

Conversation with Peter Caruthers of Bromakin Wheelchairs

The biggest recent change in racing wheelchair design came after the Seoul Paralympics in 1988. It's only at these events that the world gets together to talk. Prior to 1988 the rules around w/c racing were quite restrictive in terms of what sort of machine you could use. As a result today those chairs seem quite unsophisticated, with no steering, four wheels and use of castors. It was Bob Hall, US marathon racer, who designed the first effective and stable three wheeled chair; his design was quickly copied by other athletes.

In the early 80s British wheelchair users were lagging behind the rest of Europe. Bo Lindqvist from Sweden had developed a very minimal and light weight racing chair; German and Swiss athletes like Rainer Kuschall were developing their own versions too. Meanwhile we were playing catch up. At Bromakin my wife and I worked together with a cycle frame builder to develop bespoke racing chairs. We had kind of caught up with the Europeans by 1984. There always was a lot of cycle technology informing our designs. We started off using Reynolds 531 tubing as you would for a racing bike – and we have continued to adapt new cycling materials and innovations into our designs: the use of aluminium and, to a lesser extent, titanium and carbon fibre in frame construction, disc wheels and tubular tyres.

One of the distinctive things about sports wheelchairs is that so many of the companies were originated by former wheelchair athletes. Like myself, many of these guys had had a previous career in engineering or something similar before their accident and it was a natural way to go to put these skills into improving your subsequent quality of life, particularly if you took up wheelchair sport.

And there has been a knock-on benefit for ordinary wheel chair users from the sports designs. Much of this has come out of the design for basketball chairs which are not a whole lot different from an everyday chair; they both need to be strong and manoeuvrable; if you adjust the wheel camber and change the footrest. The Quadra and later the Quickie chair were the American chairs that led the way. Basketball was the default US sport, so if you have a bunch of young men in chairs on a hospital ward, that is what they will start doing (whereas at Stoke Mandeville it was hockey that they started with). People will always have an instinctive feel for mucking about and doing sport. Guttmann didn't invent wheelchair sports but he did recognise its rehabilitative value and then regularised it as an activity.