

A Supersonic Future argues the case for a completely new approach to hearing augmentation. It coincides with the HearWear project, an initiative by *Blueprint* and RNID with Wolff Olins and the V&A, which sees some of Britain's best designers tackling the issues outlined in this Broadside

THE AUTHORS

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A SUPERSONIC FUTURE

As noise pollution soars and people live longer, Henrietta Thompson and Neil Thomas outline why design for hearing augmentation could be one of the biggest new industries for the 21st century

A SUPERSONIC FUTURE

HENRIETTA THOMPSON and NEIL THOMAS

with an additional essay by SUZANNE LIVINGSTON, of Wolff Olins

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An occasional series of essays to encourage debate about design

Introduction

The HearWear project, in which 20 of Britain's best designers redesigned the way we hear and created new products to enhance, protect and augment our hearing, was commissioned by *Blueprint* and RNID. The project, which began as a relatively small experiment initiated by *Blueprint*'s deputy editor Henrietta Thompson, has developed and grown beyond all expectations since its conception in early 2004.

When an idea is ripe, it sometimes happens that it will occur to many people simultaneously, and a few months into the project it was increasingly clear that there were others thinking along similar lines. Among them was Wolff Olins. The international branding agency had recognised the need for a more commercial approach to hearing enhancement and the opportunities it afforded, and had presented a paper advocating change to RNID in 2002. Since then, Wolff Olins has been active in engaging companies such as Nike in the commercial opportunity. Joining forces with Wolff Olins and subsequently also joining up with the V&A for an exhibition opening this summer, HearWear has begun to take on a life of its own.

This *Blueprint Broadside* outlines the thinking behind HearWear, while in this month's *Blueprint* there is the first chance to see the results of the designers' work. All of the exciting new products will be on show in HearWear: The Future of Hearing, opening on 26 July and running until spring 2006 at the V&A in London.

Blueprint is particularly grateful to Henrietta Thompson, Neil Thomas of RNID, Dr Suzanne Livingston of Wolff Olins, to the designers who contributed their ideas and enthusiasm, and of course to RNID for making the project possible. The time is right to take action to create a supersonic future.

Vicky Richardson, editor, *Blueprint*

June 2005

A SUPERSONIC FUTURE

HENRIETTA THOMPSON and NEIL THOMAS

It is surprising to see how much we have ignored the potential to enhance our hearing with design and technology. Take an analogy with eyesight: spectacles are so common and are available in such a wide range of styles and brands that the world has largely forgotten that this was once a product to compensate for a disability. Many people wear glasses to communicate their personal identity as much as they do to improve their eyesight. We wear sunglasses as a fashion accessory in addition to protecting our eyes in bright light.

We are used to augmenting our hearing with technology in so far as mobile phones let us listen to voices which are a very long way away, and we can play whatever music we like to ourselves, wherever we happen to be, but what scope is there for new products which give us control over our hearing? Is it possible to augment and experiment with the way we hear, with products that are stylish and desirable and that people want to pay for?

Years ago, there was very little choice when choosing glasses, and 'NHS spectacles' were the only option. They weren't cool, and they weren't sexy. Now many people wear glasses even if they have perfect vision. In stark contrast, the design of hearing aids has changed little over the years. Their design remains rooted in an obsession to naturalise and miniaturise the product. Hearing aids still have negative associations with disability and getting old, and many people who should have one actually don't. It is fairly common to find people waiting more than 10 years from needing assistance to getting it.

Current hearing aid technology would benefit more than five million people, yet only 1.4 million are regular users: a pathetic market penetration considering the fact that clear benefits to their use have long been recognised.¹ But even at this low level of use, the industry is worth at least \$2.9bn a year in the EU alone.²

Due in part to an ageing population, the market place for hearing aids is getting

¹ 'Fully equipped', national report, Audit Commission, March 2000

² RNID market research compiled from industry data (2002 figures)

bigger by the day with ever-more demanding consumers with ever-more willingness to spend their money on progressive new technologies. So perhaps it is time to radically change the way we think about hearing – it could be extremely lucrative to do so. So how could we redesign this fundamental human sense?

1. TWO MEN, A FEW DRINKS AND FOUR NEW PRODUCTS

Two men walk into a bar. It's Friday night. It's busy. The music is loud, and not much good either, but it's the only place in the area where the atmosphere is buzzing.

The men – let's call them Matt and Dave – come here regularly for a few drinks and a chat. As well as the great atmosphere, Matt fancies a girl who works behind the bar. People are standing in groups, shouting to be heard over both the incessant beats and the other people who are shouting to be heard over the music. It might be worth pointing out at this point that Matt is a bit deaf. He blames it on his brief career spell in the Army five years ago, and it doesn't really bother him – apart from when he's at a party and the background noise is too loud, or when he has his mates round to watch the football and they tease him for having the volume on his TV up so high.

It's another reason why he likes this bar – he knows as long as he can get a table it's somewhere he can have a proper conversation. Hold on... He's hard of hearing and he goes to this particularly crowded, noisy bar because he can hear? Yes, and so do a lot of his friends, because this bar has a clever system installed called Table Talk – it's one of the main reasons it gets so busy in the first place.

As one of the first bars to have been fitted with Table Talk, the place is still a novelty, but looking at its success many other venues are now signing up to install it. Designed by IDEO, Table Talk is an amazing new range of furniture that helps people to hear in noisy situations. The tables look just like ordinary tables (though perhaps a bit more stylish than the ones they used to have in this particular bar) but they have a built-in microphone system linked to a conductive strip running round the edge.

If it's really noisy all you need to do is go to the bar and buy a little blister pack of ear buds for a fiver or so, and share them out around the table. The ear pieces,

working with the technology in the table, amplify local sounds, so whatever conversation is going on around the table is crystal clear.

Table Talk uses a really basic technology that has been used for years in banks and theatres for people with hearing aids: it is an inductive loop, or T-Loop, and it's astounding no one thought of Table Talk years ago. You can tell when a bar has installed it because it will display a little sticker on the door with the TT logo. The ear buds look cool too – very iPod inspired.

* * *

Matt and Dave settle in and Matt tries to make eye contact over Dave's shoulder with the barmaid. She's not having any of it because she's stuck in conversation with a beefy guy who's trying to impress her with some new gadget he has. Matt recognises it – it's one of those MUTE things from Human Beans. MUTE is very expensive, but everyone wants one because it's so funny.

MUTE is essentially a small remote control that comes with a couple of little Bluetooth-enabled widgets that you stick in your ears, you can point MUTE at anything and it will silence the sound from that direction. Matt's brother Joe bought one the other weekend because there's some major construction work going on just outside his office and it's been driving him mad. Now he can point and click the MUTE at the workmen, and he can get on with his work as if they weren't there. His wife's annoyed though, because he has started using it at home when their new baby begins to cry, so she always has to deal with it. Typical Joe.

* * *

Dave hasn't noticed the MUTE at the bar though, because he's trying to talk to Matt about his mum, He's worried about her. Sue is coming up to 60 and, says Dave, she is having a minor crisis over getting old. He doesn't think she should worry – she's in pretty good shape and her career is really going well at the moment. Sue does PR for some of London's biggest arts institutions and galleries, and she always seems to be jetting off somewhere or other with someone important.

Dave suspects that his mum's real problem is that she's (to use her overdramatic word) 'deteriorating'. A few months ago she bought her first pair of glasses, though she's had perfect sight all her life until now. She's also frustrated because she has to get people to repeat themselves all the time – seems like she's going a bit deaf too.

To make things worse, Dave's grandmother keeps telling Sue to get a hearing aid, and it drives Sue up the wall. Gran's just got one herself after about 10 years of nonsensical conversations and only watching television shows she could get subtitles on. The hearing aid is a tiny digital one and it has changed her life. She did without one for all that time because she'd seen the problems all her friends were having with them, but in the end it got so bad Sue had practically marched her to the audiology clinic and forced her into it.

Sue doesn't want one herself though, because she associates them with old people, and she says she can get by fine without one. But Dave's heard about these new – very stylish – jewellery-like, occasional-wear social amplifiers and is thinking about getting one for his mum. It's made of titanium and it was designed by a fashionable designer called Ross Lovegrove. It looks very sleek, and you can wear it round your neck when you're not using it.

Matt's attention is back on Dave now – he's seen the Lovegrove design too and has been considering getting one for himself.

* * *

A few hours later, Dave and Matt decide to set off to their homes. Sitting on the London Underground with his headphones on and his Sony MP3 player at maximum volume, Dave remembers a new gadget he saw in Selfridges last weekend, and resolves to buy one.

It's a personal sound controller, of which there are lots of different sorts on the market these days, of course. Dave already has several already, but this latest one, Decibel, is particularly good – the earpieces come in a little chrome tube, (which you can use as a keyring), and you just twist the controller to control the volume of the world around you – up or down.

Dave heard somewhere that the noise levels on the Tube could damage your

hearing irreparably – especially if you have to turn your music up even louder just to hear it over the roar of the train. This sound controller, designed by a company called Priestman Goode, is connected to your music player and phone by Bluetooth too, so you can down the background noise as much as you want, and keep your music at the same volume. And if your phone starts ringing it will alert you too. It's not too pricey either, which helps.

2. A GAP IN THE MARKET

Table Talk, MUTE, Ross Lovegrove's social amplifier, and the Decibel personal sound controller are just four of 18 new products that are the results of the HearWear project. HearWear began by asking a simple question: What if hearing aids – like spectacles – could be desirable, aspirational products in their own right, rather than a medical aid required to compensate for a disability?

The case for investigating this is compelling. In the UK alone there are nine million people who have a hearing loss of some degree, which works out at one in seven of the population. It's a staggering figure that many people are not aware of – partly because while we see so many people wearing glasses, to spot a hearing aid is a comparatively rare occurrence.

Hearing impairment is, furthermore, a growing issue that is linked to noise pollution and ageing populations, among other factors. Hearing-aid sales are currently worth \$2.9bn a year in Europe alone – if you add on the US that figure rises to \$5bn.³ And considering the obvious fact that hearing problems affect people the world over, saying that this is a big marketplace is something of an understatement.

We will concentrate, for the moment, on the nine million people in the UK who have a hearing loss of some degree. To realise that only two million of them actually have hearing aids, despite the majority knowing they would benefit from them suggests that this is not a customer base that is getting what it needs. Worse still, of the two million who do have a hearing aid, only 1.4 million use them regularly. This means some 7.6 million people in the UK potentially have a hearing problem, and they are just putting up with it.

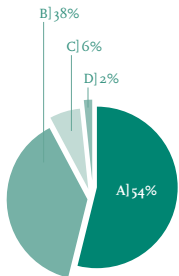
But this is not an argument for charity. This is an largely untapped and lucrative business opportunity. If you take the analogy with spectacles seriously it becomes

³ RNID market research compiled from industry data (2002 figures)

clear that, with a little innovation, bravery, design investment, and a small shift in thinking, there is also a much bigger potential market beyond those people who are deaf or hard of hearing.

People wear spectacles when they don't need them – simply to make a style statement. Contact lenses and laser surgery mean that millions of people don't actually have to wear glasses even if they have poor eyesight, but they still choose to. Many people own several pairs, in different styles and colours, sometimes with different prescriptions – they might have a pair for reading and another pair for driving. Almost everyone has at least one pair of sunglasses too – prescription or not – a single product that functions as a fashion accessory, a protection from bright sunlight, and an aid to coping with a hangover!

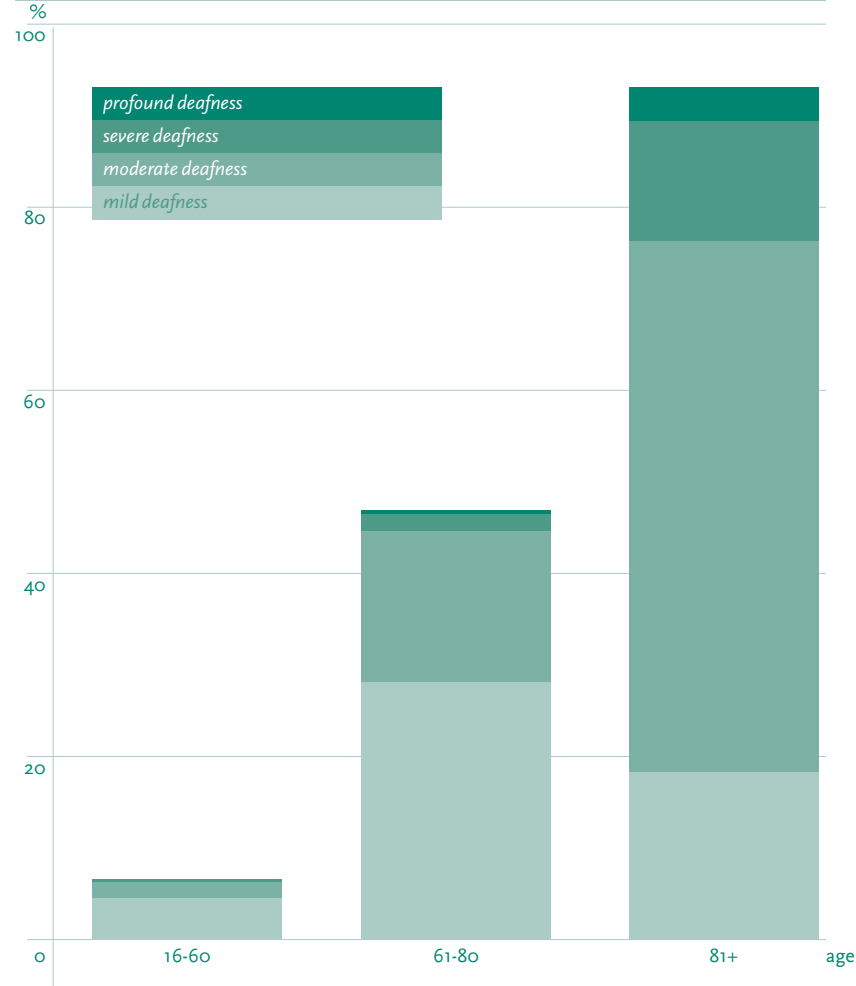
It's astonishing that something that essentially exists to compensate for a disability has achieved all this. It wasn't always the way – wearing a pair of NHS glasses in the school playground was once an invitation to be bullied. Somehow the product made a leap from something stigmatised to something very stylish. What if hearing products could do this too? How might a hearing aid be something that is not just acceptable, but desirable and aspirational – even to those who don't have a hearing problem? If this were possible, then the \$5bn of potential earnings begins to look like small fry.



ESTIMATED PERCENTAGES OF THE UK POPULATION WHO ARE DEAF OR HARD OF HEARING				BREAKDOWN OF THE 9 MILLION DEAF AND HARD OF HEARING	
A) Mild deafness	4.6	28.1	18.4	4830	54%
B) Moderate deafness	1.6	16.5	57.9	3439	38%
C) Severe deafness	0.2	1.9	13.2	549	6%
D) Profound deafness	0.1	0.4	3.6	149	2%
	age 16-60	age 61-80	age 81+		

Source: A Davis, *Hearing in adults, 1995*

ESTIMATED PERCENTAGES OF THE UK POPULATION WHO ARE DEAF OR HARD OF HEARING



Source: A Davis: *Hearing in adults, 1995*

3. A JOB FOR THE DESIGNERS

Design, by its most common definition, is about solving problems. It is something into which the manufacturers of hearing products have not invested nearly enough. Though the technology of hearing aids has evolved a great deal in recent years (the latest devices house cutting-edge, powerful, yet miniature computing technology) their form has not.

Hearing products available on the market today are tiny, and they are proven to give great benefits to those who do use them. But market penetration remains extremely low. Why is this? The most obvious reason people don't want to get – or wear – products that will augment their hearing is that there are still considerable negative attitudes associated with them. This stems from myriad reasons, and each one makes a new case for some creative thinking to get around the problem.

'Design' to the manufacturers of hearing aids, broadly speaking, means offering them in a range of colours. These are niche, however – and usually only worn by children. It is generally accepted that adults want their hearing aids to be as invisible as possible, so that is what they are offered. For a product that people don't want, and generally don't want to advertise they use, the name of the game is camouflage and miniaturisation, naturally. In addition, the products themselves are associated with ageing, which unfortunately is plagued by its own stigma.

From the point at which a person realises they need a hearing aid it is not uncommon – as we said earlier – that they wait 10 years or so before they do anything about it. It's unthinkable for someone who needs glasses to wait years for them, but then it's also much easier to get an eyesight test, obtain a lens prescription and choose a pair of frames than it is to have your hearing tested, and then be offered a choice of roughly identical products from just a handful of companies. Opticians, too, line our high streets, and you don't need a doctor's referral to go to one.

Most large towns do actually have private hearing-aid dispensers on the high street, though in the main you'd struggle to notice them, while the NHS will provide a modern, digital hearing aid, for free, to anyone who needs one. The route to a free hearing aid is actually through your GP, who, after initial screening, will generally refer you on to the local audiology department, probably based at the local hospital.

The audiology department staff will perform diagnostics tests and go through the process of fitting a hearing aid to an individual, offering follow-up support as required. But how many people know about this and what the benefits are?

When you see an advertisement for a hearing aid, it's more than likely to be for a hearing aid company, or a private dispenser. Amazingly, rather than talk about the potential these products can offer, these adverts are likely to shout about how small the product is, 'So discrete nobody will know you're wearing it'. This negative marketing says to users that hearing loss is first and foremost a disability, and something to hide, and does little to improve the image of the actual product. Arguably, this approach creates a closed loop where the customers are forced into seeking smaller and smaller products. When this is what people are told is the future, what they understand as progress, and what they are offered by way of a development, is it a surprise that's what they seek?

So, the products are not well thought of, are marketed as a compensation for a disability rather than being a product that is actually desirable, and it's not that clear how to go about getting one. It's not hard to see why market penetration isn't very high. Imagine, however, if consumer-product manufacturers were to branch into this area, and the figures all suggest that it would be a wise business move for them to do so. It is hard to imagine Nike, Philips, Orange or Motorola selling their wares in this way. Would these companies also tolerate a situation that made it so difficult for their customers to buy their products?

4. TIME FOR CHANGE – CONSUMPTION OF ELECTRONIC AUDIO EQUIPMENT AT AN ALL-TIME HIGH

It's widely acknowledged that attitudes to technology have changed a great deal in the past decade, especially in the past two years. Almost every person you see on the street today has some sort of wearable computer /gadgetry on them – be it an MP3 player, a mobile phone, GameBoy, or any number of other products. What's more, the vast majority of these have some kind of audio element to them – even if that is not in fact the main function.

In developed markets, according to a new report from the Future Laboratory for Samsung, the market for mobile phones is reaching saturation point in the UK,

with Sweden, Portugal, Iceland, Luxemburg, and Italy all exceeding 100 per cent market penetration. ‘The driving force behind the industry is technological advancement. The focus of attention is shifting from attracting new customers to encouraging existing mobile users to upgrade to newer models. However, future success will depend on consumers’ willingness to embrace and pay for new technology as they have with text messaging.’⁴

Certainly, and largely thanks to this proliferation of mobile phones, people from all walks of life and every generation are beginning to value digital technology as something that can enhance their capabilities, entertain, and aid them in their everyday life. Meanwhile, such products are beginning to influence and be influenced by the world of fashion, and people are also forming more personal attachments to the gadgets they own and use.

This surge in the consumption of personal technology is recent, and certainly has not yet peaked. Driven by demand for digital audio, video and home information products, consumer electronics factory sales soared by 10.7 per cent in 2004 to an all-time record \$113.5bn, and an equally strong growth is in store for 2005, with sales also climbing 10.7 per cent to \$125.7bn, according to updated figures released at the International CES by the Consumer Electronics Association (CEA).⁵

The figures show factory sales grew by a steep \$10.9bn in 2004, and the forecast for this year is for an even sharper rise of \$12.2bn. What’s more, in terms of hardware the audio category – which had previously been sluggish – was the sales-growth leader in 2004, posting a record 15.7 per cent factory level rise to \$5.53bn solid gains for digital products.

It is, however, predicted that the lust for hi-tech devices will level off eventually, and for the longer term, according to the CEA, the outlook is for the growth pace to stabilise at an average of about eight per cent annually, and climbing to \$158.4bn in 2008. In particular, a continued decline in demand for conventional hi-fi and portable audio is expected to hold the growth rate down to just 2.2 per cent to \$5.65bn this year.

These figures suggest that a time will come very shortly when the majority of people own a digital audio player of some sort – perhaps it will be incorporated into

⁴ Executive Summary, *Mobile Futures report*, Future Laboratory for Samsung, 2005

⁵ CES report from *This Week In Consumer Electronics*, Reed Business Information

another product, such as their mobile phone – and they will stop buying them in the large numbers they are currently doing. The time will also come when the majority of people will have consigned their old, conventional hi-fi to the scrapheap. Manufacturers, logic would have it, would do well to find new product areas in the audio market into which they can expand.

5. TIME FOR CHANGE: REDESIGNING THE HUMAN BODY

Glasses are not the only ‘disabled’ product to hit the mainstream. An inclusive design approach to a good number of products has become fashionable in recent years. Perhaps more compelling, however, has been the shift in the way society views the human body, its capabilities, and what design can do to augment our natural powers.

From plastic surgery to prosthetics, modern living has seen people in the 20th century redesign the body in entirely new ways. Aimee Mullins, a champion runner, fashion model, celebrity and double amputee who also was one of *People Magazine*’s 50 Most Beautiful People of 1999⁶, is an iconic example of someone who refuses to normalise or hide her disability. Indeed, in her – infinitely more positive – view she has some clear advantages, including several sets of legs, both cosmetic and functional, and the ability to choose how tall she wants to be.

In the field of sport any form of performance enhancement through drug taking is highly controversial. However, little is said about sportspeople, including Tiger Woods, who have had laser eye surgery to improve their vision beyond 20:20, enabling distant objects to be seen better.⁷

The narrative of disability, of being ‘challenged’ in any way, has changed and is moving towards one in which it is simply a different starting point for enhancement – a clean sheet of paper to design on. The traditional narrative that disability is something that must be ‘overcome’ is, at last, beginning to look old-fashioned and small-minded.

For the children of the new paradigm where the human body is not considered to have a single ‘standard’ form, the world of superheroes is not as unattainable or fantastical as it has been in the past. Without wanting to dumb down the issues, Inspector Gadget becomes an unlikely figure for inspiration, as does the self-

⁶ Most beautiful people in the world, *People* magazine, 1999

⁷ The eyes have it, *Independent*, 27 April 2005

appointed (though unfortunately evil) super-antihero Syndrome in Pixar's recent blockbuster, *The Incredibles*.

The perception continues to grow that biotechnology and medical technology will have a dramatic impact on individuals and society. Ultimately, we are now aware that we no longer have to settle for the body we were born with. This goes even further with recent advances in DNA technology holding out the prospects of genetic enhancement. As well as grand ideas of designer babies and bionic athletes, we will soon – though this too is a highly controversial issue – be able to alter many of the aspects in our genetic makeup.

So what of hearing? There is currently much speculation about the development of 'otoprotectants', systems that can protect against hearing loss, and drugs that could alleviate the symptoms of tinnitus. By the year 2020, 20:20 hearing for everyone could be possible in this 'real bionic-man' scenario. But perhaps we could actually do better than this. Perhaps we could do it without such extreme physical interventions, and perhaps we could do it now, by design.

6. TIME FOR CHANGE – A PRESSING ISSUE

Potentially the greatest impact of the new biotechnic age may be longer life. The Brookings Institution looks at the 'reasonable prospect' that life expectancy will reach 100 in the first half of this century, and outlines the impact that our impending extra-long lives will have on the population, healthcare, the labour market, and Social Security.⁸

We won't need to wait that long for this market to explode, however, because hearing loss is already a growing problem. Most people's hearing deteriorates as they get older, irreversibly. Only two per cent of young adults are deaf or hard of hearing, but the proportion increases sharply around the age of 50 – growing to 55 per cent of the population of people over 60. For those of us lucky enough to live until we are 80 or older, we can almost guarantee some degree of deafness, with the proportion rising as high as 93.2 per cent.⁹

The world's population is rapidly ageing. In Britain alone, by 2020, there will be 5.2 million more people in the 45-74 age group than there are today, according to census analysis by Future Foundation.¹⁰ In the 2001 census, it was revealed that for

⁸ | *Reforming Social Security: a balanced plan*, The Brookings Institution, 2003

⁹ | *Hearing in Adults A* Davis, 1995

¹⁰ | *Marketing's age concern*, Future Foundation, 2004

the first time there were more people over 60 (21 per cent of the population) than under 16 (20 per cent). By 2041, the over-75s will outnumber those aged between 55 and 74. Because of this, the number of deaf and hard-of-hearing people in the UK is rising, and this is set to continue.

Meanwhile, with experts claiming that 'Social noise exposure has tripled since the early 1980s in the UK'¹¹ there is concern that more people are at risk of losing their hearing at a younger age too.

Worryingly, while the high-decibel entertainment that people enjoy at concerts and clubs may be damaging their hearing, preventing hearing loss remains a low priority, according to a new MTV-based survey.¹² This needs to change.

The idea for the MTV study started when leading researcher Dr Roland Eavey, a professor of otology and laryngology at Harvard Medical School, noted that music fans leaving concerts and clubs often had ringing in their ears and heard muffled sounds. He was concerned that they weren't aware that this pointed to their doing permanent damage to their hearing. A 28-question on-line survey was posted on MTV's website, and in only three days nearly 10,000 completed questionnaires were logged.

Only eight per cent of the respondents rated hearing loss as a significant health problem, falling far behind sexually transmitted diseases (50 per cent), alcohol and drug use (47 per cent), depression (44 per cent) smoking (45 per cent), nutrition and weight issues (31 per cent), and acne (18 per cent). Hearing issues were practically off the radar screen, though 61 per cent said they had hearing loss or ringing in their ears after rock concerts, and 43 per cent said they had similar problems after being in clubs.

The idea of hearing protection is currently not at the forefront of social consciousness, aside from the occasional health panic.¹³ When the researchers asked how many had worn earplugs, only 14 per cent said they had – with most not even considering the possibility. However, more than 60 per cent said that if they knew loud noise, such as rock music, could cause permanent hearing loss, they would try earplugs. Eavey – like RNID in its Don't Loose The Music campaign¹⁴ – wants to make wearing earplugs a positive concept. 'Like sun block and sunglasses,' he commented.

¹¹ | Smith, Davies, *Noise & Health Report*, Ferguson and Lutman (2000)

¹² | 'You don't care enough about your hearing, study shows' MTV.com, 4 April 2005

¹³ | 'Listening to iPods can make you deaf', *The Evening Standard* 11 May 2005

¹⁴ | www.dontlosethemusic.com

It's not just clubbing that's the problem. There have long been concerns that the high volumes on iPods and Walkmans could be damaging people's hearing at a younger age. In fact, studies have found 'statistically significant' increases in the average hearing threshold in young people using personal audio devices for more than seven hours a week, compared to those using the products less than that.¹⁵

More of a pressing problem is the way people listening to music on their headphones tend to turn up the volume even higher to drown out background noise. A recent RNID survey for the Don't Loose The Music campaign found that only 14 per cent of respondents currently try not to turn up the volume on their personal stereo to drown out background noise.

Once noise-induced hearing loss occurs, there is no going back and, perhaps more worryingly, a cumulative effect occurs when age-related hearing loss begins – a potential time bomb for today's young people.

7. TIME FOR CHANGE: THE GREY VOTE

We're not getting any younger. It is a demographic time bomb that both the Government and marketers are already seeking to address – all seeking the grey vote, and with it, the grey pound.

So far they've seen little success as a result of their efforts, however, and the advertising industry – driven as it is by a young demographic – is still at a loss as to how to sell to this older generation. A survey by Millennium, called GreyPower, showed that of 30,000 over-50s questioned, 74 per cent said they cannot relate to television advertising and most of them would like to see more mature people featuring in adverts.¹⁶

That said, it is also very apparent that this age group generally does not want to be constantly reminded of their advancing years. It's a young consumer's world at the moment, and commerce revolves around that fact. The age shift, therefore, is a big worry to some, who believe that it will drive the conventions of 20th-century marketing into crisis. Older people are harder to persuade to change brands or try out new trends – something that looks set to be the case for as long they are immune to advertising.

Consumer capitalism itself will suffer, say some, as new products have

¹⁵ | Epidemiological evaluation of hearing damage related to strongly amplified music, Meyer-Bisch (1996)

¹⁶ | Life stages, Marketing Week, 28 October 2004

generally been aimed at younger generations. However, most consumer products are bought by people aged between 45 and 59. It would make sense, therefore, to start with them rather than try to get people in their 20s and hope they will stay with you forever. The older generation may not have the image, but that is where the money is.

But how can this be done? Just as there is a negative attitude towards hearing products, arguably reinforced by negative marketing, this is also the case with ageing itself. It's a self-perpetuating situation that has led to marketers and customers alike avoiding the issue entirely. The common view is that older people have begun to act less and less like society's stereotype of old people in their consumption habits. They are healthier, wealthier, and behaving like younger people, goes the logic. Forty, according to many current fashion and lifestyle magazines, is the new 30, and so on.

So maybe advertising won't have to change much at all. Except that in this case it might. While the world's population is getting older, the age at which people begin to lose their hearing remains the same. However, it is also important to remember that as the generations advance, so the people who have grown up in a world saturated with branding and consumerism will be the ones with the spending power. They will also have lived their whole lives in the information age, and will be – for the most part – thoroughly comfortable with the idea of new technology, and personal electronics. Furthermore, they will also be well versed in issues surrounding physical and biological enhancement.

All this adds up to a future – and one that is not so very far away – where older generations will be demanding products of an entirely different nature than the ones they have to put up with today.

8. CONCLUSION: SURROUND SOUND

Audio experimentation has been investigated in many of 2004 and 2005's major exhibitions and artworks – from Bruce Nauman at Tate Modern to the V&A's Shhh tour and Christian Marclay at the Barbican Art Gallery. Now is the time to extend this into the physical reality with product design and innovation.

Designers, manufacturers, and the advertising industry will be the key drivers

behind achieving these aims. The main challenge will be for consumer product manufacturers to realise the potential for innovations in audio that address the growing need for desirable, aspirational hearing products. Hearing-aid manufacturers, too, must begin investing in product design and innovation.

With a new way of thinking, and appropriate changes in marketing and product development, there is a vast potential for new solutions to encourage more responsible, experimental, and positive attitudes in society to hearing health, and towards the potential for audio enhancement.

REDESIGNING THE SOUND BARRIER

Dr Suzanne Livingston, Wolff Olins

When it comes to progress in the world of disability and technology, the hearing aid has been a slow starter. While great strides have been made in the precision of sound quality and control, a one-dimensional approach to the physical form of hearing aids has remained in place for decades, and now high-performance, poor-appearance aids are commonplace. Such hearing aids often stand out more, ironically, in their effort to conceal themselves than if they simply looked like any other piece of technology to enhance hearing – which many of us use everyday in the form of iPods and mobile phones.

Why this is remains difficult to say – the hearing-aid industry has been quick to make assumptions about people’s desire to conceal a condition as commonplace as sight loss. Some might feel that a visible hearing aid alters ease of interaction between people. Or that technology which is more invasive than the other body-enhancing technologies we use in life – spectacles, a walking stick, or a wheelchair – is best left unseen.

Whatever the reason, the pursuit of naturalisation and miniaturisation in hearing-aid design is long held, and now entrenched. And its consequences are pretty dire. Most obviously this strategy has for too long made decisions on behalf of the user when the provision of a choice of products, varied in design to meet various needs, would be a much better alternative. But it also carries with it bigger implications. The camouflage approach is, in part, sustaining a silence and lack of everyday understanding about a condition which many of us will experience at some point in our lives.

The solution to this social blind-spot is of course very simple – better design, products more pleasing to the eye, greater awareness of users’ taste alongside better marketing, branding, and distribution. It is an opportunity which many designers relish. But herein also lies a bigger lesson about technology and innovation – one which encourages new thinking about the body and technology. The trap the hearing-aid industry has fallen into is one of single-mindedly seeking to emulate the human body – to make technology appear as natural and the body as unaided as possible. Given how often the design industry celebrates technology which is human and friendly you’d think this makes good sense. Yet in many respects it has proven to be a road to nowhere. Apart from being unimaginative, in some very important scenarios this approach is deeply conservative – it promotes a

vision of the human body which is ideal, untouched and, in this day and age, irrelevant.

Great breakthroughs in technology do something quite opposite. More often than not they turn the body and its capabilities on its head. They show that real innovation does not always come from seeking to mimic nature, but rather from thinking beyond it and, in a positive way, transforming it.

How natural is it, for example, to see someone apparently talking to themselves as they chat on their mobile phone, or to find yourself in two places at once as you're teleconferenced across the world, or to drive a car which knows where it's going and how it's going to get there far better than you do? The best technologies have a supernatural quality. They give us powers that we wouldn't normally have. With this in mind, the hearing aid in its current form is quite clearly at the beginning of the technology race rather than at the end of it – it neither celebrates the contemporary reality of a body which merges with technology as and when it chooses, nor considers the hearing sense itself and what more could be done to heighten and expand our experience of it.

The opportunity then is to think beyond the confines of the human – which is anyway quite modest in its abilities. In other areas of technology and engineering, we're very good at supplementing hearing when our own falls short – stethoscopes, for example, are used to hear the human heart. And we've borrowed the ears of other species – bats and dolphins – as the inspiration for modern technologies such as sonar and ultrasound. Technology simply does not have to be defined by what human beings are used to, either in terms of appearance or function.

Thinking in such broad terms will bring about real social progress. After all, some of the biggest and most exciting achievements lie on the other side of normal as those paralympians who graciously outstrip the speeds of their Olympian peers prove. The normal human is a very small subset of a much wider world. A new inventive approach will also tap into some serious cash – a market worth \$10bn experiencing only 18 per cent penetration, but it will take radical product innovation and service design, presenting an entirely new offer to the market to reap real reward.

Progress will bring with it an important reminder – that the over-glorification of technology which is soft and humanising can be seriously misguided. Great technology is not always about making us more comfortable in our existing world. It is about opening up entirely new ones.