An invisibility cloak devised by Susumu Tachi at Tokyo University. This device uses video projection of the background image onto the front of the subject. Other techniques involve bending light by means of negative refraction.

produce a zero from the equation calcite + reality = double vision.

What excites most people is invisibility to human vision in normal light but technological applications may well use other frequencies such as microwave or infra red. Researchers at Duke University, North Carolina, have created a microwave invisibility cloak "which looks like a Frisbee made out of Swiss cheese" and claim that anyone could fabricate such a device using a standard 3D printer. The catch is that to use such a cloak you would need microwave technology. This is one of the frustrations of the electromagnetic spectrum. Objects fashioned on a human scale can only work with microwaves or radio; to function with visible light they have to be nanostructured and Duke's Yaroslav Urzhumov believes that the technology could be scaled down to nano dimensions.

One practical form of invisibility cloaking is already with us. Night warfare conducted using infra-red cameras (wavelength) and infra-red radiation is temperature dependent. BAE Systems has developed a tank-cloaking device that senses the temperature of the background and warms or cools a cladding applied to the tank to match the background. A tank with its engines running, like humans, will usually be much hotter than its surroundings. When the cooling is applied, the tank disappears in infra-red viewfinders.

The tank camouflage involves more than simple camouflage. BAE's Alex Parfitt previously researched octopus and cuttlefish camouflage at the Centre for Biomimetics and Natural Technologies, University of Bath. These cephalopods are the master camoufleurs in nature because they don't have fixed patterns like butterflies. They can sense and replicate their surroundings or other creatures and, if all else fails, they can create pulsating light patterns.

The BAE Adaptiv camouflage is similarly versatile. In warfare, it can be very useful, not to make things disappear, but to make them appear to be something else. One of the most celebrated