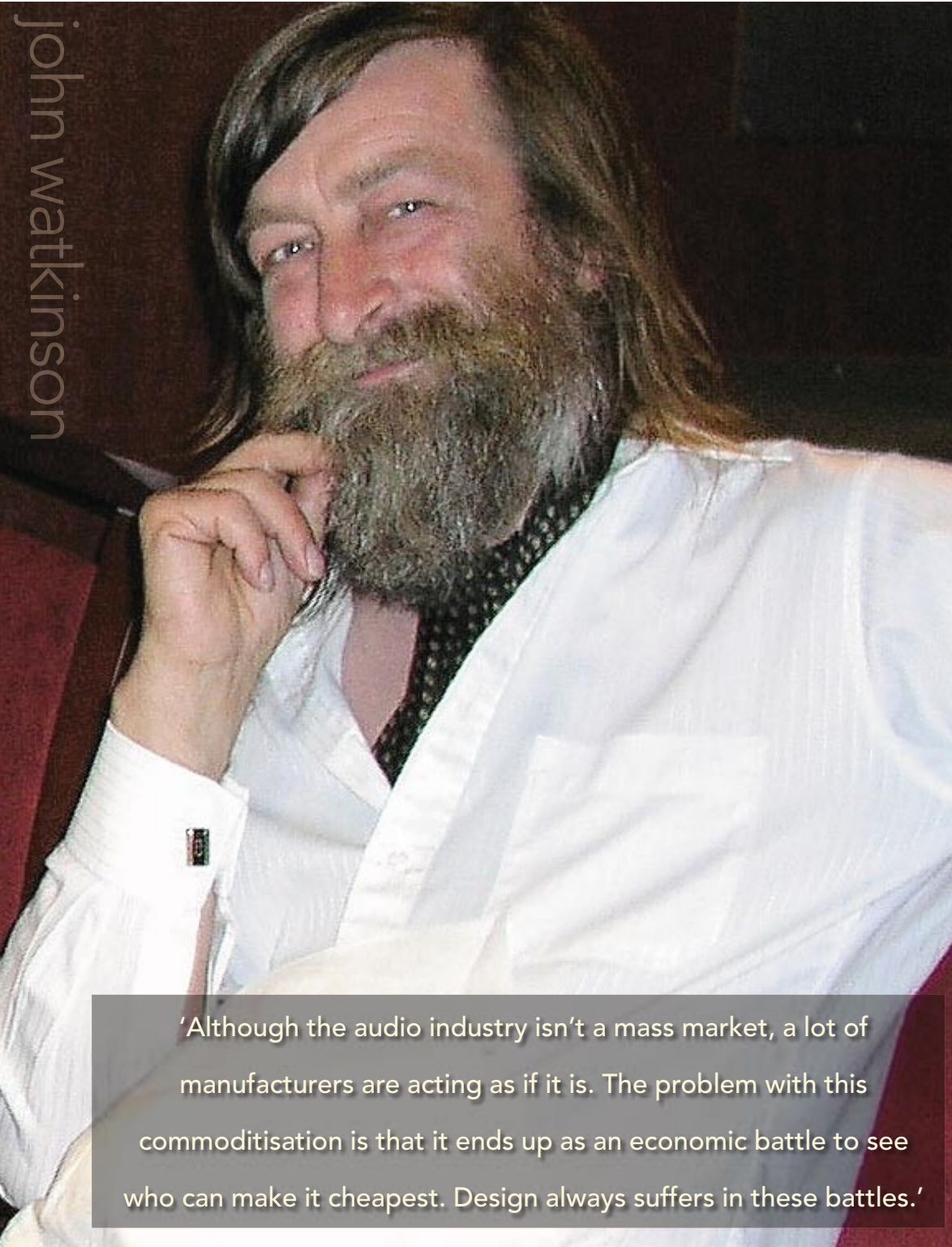


# Design

Like many other skills, design is in short supply in these commoditised days.

**JOHN WATKINSON** argues that declining design is inevitable in the main but need not be universal.

john watkinson



'Although the audio industry isn't a mass market, a lot of manufacturers are acting as if it is. The problem with this commoditisation is that it ends up as an economic battle to see who can make it cheapest. Design always suffers in these battles.'

**I**N MY LAST ARTICLE the concept of classic designs was examined. I have a great interest in the process of design and, rightly or wrongly, I choose to refine my own design process by studying how earlier good designs came into being. Interestingly,

I find that the principles actually change very little from industry to industry and little over time. Sydney Camm, the designer of the Hurricane and the Hunter aircraft, said you produced your best work as part of a small team under pressure.

Our educational system does not teach how to design. Most of education is about analysis, taking things apart if you will, whereas design is synthesis. Good design requires familiarity with a whole range of subjects and an ability to balance strengths in one area against weaknesses elsewhere. There is no scientific explanation for how that is done well by a few and badly by most, so I would contend that it is an art, hence the use of the term in my book titles.

These subjects include not just the technology of the device and how it is manufactured, but also topics such as ergonomics, psychology and aesthetics. A technological education generally excludes aesthetics and human factors, whereas a classical or social science education excludes technology. Several things follow from this fundamental mistake. We get inarticulate scientists and engineers, aesthetically challenged products and politicians and accountants who are ill-equipped to take decisions in a technologically based society. It is almost the hallmark of a politician that there is no ability to take scientific advice or to interpret statistics. It is almost the hallmark of an accountant to hold that research is pointless because it doesn't show a profit.

Modern education is increasingly specialist. Not surprisingly one finds highly successful designers with little or no academic background.

There are a few fundamentals that it is unwise to transgress. The existence of a professional marketing process is of incalculable value. Proper marketing is bi-directional and it is just as important that the designers are told what the customer wants as it is to tell the customers what they can have. A good designer listens very carefully to what customers say they want, without forgetting why they are saying it, and then figures out what they need.

There are a number of reasons to embark on a new design. Staying ahead of the competition is a common driver. However, as was remarked in the last article, after a technology matures all that can be done is to make it cheaper. Regrettably an increasingly common driver for new design is the doubtful pursuit of novelty. For some reason the consumer is supposed to equate 'new' with 'better'. Maybe when technology was evolving rapidly that equation held. Today with depressingly regularity 'new' means untested.

When a new technology comes along, the consumer is again supposed to equate 'technology' with 'desirable'. It cannot be sufficiently stressed that people don't want technology; they want results. We can make refrigerators that work on the ammonia cycle powered by burning gas, using a mechanically driven compressor or using the Peltier effect. These are technologies. What the consumer wants is a cold beer. He doesn't give a primate's how the temperature was maintained.

The same can be said for audio amplifiers. Competently designed and kept out of clipping, I don't care if the things use vacuum tubes, FETs or transistors, they will all sound the same. Naturally this is anathema to the hifi industry, but then design has been all but eliminated from that sphere as is made clear by the fact that we don't see any progress.

While all good amplifiers sound the same, not all are equally efficient. The Class A amplifier is analogous to driving with a brick on the throttle and controlling the speed with the brakes. Clearly the future of audio amplification lies with switching devices.

New technologies put special demands on marketing skills. If the technology is really new, the customer can't be expected to understand it and so asking for his views may not be fruitful. The technology has to be explained first. Ultimately the level of understanding may be so low that proponents of new

designs pull their hair out. The Wright brothers failed to interest the US military in aircraft until they flour-bombed a naval vessel from the air. Charles Parsons failed to interest the Royal Navy in steam turbines until he ran rings round a fleet review with a ship that nothing in the navy could catch. Frank Whittle's turbojet engine met a wall of apathy. The apathy is not just from authority, but is also commonly found within large companies.

The quality of design is influenced by many factors. When a new technology is invented, the inventors will be deeply interested in development and will ensure that design rules are followed. The wall of apathy will mean that often the only way to get moving is to start a new company, thus forming the small team under pressure.

The first products are successful and the company grows. This is where the danger lies, because as successful companies grow rapidly, the recruiting process is never very good and the company starts to take on people who will ultimately stultify it.

As the company grows further it becomes too valuable to take risks and its actions become increasingly conservative. At this point the creative founders have become bored and leave (*Usually with handsome pay-offs. Ed*). The company is now run by accountants who have no knowledge of the technology. The only thing they understand is how to make it cheaper. That is the start of the decline, because making things cheaper isn't design; it's production. And if a young inventor approaches them with an idea, they will turn it down because

they don't understand and he will start his own small company and take business from those who declined him, hastening their end.

I recall that when workstations started to be built, using disk drives for audio and video editing, there were two companies that had the resources to make these effortlessly. Ampex actually made hard disk drives at one time, and Sony invented the 3 1/2-inch floppy. Neither of them saw the way that audio and video production was going and it was left to DAR, Lightworks and Avid, all new companies, to reap the benefits.

In my view a lot of professional audio equipment has gone down the road of making things cheaper. Although the audio industry isn't a mass market, a lot of manufacturers are acting as if it is. The problem with this commoditisation is that it ends up as an economic battle to see who can make it cheapest. Design always suffers in these battles. Ultimately it may not be possible to recover because the margins are so low that there is insufficient funding for research.

Another indication of design bankruptcy is the retro look. Products are made to look like older products that had achieved some kind of status. The old Mini was hardly a triumph of design. The distributor cap was right behind the grille so it couldn't be driven in the rain, the subframe rusted alarmingly and in an impact the passenger compartment folded up, but it did at least have good primary safety on account of its innovative suspension (*Up until the subframe collapsed that is. Ed*). The new Mini from

a technological standpoint is totally conventional. It is also enormous in comparison and just resembles an old Mini from a distance. The new VW beetle is in the same category. This isn't design; it's somewhere between pastiche and kitsch.

Commoditised products are all the same. The control panels are smaller than they should be and the number of controls is reduced by using multi-layer menus that are an ergonomic nightmare. A feature of commoditised design that drives me nuts is the use of symbols. Once upon a time a control was labelled in plain English, or the language of the country where it was sold. Now there is a symbol that is equally incomprehensible in many countries. In audio equipment, it's frustrating. In other fields it can be dangerous. When a symbol lights up on a car dashboard, it takes longer to interpret the symbol than it does to read the plain English legend.

We also find politically correct legends nowadays. My coffee machine has a control marked 'strong' at one end of the scale, but 'light' at the other end, probably because some oaf argued that putting the word 'weak' on a product would imply inadequacy. However, I discovered that the legend was not resistant to de-scaler. Because it's a poor design, the legend soon dissolved.

In many cases the best designs came from people who couldn't buy what they needed and had to make their own. Being your own customer is a powerful design tool as if it's not right it gets changed. Today the gulf between designers and users has never been wider. ■