On November 22nd, 2003, the neighbouring apartment holders in the block that includes the editor's home began a campaign of complaint that has only just subsided. It is true that there was certain amount of noise on the day in question, culminating in a yell guaranteed to be heard up to four hundred yards in the teeth of a howling gale - which there wasn't. But then it was the first time England won the Rugby World Cup!

Sweet chariot

In October last year Australian sportswear, footwear and equipment chain, Rebel Sport, had already posted a seven per cent rise in quarterly sales over 2002. The company said sales for the three months ended September 27 climbed to A$64.9 million with sales for the first two weeks of the then current quarter up 13 per cent year-on-year. In a classic piece of understatement, it cited the start of the RWC (Rugby World Cup) tournament, which Australia hosted, for the boost in sales.

In the same month, and not to be outdone, British-based Cotton Traders also reported that the British public was clearly being conditioned by a similar spirit. The company's returns for the month indicated that like-for-like unit sales of replica rugby jerseys had gone up by 215 per cent across the retail division. Cotton Traders' unofficial replica England rugby jersey was proving to be a particularly big hit at the company's 36 stores around the UK.

New Zealand sportswear manufacturer Canterbury found itself going into overdrive to cope with what it reported as 'overwhelming sales of Rugby World Cup supporter jerseys in Australia'. According to international product manager Steve Guise, a run on Australia and Scotland supporter jerseys depleted stocks across Australia to "worrying levels" and staff worked overtime to meet demand in the host nation.

Canterbury, as well as competitors Reebok and Line 7, used the RWC to launch a female-specific supporter jersey, which was more tapered in cut than their male counterparts. Again, the company was taken by surprise when the women's Wallabies (Australian) RWC jersey sold over five times the number of the standard jerseys usually retailed to women.

Replica sales to one side, a great deal of attention was centred on the designs and fabrics of the match shirts worn by the leading protagonists. Styling varied from full-on traditional to avant garde – and the fabrics deployed brought together all the black arts of developments in performance fibres.

A slim-line tonic

In April 2001 Nike began the process of researching and developing an apparel concept to provide significant performance benefits to the English, French and South African teams. The research criteria were light weight, durability and the provision of a position-specific solution to meet the physical needs of modern play and players. The company claims that its privileged position within rugby football ensured the on-field demands could be readily identified through its contacts with leading teams, players and coaches. The result was a range of unique garments tailored to the needs of different positional groups on the field.

Nike's body-hugging fabrics and designs provided much speculation during RWC 2003. Nike

Certainly Nike produced an eye-catching set of products with garment structures developed into a dynamic, body hugging technology built to enhance a player's mobility. The seam construction and panel placement was designed to move with the athlete, not against him, and the company said that the body-hugging fit gave the player the added advantage of being harder to tackle – although it is doubtful whether certain individuals would entirely agree with that statement.

The technology used a combination of panel configurations to reduce the amount of material used in the shirts, and a cut designed to enhance elusiveness and give the opposition fewer holding points. Elusiveness was said to be further enhanced by the "snap back" properties of the fabric that helped to impede an opponent's grasp and improve a player's ability to break a tackle.

Using knowledge gained from work on similar projects at Nike's Sports Research Laboratory, the rugby outfits (players shorts were part of the design package) applied valuable lessons on sweat management and heat build up. Built-in ventilation using breathable, moisture management fabric technologies, operated across the key sweat zones of the body – ribs, underarms and the lower lumbar region.

Performance textiles were placed into a 25-panel configuration to provide position-specific benefits according to the needs of the players. Dri-FIT technologies in the form of stretch knit, stretch ripstop, and mesh were used strategically and variously to provide improved 'binding' between team members, zoned breathability and moisture management, and a close fit. The last attribute provided an interesting performance counterpoint when jerseys had to be changed on the field of play; on a number of occasions it required the combined efforts of two or more players to tug the garment down the torso, such was the closeness of the fit.

Whilst full details of all the fabric suppliers are not available, we do know that UK-based Cloverbrook produced the DriFIT ventilation mesh and that IBQ Fabrics from Spain was the source for two differing versions of ripstop. Both the latter were subject to added Lycra to ensure that comfort married with toughness, but one was a mono-stretch configuration for shorts and the other a bi-stretch for the jerseys.

Tradition on the cutting edge

Sponsoring a total of five teams in the RWC (Australia, Scotland, Ireland, Fiji and Japan), Canterbury International invested more than two years of research and development into a range of jerseys that took to the various fields of play in Australia. The host nation, Scotland and Ireland were equipped with lightweight jerseys designed specifically for the Rugby World Cup playing conditions. Fiji wore an existing slim fit design, but constructed in a new, lightweight fabric.

With high temperatures and humidity forecast during the tournament, the brief for developing the new jersey focused on reducing thermal stress (heat build-up) and improving both heat and moisture transfer through the fabric. The major innovation was a brand new fabric created using patented technology from Invista, combined with Canterbury International's existing Temex product. The finished textiles are said to be stronger and more durable, and have a greater resistance to tearing, than any Temex fabric the company has developed previously. Equally as important are the facts that the new jerseys are 25% lighter and 10% stronger than the original garments.

The shirts produced by Canterbury International for Australia and Japan, illustrate well the divergence of performance design. Canterbury Int

The revisions include a double layered knit that featured Coolmax, for its moisture vapour transfer properties, linked to an outer face of poly-cotton yarn. A zoned knit technique meant different parts of the jersey could be designed to enhance performance. This gave improved breathability and stretch in the areas that needed it most (areas covered by body armour, such as shoulders, underarms, upper chest and back). A knit construction with reduced stretch was used through the waist and hip areas to reduce the possibility of jersey pulling or stretching in contact situations, thus providing the company with the opportunity to take into account the differing requirements of forwards and backs in play. Seam-lines were minimised to give fewer stress points on the garment, and they were positioned to enhance ease of movement and reduce irritation.

Cotton Traders

Adidas sponsored the New Zealand All Blacks, providing close-fitting jerseys designed by the sports apparel company as an aid to personal performance enhancement. The company said that it was conscious of the necessity to respect tradition whilst adopting innovation, and thus ensured that the jerseys looked very similar to the garments of previous years, with the All Blacks logo on the left breast and the adidas logo on the right.

In common with those discussed earlier, they were designed to a position-conscious specification with the backs jerseys being closer fitting and made with a different fabric construction to that of the forwards. The material used for the former was a stretch microfibre fabrication with added Lycra, that was lighter and had more stretch than the ClimaCool micro-fibre fabric worn by the forwards. The last mentioned textile was first introduced in 2002.

Protected by DNA

The opening paragraphs to this feature gave an indication of the value to the retail market of replica jersey sales and, by implication, other forms of commemorative merchandise. The problems of counterfeiting – and the depth of the activity to combat it – have been highlighted in the pages of this magazine on a number of occasions in the past. Australian sporting organisations had already created a simple security technique during the 2000 Olympics, and this was applied to the Rugby World Cup 2003 with equal success.

The secret lay in the printing of the official hang tags for each item. Ink used in labelling them was coded with the DNA of an un-named athlete, and at any time the tag could be scanned to check on the item's authenticity. Any mismatches were subjected to further scrutiny for origin and for import contraventions, and action taken as necessary.

Coming home

The thrill of a final closely fought game, to finish just three points ahead of the Australians in extra time, gave the England squad and their fans some of the sweetest memories to take into the new century. The words (vaguely musical) of 'Swing low, sweet chariot', the old spiritual that is English rugby's anthem, roared out into the Australian night sky and tears of joy were shed.

Derryck Draper