.

Marc Smith, a sociologist at Microsoft, believes that people love computers because "there are people inside them", not just a bunch of semiconductors. As more and more people tinker with technology, they get concerned about the results that the tinkering has. As technology becomes more transparent and open to tinkering, its users' interest evolves from 'What it does?' to 'How it does what it does?' to 'How to make it work better?'

**By enabling unparalleled access to information, technology is already changing consumer expectations. The power that marketing departments typically had, in terms of being able to manage consumer expectations, will disappear.**

No longer are output and productivity the goals of the economy. Customer satisfaction is. We cannot dismiss variety as a trivial extravagance. We are seeking more products and services that are based on our individual needs and preferences. The free market is responding by bringing what we buy closer to what we want. By making it cheaper to personalize during production, technology removes barriers to providing goods and services for individual customers. How does this pan out for marketing departments? For intermediaries? "Salespersons are faced with customers who already have the information; doctors face patients who have researched the illness and the remedy options," says Lingaraju Sawkar of IBM.

The online ticket booking facility of the Indian Railway Catering and Tourism Corporation (IRCTC) has emerged as the largest in the country in terms of online cash transactions, leaving behind several high-profile e-commerce sites. For a market that has thrived on touts and booking agents, this technology threatens to drive them out of business.

**Technology will be a potent tool in the hands of the powerless, as they will find surprising uses for it; it will bridge the rich-poor gap in surprising ways.**

Shyam Telecom operates in the Indian state of Rajasthan. It has opted to take its phones to the people rather than wait for them to come to it. The company has equipped a fleet of cycle rickshaws with a mobile phone. Drivers pedal these mobile payphones throughout the state capital, Jaipur, and the surrounding countryside. The rickshaw drivers, numbering around 200, are largely drawn from those at the margins of society – the disabled and women. The drivers take 20% on every call, earning between 6,000 (US\$131) to 9,000 (\$197) rupees per month. Praveen Cherian of IBM emphasizes the benefits of appropriate technology. "Technology will probably eliminate the middleman, as producers (farmers) would be able to deal directly with the end consumers. Today even milkmen use mobile phones. Fishermen call up markets from their boats,

using mobile phones, to identify which markets' rates are higher in Kerala. If technology does not reach the common man, it will not survive," he says.

**Technology, particularly information technology, will bring in more transparency and accountability in society.**

At the village of Ramanagaram in Andhra Pradesh, farmers walk into a 'Bhoo Dhakilegala Milige' (Land Record Shop), and buy certified printouts of land records, which help them verify or prove land ownership or tenancy. In the process, they are free from the whims, inefficiency and corruption associated with village accountants who create, modify and supervise handwritten manual records. The project is a step toward bringing transparency and the abolition of corruption in the registration of land records.

In Delhi, citizens can get various certificates issued over the government's site. These would normally involve several trips and the greasing of palms. As records are automated

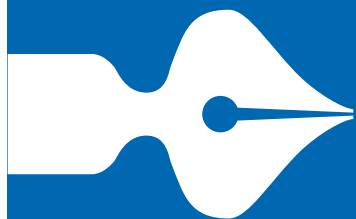
and computerized, as the public begins to access them, fraud will be reduced.

The digital revolution is shredding, forever, the curtain that once hid all sorts of information about corporate behavior, operations and performance from public view. Yet few companies are ready to handle the new scrutiny – and this transparency is proving to be increasingly costly and upsetting for companies struggling with new levels of exposure. In a world of instant communications, whistleblowers, inquisitive media and Googling, citizens and communities are routinely putting firms under the microscope as never before. Visibility and transparency mean that validation of a claim is rarely more than a click away; blind trust is disappearing.

**Technology will allow people to live multiple lives, assume and live out multiple identities.**

Every day, as millions of people interact over the internet, they navigate worlds that are

## Atticus Abstract



### The power of paper

*Making a Statement*

**Mark Potts with Marcus Hickman and Karen Elton, Henley Centre HeadlightVision, London**

In the digital age, paper statements and transaction records will increasingly become extinct as electronic records provide a simple and efficient way for companies to communicate with customers, and consumers demonstrate their preference

for tidy, paperless solutions. Right? Wrong, according to Henley Centre HeadlightVision. In a contrarian piece of thinking, Henley argues in this piece that, for one consumer segment at least, the posted bank statement or bill will increasingly become a way to cut through the plethora of communications being sent out by companies. And for the companies themselves, the paper trail still offers a way get past the 'gatekeeper' and into the house.

The reasons Henley Centre HeadlightVision believes posted communications will continue to play an important role are in part positive and in part negative. Post, the authors assert, is a daily ritual that people enjoy; it makes journeys throughout the home that emails cannot, and it is considered easier to handle. With e-mails, on the other hand, there are trust and security issues that

people find off-putting, and some people simply aren't interested in sitting in front of a computer at home, because it's what they do at work.

Paper is considered safe and comfortable, as well as being easy to digest and archive. So what does this mean for marketers? Basically, a series of challenges. For one thing, there is the challenge of identifying which customer segments prefer paper, and then for which transactions and communications they prefer it. Then there is the issue of designing paper-based communications in a way that makes them more engaging, and crucially, ensuring that they are not accidentally discarded.

Thirty or more years ago, the paperless office was being confidently predicted. It may have a time to wait yet. ■



simulated, they create virtual personalities, and forge online relationships. Fantasy and role-play, both natural and important functions of child development, are fostered by adult chatrooms and virtual reality. In a distributed, yet isolated world, people desire connections. In doing so, they think not of identity but identity crises. MUDs (multi-user domains), better known as chatrooms, offer a parallel life – “you are what you pretend to be”. The idea of ‘windows’ makes it possible – the machine places you in several contexts at the same time. Hence, your identity on the computer is the sum of your distributed presence.

In a world enabled by technology, we are not limited by our history; we can recreate ourselves. Psychoanalysts feel that when people adopt online personae, they cross over into highly-charged territory. Some people see it as a process of self-discovery, even self-transformation. Some feel an uncomfortable sense of fragmentation, others a sense of relief. The assumption of alternate persona can serve as an outlet for feelings that the person can possibly not express with real people around him or her. Society urges us to repress ourselves, it does not allow individual to access the ‘illegitimate parts of the self’. In many ways, technology, especially cyberspace, allows human beings to sense their inner diversity and thus know their limitations.

**Technology will strengthen the institution of family and help it survive the onslaught of modernity and individualism by creating newer and richer touch points.**

Ten years ago, we were drifting away from our extended families – our cousins, our uncles and aunts. Nuclear families got more inward looking, caught in their urge for greater prosperity; the pressure on time meant that immediate family got top priority.

But see what the mobile phone suddenly did! As the same set of members of the extended family began sharing their phone numbers, news and events became common currency. Every birth in the family, every visit provided an opportunity to share with the extended family.

Multimedia messaging, email, digital cameras and camcorders suddenly provided the means for a shared visual experience, whose value seems

to lie in the rediscovery of the traditional family get-togethers and celebrations.

Technology is bringing families together through the process of learning. No longer do the young learn from the old. Four-year olds know more about the functions and features of a mobile phone than their parents, and are teaching them how to use those beyond-basic features. It gives parents a sense of pride at the child’s technological fluency, it gives the child a sense of accomplishment. More and more grandparents are learning from their grandchildren to use the computer and send email.

Festivals like Christmas and Diwali are the traditional time for gifting. Jewelry and clothes are fast being replaced by technological gadgetry. Young couples are buying their parents washing machines, mobile phones and music systems. Parents are buying their children computers, gaming consoles and personal stereos. Families are indeed converging around technology.

The evidence seems to be convincing. In spite of changes in society that may encourage individualism, we will continue to seek modes of keeping our strongest relationships alive. We will find ways of enriching and sharing those experiences, in creating touch points that are mediated by technology. ■

**Kunal Sinha**  
Ogilvy & Mather, Mumbai  
*The Future of Technology and  
its Impact on Our Lives*

