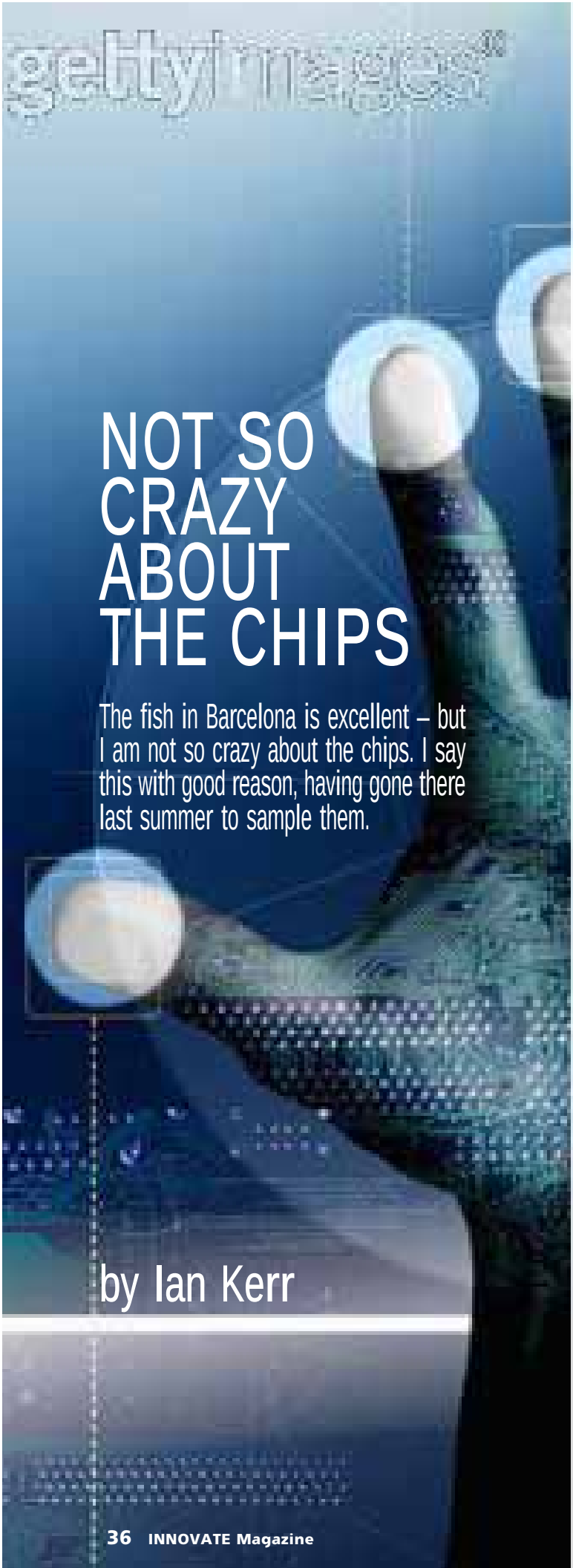

# NOT SO CRAZY ABOUT THE CHIPS

The fish in Barcelona is excellent – but I am not so crazy about the chips. I say this with good reason, having gone there last summer to sample them.

by Ian Kerr

You may wonder why a technology law professor from the University of Ottawa would schlep all the way to Barcelona just to sample chips. But it is not what you think. Despite my deep commitment to patatas bravas, the chips I am referring to are low carb. In fact, they're made mostly of glass.

I spent last year in Spain as a visiting scholar, directing a large privacy project, and thinking as often as possible about European attitudes towards identification technologies. The summer course I taught at the University of Barcelona – Cyborg Law: Building Better Humans? – had my students thinking about the law and policy implications of artificial intelligence, robotics, neuroscience and nanotechnology. Our objective was to study the social dimensions of cyborgs (cybernetic organisms); to contemplate the legal and ethical implications of the continually blurring line between human and machine.

Cyborg law is something I was inspired to develop by my colleague and friend, Steve Mann, a self-made cyborg and University of Toronto professor of electrical and computer engineering. About three years ago, Steve convinced me that this wasn't science fiction anymore, and that we need to start studying the legal and ethical dimensions now. As I learned more about him, I quickly became fascinated by some of Steve's new body parts and by his techniques for using them to combat excessive surveillance. Steve invented the eyetap, a device which "allows the eye itself to function as both a display and a camera." Steve has used his eyetap to beam what he sees onto the internet and/or to capture it in a digital storage device, often without people knowing it. This allows him to participate in a kind of inverse surveillance; to "watch the watchers."

I have witnessed the discrimination that Steve so regularly encounters as someone who has modified his body by attaching machine parts to it. This has caused me to reflect more deeply on notions such as "function," "enhancement," and "disability." Steve has also caused me to rethink the meaning of concepts such as "surveillance," "privacy" and "civil disobedience." Not totally convinced by a number of his views and tactics, Steve has stirred me to assemble a set of course materials which, through the generous sponsorship of the Centre for Innovation Law and Policy, has since blossomed into a full blown law school seminar.

Bruce Feldthusen, the brilliant and hugely supportive dean of the common law section at the University of Ottawa, subsequently encouraged me to create an international arena for the seminar, which I have since done on three separate occasions. Its next iteration is in January 2005 and will migrate between two locales, Ottawa and San Juan, involving a two-way legal and cultural exchange between 14 law students from the University of Ottawa and 14 law students from University of Puerto Rico.

In previous offerings of this course, we investigated the topic of human microchip implantation. When I taught the course this past summer in Spain, I took my motley crew of thirty five students from the US, the Caribbean and Europe to the Baja Beach Club in Barcelona's Vila Olympica to sample their chips.

Why did I choose the Baja Beach Club rather than one of the more typical Catalonian haunts?

The answer, in a word: VIPchips.

When club director Conrad Chase was looking for a unique identifier for members of his new VIP lounge, he wasn't satisfied with the look of plastic ID cards. He considered jewelry, tattoos and body piercings but decided to take it one step further. Remembering a controversial news item about an

Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.

American family who volunteered to be subjects for a FDA-approved experiment involving microchip implantation, Chase eventually contacted the US based company testing the chip (Applied Digital Solutions: www.adsx.com).

The result was the VIPchip, a 12mm x 2mm radio frequency device (picture a large grain of rice) implanted under the skin near the triceps. There is not a whole lot of technology behind the Baja Beach version; a "read-only" chip which, once implanted, is a static storage site for a relatively small bit of information. The chip is activated by an external scanning device. When radio frequency signals are emitted from the scanner through the skin, the chip sends a radio frequency signal in response, transmitting a unique identification number. It is, in essence, a glorified sub-dermal ID card; a human barcode.

But for Conrad Chase, it's more than that. By networking the scanner with his computer and a database, the device is used not only to authenticate identity but also as a payment system. It keeps track of purchases and reconciles them with a VIP's prepaid account.

Park your surfboards and come-right-on-in from the beach!

No need for wallets. No need for cash, credits cards or ID. When your arm interfaces with the VIP lounge's scanner, it "knows who you are" and "tells you what your credit balance is."

As one of my summer students put it: "Now that's one kewl body piercing!!"

Many of the other students agreed. They see the chip as original. They see it as convenient. And they see it as the future.

Obviously, they're not the only ones. During his demo, Mr. Chase told us that he is "in negotiations" with a large financial institution that is considering using his club to pilot a new application that would turn the chip into a skin-deep credit card. According to some of the materials he handed out, "the objective of this technology is to bring an ID system to a global level that would destroy the need to carry ID documents and credit cards." Although he doesn't believe that cash will become immediately obsolete, Mr. Chase predicted that body-scan microchip payment systems will eventually supplant cash and card based systems; that our ability to make anonymous payments will become a thing of the past.

Human barcodes? Global ID systems? The death of anonymity? All because one clever nightclub marketeer wanted to take body piercing to a new level?

Okay. Maybe its not that dire. After all, the Baja scanner can only read chips from a distance of a few centimeters. But Baja's chip provider and other similar companies do have more powerful applications.

For example, there have already been several proposals across North America to use chips as tracking devices and as the basis for a national (read: international) identification system. Recognizing potential obstacles posed by constitutional law, some experts, including Harvard law professor Alan Dershowitz, have suggested that national identification systems ought to commence on a voluntary basis. (He was not specifically contemplating chip-based systems.) But as other experts have noted, the idea of a voluntary program is preliminary. Its aim is to desensitize people. Most agree that, in order to be effective, such systems would eventually become mandatory.

There is no space here to enter into a substantive discussion about the potential deleterious social implications of chip-based ID systems, tracking devices or payment schemes, nor is there room to discuss the many valuable uses of implantable chips in the medical sciences and other sectors.

But what I learned this summer from our class visit to the Baja Beach Club is that the agenda there is not merely fish n' chips. Though the decisions being made by the club's director and its patrons could be the first steps into a dangerous sea, neither have carefully considered the potential implications.

Their willingness to implant into their bodies a radio emitting computer chip as though it was just another body piercing reminded me of something former Sun Microsystems guru Bill Joy once warned us about, that trouble sometimes lurks "in our attitude toward the new – in our bias toward instant familiarity and unquestioning acceptance."

Being convenient, cool or original are obviously not compelling reasons to embrace such powerful technology. And yet this rather obvious point has been rendered invisible by a compelling new technology, accustomed, as we have become, to living in an age of almost routine scientific and technological breakthroughs.

In the three short months since my students visited the Baja Beach Club to study what was then – only 12 weeks ago – a fairly abstract and hypothetical set of questions about the strange vision of a bartender from the Netherlands, another visionary has claimed his 15 minutes of fame. Sr. Rafael Macedo de la Concha, the Attorney General of Mexico, along 160 members of his staff, have recently elected implantation with a chip made by the same company. Those chips not only control access to a new crime database, it is reported that they can also trace the whereabouts of Mexico's top lawyer in the event that he is ever kidnapped.

More recently, the U.S. Federal Food and Drug Administration approved the human implantation of microchips for medical use.

And today, just two days before this article is to be submitted for publication, a headline decrees that the largest distributor of healthcare products in North America will now include that same VeriChip amongst its regular product offerings.

As Stewart Brand so eloquently characterized our plight a few years back, "[o]nce a new technology rolls over you, if you're not part of the steamroller, you're part of the road." We are propelling into the coming era of the human-machine merger, as Bill Joy has described it, with "no plan, no control, no brakes."

Like Brand and Joy, my hope is to redirect this potentially dangerous momentum. I will play my part not only by inspiring students to carefully contemplate the moral issues in the courses that I teach but, also, by inviting interested students across various disciplines to join me and my research team in our attempt to formulate sound policy approaches that aim to leverage valuable applications of these cutting edge innovations without sacrificing human autonomy.