It won't need a tyranny to deprive us of our freedom

The creeping extension of implantation technology will eventually break down the barriers between us and the state

t received just a few column inches in a couple of papers, but the story I read last week looks to me like a glimpse of the future. A company in Ohio called City-Watcher has implanted radio transmitters into the arms of two of its workers. The implants ensure that only they can enter the strongroom. Apparently it is "the first known case in which US workers have been tagged electronically as a way of identifying them".

The transmitters are tiny (about the size of a grain of rice), cheap (£85 and falling fast), safe and stable. Without being maintained or replaced, they can identify someone for many years. They are injected, with a local anaesthetic, into the upper arm. They require no power source, as they become active only when scanned. There are no technical barriers to their wider deployment.

The company that makes these "radio frequency identification tags", the VeriChip Corporation, says they "combine access control with the location and protection of individuals". The chips can also be implanted in hospital patients, especially children and people who are mentally ill. When doctors want to know who they are and what their medical history is, they simply scan them in. This, apparently, is "an empowering option to affected individuals". For a while, a school in California toyed with the idea of implanting the chips in all its pupils.

A tag such as this has a maximum range of a few metres. But another implantable device emits a signal that allows someone to be found or tracked by satellite. The patent notice says it can be used to locate the victims of kidnapping or people lost in

MONBIOT | IT WON'T NEED A TYRANNY

the wilderness. There are, in other words, plenty of legitimate uses for implanted chips. This is why they bother me. A technology whose widespread deployment, if attempted now, would be greeted with horror, will gradually become unremarkable. As this happens, its purpose will begin to creep.

At first the tags will be more widely used for workers with special security clearance. No one will be forced to wear one; no one will object. Then hospitals – and a few in the US are already doing this – will start scanning their unconscious or incoherent patients to see whether they have a tag. Insurance companies might start to demand that vulnerable people are chipped.

The armed forces will discover that they are more useful than dog tags for identifying injured soldiers or for tracking troops who are lost or have been captured by the enemy. Prisons will soon come to the same conclusion. Then sweatshops in developing countries will begin to catch on. Already the overseers seek to control their workers to the second; determining when they clock on, when they visit the toilet, even the number of hand movements they perform. A chip makes all this easier. The workers will not be forced to have them, any more than they are forced to have sex with their bosses; but if they don't accept the conditions, they don't get the job. After that, it surely won't be long before asylum seekers are confronted with a similar choice: you don't have to accept an implant, but if you refuse, you can't stay in the country.

I think it will probably stop there. I don't believe that you or I or most comfortable, mentally competent people will be forced to wear a tag. But it will become an increasingly acceptable means of tracking and identifying people who could be a danger to themselves, or who could be at risk of sudden illness or disappearance, or who are otherwise hard for companies or governments to control. They will, on the whole, be people whose political voice is muted.

As it is with all such intrusions on our privacy, it won't be easy to put your finger on exactly what's wrong with this technology. It won't really amount to a new form of control, as all the people who accept the implants will already be subject to monitoring or tracking of one kind or another. It will always be voluntary, at least to the extent that anything the state or our employers want us to do is voluntary. But there is something utterly revolting about it. It is another means by which the barriers between ourselves and the state, ourselves and the corporation, ourselves and the machine are broken down. In that tiny capsule we find the paradox of 21st-century capitalism: a political system that celebrates choice, autonomy and individualism above all other virtues demands that choice, autonomy and individualism are perpetually suppressed.

While implanted chips will not lead to the mass scanning of the population, another use of the same technology quite possibly will. At the end of last month, a leaked letter

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from Andy Burnham, the Home Office minister, revealed that the identity cards for which we will involuntarily volunteer will contain radio frequency identification chips. This will allow the authorities to read the cards with a scanner. I propose that as the technology improves, the police will be able to scan a crowd and (assuming everyone is carrying his voluntary-compulsory ID card) produce a list of whom it contains. I further propose that it will take only a year or two for this to seem reasonable.

Already we have become used to the police filming demonstrations for the same purpose. When they started doing it, about 10 years ago, it caused outrage. It gave us the impression that by protesting we became suspects. But now we don't even notice them: even to the extent of waving and shouting, "Hello, Mum". Like every other intrusion on our privacy, they have become normal.

I also propose that the mass scanning these identification chips will allow will be assisted by another kind of surveillance technology. Last week, campaigners in west Wales obtained a letter sent by the Welsh Development Agency to Ceredigion County Council. It revealed that the agency, with the help of the European Union, is setting up an industrial estate outside Aberystwyth. Its purpose is the "market acceleration" of unmanned aerial vehicles (UAVs). With the help of companies such as BAE Systems, Rolls-Royce and our new friend Qinetiq, the agency hopes to find the best way of encouraging the "routine operation of UAV systems UK-wide". Ceredigion council's website lists various functions of the UAVs, of which the first is "law enforcement".

So the police won't even have to be there. Someone sitting in a control room could fly a tiny drone (some of them are just a few inches across) equipped with a receiver over the heads of a crowd and, with the help of our new identity cards, determine who's there. It sounds quite mad, just as the idea of biometric identity cards in the UK once did. All these new technologies somehow contrive to seem both wildly implausible and entirely likely.

There will be no dramatic developments. We will not step out of our homes one morning to discover that the state, or our boss, or our insurance company, knows everything about us. But, if the muted response to the ID card is anything to go by, we will gradually submit, in the name of our own protection, to the demands of the machine. And it will not then require a tyrannical new government to deprive us of our freedom. Step by voluntary step, we will have given it up already.