BY THE CASE

INVENTIONS THAT ALMOST WERE

Barry Fox

Do you remember Nimslo? It was a small company, based in Bermuda, with one big idea for transforming photography. In the run-up to Christmas 1982, The Sunday Times reported: "The euphoria surrounding Nimslo's 3D camera once again reaches fever pitch." Two years earlier, a prototype had been demonstrated at the Photokina exhibition in Cologne, Germany, and the first models were just reaching shops in Europe and the US. The revolution looked imminent.

In the 1970s Nimslo attracted investors with the promise of a camera that would provide 3D snaps that did not require viewers to wear spectacles to appreciate the effect. It would be, said Nimslo, "the third major advance in photography," after George Eastman's introduction of roll film and Edwin Land's development of the Polaroid instant picture film. Backers put up £30 million and the British government chipped in another £3 million so that the Timex factory in Dundee could tool up for production.

But the promises were hollow. The equipment was difficult to make, the product expensive, and the results unimpressive.

FROM FOUR INTO THREE

Nimslo's camera had four lenses, which took four conventional 2D images side by side on 35-millimeter film. The film was processed normally, but at the printing stage the four slightly different images were sliced into vertical strips. These strips were then printed onto the surface of the paper. This meant that when you looked at a print you saw a series of different views, side by side. The effect was not unlike that provided by the 3D postcards that had been on sale for many years, and both professional and amateur photographers quickly dismissed the development.

Shops took the cameras off their shelves. Camera prices were slashed and Nimslo's share price fell. By 1985, the year in which Nimslo had predicted it would have a 5 percent share of the world market for snapshots, few people even remembered the company's name.

And it is not only obscure companies that fail to live up to expectations. A similar thing happened when Polaroid tried to capitalize on its position as the leading proponent of instant photographs. In early 1979, just as the new home video market was taking off, the company began selling a competing instant movie system called Polavision. For £400, you could become the proud owner of a home movie camera, which looked like the conventional 8-millimeter film camera, and a tabletop viewer with a back-projection screen, 12 inches across. It seems surprising that the company believed that people would part with so much for so little.

The movie cassette held less than 3 minutes of silent color film and yet cost more than £5; at the time, video recorders could already tape three hours of color pictures with sound for under £10. Furthermore, the film remained sealed in the cassette after it had been exposed and developed, so it could not be edited. The network of 3,000 British dealers who had agreed to sell the system soon dwindled to 200, and many returned their stocks unsold. At the end of 1979, Polaroid wrote off unsold Polavision stock worth $68 million—and had trouble selling the system as a collector's item for £100.

SCREEN FOLLY

One of Clive Sinclair's lesser-known follies was the development of a mini TV screen, known as Microvision. In the late 1970s, there were no liquid crystal screens of the type now routinely used for tiny TV sets and camcorder viewfinders.
The only screens available were cathode-ray tubes, with a "gun" at one end firing electrons at a fluorescent surface at the other. This makes the tubes long and bulky. Sinclair decided to develop a slimmer CRT by laying the fluorescent surface parallel to the beam and then using electrostatic plates to deflect the beam through 90 degrees onto the screen. With a lens over the front surface of the small screen to make the squashed image look realistic, pocket portables went on sale in the early 1980s. But the pictures were poor in quality and in black and white, and by the time the bugs were ironed out, LCDs were rolling off Japanese production lines.

Like so many other products that missed their chance, scrapped components for Sinclair's Microvision system turn up regularly in catalogues specializing in selling obsolete electronics to hobbyists. Sinclair's clever circuitry goes for about 30p and Microvision's casings for just £2.

Other developments fail because researchers overlook what seems like an obvious flaw. About 15 years ago BASF, the German electronic tape manufacturer, tried to develop its own video recording system to rival the Japanese helical scan technologies. In a helical scan system, the tape moves slowly past rapidly rotating recording heads that lay magnetic tracks obliquely across the tape width, like the threads of a screw. BASF thought that it would be easier, cheaper, and more efficient to produce recording equipment that laid longitudinal tracks along the tape, with the tape rather than the head moving at high speed. In BASF's Longitudinal Video Recording system, a length of tape in a cassette shuttled rapidly backwards and forwards past a stationary recording head, which stepped slightly across the tape after each pass, laying down tightly packed parallel tracks.

The fatal flaw was the short gap in the recording every minute or so as the tape stopped and reversed direction. By the time BASF recognized the fault, the company had already produced a prototype, but it cut its losses and went back to making tape.

Another "obvious" flaw lay behind the failure in the late 1980s of an audio system designed to appeal to those hi-fi buffs who worried about wearing out their LP records. In addition, they wanted a system that would enhance the "pure" sound of their analogue recordings—and a group of inventors in California was only too ready to oblige. The Finial turntable would use a laser to track the groove of a vinyl LP, and so eliminate all wear and distortion, they said. Investors, hoping for a killing, put up at least $5 million.

By 1986, the inventors had applied for a patent on their development and, three years later, the equipment went on sale. "After seven long, grueling years of research and development the one and only Finial laser turntable is finally being sold to the public in very limited quantities," read Finial's sales pitch. "Vinyl records can now be preserved indefinitely."

The price was far higher than expected, around $30,000 per player instead of the promised $2,500. This in itself would not have deterred some obsessive hi-fi buffs, nor broadcast libraries and archives desperate to preserve irreplaceable recordings. But in their race to design the laser system the inventors had overlooked the fact that all records get dirty. As discs are played or put in and taken out of their sleeves, they acquire an electrostatic charge that traps dust in their grooves. A conventional stylus shovels this dirt out of the way as it tracks a record, but a light beam reads the dirt as if it represented music. The result, unless a disc is surgically clean, is a symphony of snap, crackle, and pop. To compensate, Finial offered a $2,000 suction system to complement its turntable—but, as disappointed hi-fi buffs complained, repeated use of the cleaner was even more likely to damage records than playing them with a stylus.

SNEAK PREVIEW
Other developments simply look suspicious from the outset. This was certainly the case with Deep Vision, which was another attempt to devise a 3D television system by, in this case, two British entrepreneurs. James Ashbey, the system's inventor, and Adam Williams co-founded a prestigious-sounding organization to