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**Communities of Knowledge: Entrepreneurship, Innovation  
and Networks in the British Outdoor Trade 1960-1990**

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# **Communities of Knowledge : Entrepreneurship, Innovation and Networks in the British Outdoor Trade 1960-1990**

**By**

**Mike C. Parsons and Mary B. Rose <sup>1</sup>**

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This article looks at the use of interpersonal and inter company networks in the British outdoor trade between 1960 and 1990. There is a growing body of management literature which highlights the significance of networks in the innovation process and in this article their significance and changing form are explored in an important but little studied consumer goods sector. From the 1960s to the 1990s changing leisure and consumption patterns stemming from rising living standards and greater mobility increased demand for a wide range of consumer goods. In Britain this was normally associated with rising imports. This article explores how and why the outdoor trade differed and the particular forces which led to the emergence of several internationally competitive companies, including Karrimor, Berghaus and Mountain Equipment. It shows that one of the principle underpinnings of the competitive advantage of these firms lay in the networks of the entrepreneurs who owned them. The article tracks the changing nature of networks from the strong ties of purely informal personal contact to the weaker but more powerful ties that came through trade shows and exhibitions and to more formal strategic alliances within the supply chain.

### **Keywords**

Entrepreneurship

Networks

Innovation

Outdoor sport

Mountaineering history

Business leaders

This article focuses on the innovation process in an important leisure-based industry in Britain since 1960. It explores the peculiar juxtaposition of social, economic, technological and sporting forces, which provided the springboard for a number of British outdoor companies, including Karrimor, Berghaus and Mountain Equipment, to become leading international brands. More particularly it highlights the way innovations were developed in relatively small entrepreneurial firms. The prime focus is on the way in which networking activity underpinned innovation and, by implication, the competitive advantage of firms. To achieve this, it also traces the bridges within the supply chain and by exploring the relationship between innovation and markets, places an emphasis on products and their design.

Joseph Schumpeter and his work on entrepreneurship has had a massive impact on business history, on the history of innovation, on the shaping of ideas relating to strategic response, and on the analysis of economic decline<sup>2</sup> Yet, over the last 30 years emphasis on understanding the structure and organisation of large scale companies, has meant that historical research into entrepreneurship, leadership and the entrepreneurial process has been neglected or at best been the ‘Cinderella’ of business history.<sup>3</sup> Similarly, whilst there has been extensive work by business historians on innovation, it has been set either in the context of technology or R &D,

with the result that there has been little analysis of why firms might introduce new products or modify them, how they were marketed or how the innovation process evolved as an integral part of competitive strategy.<sup>4</sup> In 'capitalist reality, as distinguished from its textbook picture, it is not price competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organisation'.<sup>5</sup> The key focus in this article is on the ways in which small firm entrepreneurs used personal networks to allow them to innovate and hence build their competitive advantage. This inevitably raises important issues of definition of entrepreneurship, innovation and networks. Entrepreneurship is not automatically synonymous with small firms and many small business owners, including some in the outdoor trade, are caretakers looking for the status quo, rather than being truly entrepreneurial. Indeed, Schumpeter agreed that 'everyone is an entrepreneur only when he carries out new combinations.'<sup>6</sup> He made the link between entrepreneurship and innovation quite explicit here. Although the vast majority of the firms studied in this article are new start-ups, definitions of entrepreneurship with a primary focus on new venture creation are inadequate. What is relevant here is not the decision to found a firm, but rather to build and enhance its competitive advantage through innovation. Casson's definition of the entrepreneur as one who makes 'judgemental decisions' which include developing new combinations, goes some way towards providing a flexible and workable definition of entrepreneurship.<sup>7</sup> Yet for the purposes of this article a definition which captures both innovation and networking is appropriate. Stevenson and Gumpert's definition which sums up entrepreneurship as being defined as 'the pursuit of opportunities that are beyond the resources currently controlled' represents a workable definition.<sup>8</sup>

Innovation then is a specific function of the entrepreneur,<sup>9</sup> but it also needs some clarification, since it encompasses product and process innovations, radical and incremental innovation. Product innovation is the creation of new goods or services and often needs to be set in the context of prevailing technologies, production processes or ways of organising work. Radical innovations are those which create discontinuities at the level of a sector or of the economy. Incremental innovations represent the often modest improvements, frequently based upon user feedback, through which entrepreneurs may differentiate their products and improve productivity.<sup>10</sup> This article is primarily, though not exclusively, concerned with product innovation and with both radical and incremental innovation, but this needs to be set within the wider context of process. In organisational terms, the history of the outdoor trade, from 1960 to 1990, encompassed everything from the craft workshop through the factory using work-study and mass production techniques, through to quality circles and finally to globalisation and off-shore working. Shifts between these models were often intimately linked to trends in innovation and in competition which are inevitably related. Similarly, product development in rucksacks, waterproofs, tents and footwear was also affected by radical innovations in materials – including nylon, the development of synthetic polymers, and the development of thermoplastic materials. The whole sector was also affected over this period by communications changes which altered mobility, marketing and image creation and of course ultimately the location of business. Finally, although the majority of innovations considered in this article were incremental product innovations, some changes, including the introduction of Gore-Tex clothing and the development of the lightweight boot in the 1980s, can be seen as radical innovations at the sectoral level – they were platform innovations which changed the trade fundamentally.

There is significant evidence that although small firms invest very little in R and D some can be more innovative than large firms. This stems in large part from a creative use of personal networks which reinforce and supplement resources. Rather than innovation being a simple linear process the idea that it is embedded in networks implies a high level of complexity.<sup>11</sup> Since economic activity is embedded in society the innovative entrepreneur can build networks which provide external sources of information and expertise and allow mutual learning. These may begin as highly personal but are likely, through time, to spread to include a range of contacts which far exceeds the immediate family and close friends. These 'weaker' ties allow the individual to reach outside his or her immediate contacts to secure a wider range of information. They are often facilitated by such economic and social institutions as trade associations, exhibitions and trade shows.<sup>12</sup> This article will show the way in which innovative entrepreneurs built, from strong ties with family and close friends to weaker ties through the shifting nature of networking activity over a 30-year period. Although networks may be horizontal links between firms in the same sector this article focuses on vertical networks within the supply chain. Business historians have of course been at the forefront of research into industrial clusters, which do combine entrepreneurship, innovation and networks.<sup>13</sup> Certainly the juxtaposition of mountains, mountaineering and skiing and specialist manufacturers has been significant in innovation in Alpine regions stretching back into the nineteenth century.<sup>14</sup> But in the UK case, whilst outdoor retailing has developed close to mountain regions the outdoor trade itself was not part of the same kind of cluster. Indeed, since British mountains are mere pimples in comparison with those in Continental Europe and North America it is surprising that an innovative trade

developed in the UK at all. It will emerge that whilst innovation in the UK trade was undoubtedly based upon networks it does not fit the classic industrial cluster.

The British outdoor trade from 1960 to 1990 provides an interesting case study for the examination of entrepreneurship, innovation and networks. Firms were small and typically controlled by their owners who used their expertise in such sports as climbing, mountaineering, skiing, fell running or cycling and their good understanding of these people as customers, to compensate for an initial lack of design skills. The owners studied here were primarily entrepreneurial. One or two began with the fantasy of finding a source of income which financed their hobby, but the firms examined here developed an international reputation on the basis innovative activity. Well before the 2001 Foot and Mouth Disease outbreak threatened to devastate the British outdoor trade, outdoor journalists have looked back with growing nostalgia and frustration to what could be called a 'Golden Age' from 1960 to 1990, when British companies were at the 'forefront of world innovation' in clothing and equipment for climbers, mountaineers, walkers and backpackers.<sup>15</sup> The study sets the innovation process in the British outdoor trade in a wider international framework. It was a sector which experienced significant import substitution which sets it apart from many UK consumer goods industries in this period. Although in the 1950s tents and windproofs were often British made, a high proportion of more specialist equipment and much clothing were imported. This had changed by 1970 with a number of UK companies enjoying national and international reputations. In many sectors in this period the peculiar demand conditions of the 'long boom' with its rising living standards, growing leisure and mobility merely attracted imports. One of the aims of this paper is to identify those conditions which made the outdoor trade

different. It will be shown how far a peculiar set of circumstances, themselves connected with networks, created a favourable environment for innovation.

The article is divided into three substantive sections. The first provides an overview of the emergence of outdoor manufacturing in Britain and concentrates on the peculiar post war conditions which gave a stimulus to the development of new companies, products and designs. The second section analyses the innovation process in the outdoor trade and the extent to which it was inseparable from entrepreneurial networks. It identifies different stages in the evolution of entrepreneurial networks in the trade, stages which become inseparable from external institutional, economic, technological and social forces. In a final section conclusions are drawn.

Research has been based upon a range of interviews with suppliers, manufacturers, users, retailers, outdoor journalists which have been set alongside printed sources and advertising to gain a holistic view of the trade and supply chain relationships. This approach was adopted to gain appreciation of the importance of entrepreneurial networks in innovation. These are by their nature mainly informal and are not readily reflected in company archives, even had these been widely available. In reality, the large number of liquidations and take-overs in recent years has meant that many archives have been lost. Whilst this is an unusual way of exploring innovation, it represents relatively standard historical methodology. What is distinctive, if not unique, however, is that Mike Parsons, one of the authors of this paper and the past owner of Karrimor, was also one of the key innovators in the outdoor trade,. An appendix outlines the methodological issues arising from this collaboration between a leading businessman and an academic.

## I

The outdoor trade can be broadly defined as those companies which design manufacture and sell products such as tents, carrying equipment, clothing, footwear and technical equipment used for polar exploration, mountaineering, rock climbing, skiing, cycling, pot holing and mountain walking. Its specialist origins lay in the nineteenth century, which saw a marked expansion of polar travel and the beginnings of mountaineering as a sport. Innovative specialist companies, such as Grivel and Simond can trace their origins back to the 1860s, while in the late nineteenth century and interwar period British firms such as Burberry, Jaeger and Benjamin Edgington were significant for their windproof and insulating clothing and tents. <sup>16</sup> To understand the innovation process in the British outdoor trade since 1960, it is necessary to place it in context and explore the peculiar juxtaposition of conditions which provided a combination of sporting achievement and a broad market base. These gave the stimulus for innovation and were underpinned by extraordinary networking opportunities.

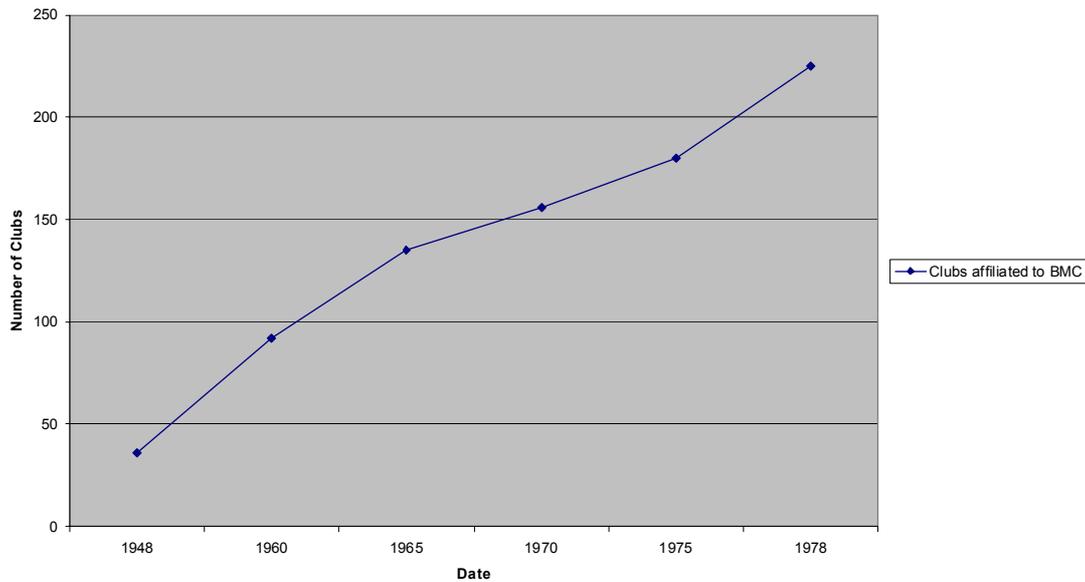
Analysis of the post war consumer boom typically emphasises the relationship between rising living standards, falling working hours, increasing leisure and rising car ownership to explain the growing consumption of consumer goods and the pursuit of leisure activities. All these trends affected the outdoor trade but there were peculiar market and supply side circumstances which meant that, rather than merely encouraging rising imports, a platform for innovative companies was created.

There was massive post war enthusiasm for the outdoors and for mountaineering in the UK and people returned to the hills in droves. Perhaps partly created by wartime mountain training and simply by a post war return to normality,

there was a pent-up demand for the outdoors and John Barford's 1946 *Climbing in Britain* sold 50,000 copies on the first edition.<sup>17</sup> It was a level of sales most current mountain writers only dream of. The outdoors also became more accessible for the British in the 1950s and 1960s. The creation of National Parks under the 1949 National Parks and Access to Countryside Act was the culmination of a campaign stretching back before the First World War to broaden access to wild places. The first was the Peak District in 1951 with 7 others following through the 1950s. The opening of the Pennine Way from Edale to Kirk Yetholm in 1965, championed for many years by Tom Stephenson, marked Britain's first official long distance path. By the 1980s 10 such paths, covering some 1,550 miles, had been created by the Countryside Commission, with more to follow.<sup>18</sup>

The war had had an effect on mountaineering in particular and contributed to widening participation. Unlike their Continental contemporaries, British service men, who were trained in mountain warfare by John Hunt and Frank Smyth never saw active service in the mountains. But their training introduced them to ropes, and even pitons, and for the first time karabiners were made specially by the War Office. The wartime advisory role of a number of leading climbers highlighted the need for a national organisation and the British Mountaineering Council (BMC) was the result.<sup>19</sup> There followed an explosion of affiliated club formations as illustrated in Figure 1 and, for the first time, Britain had the kind of club structure that had been normal on the Continent. With the formation of the BMC, Britain at last had an institute open to all not restricted by class, education or climbing standards. Mountain training began

Figure 1 Clubs affiliated to BMC 1948-78 : CC Digest of Countryside Statistics 1979



to flourish and the Mountaineering Association, formed in 1947, trained 15,000 people in the next 20 years and the BMC mountain guide scheme followed. The process was simple, based upon knowledge of a specific region and involved letters of recommendation from two clients. Climbing club membership ceased to be socially elitist and became open to all. With employment levels high, working class climbing enthusiasts – many of whom , like Joe Brown and Don Whillans had honed their skills on Peak Gritstone – climbed extensively in Britain and, for the first time, on the Continent.

Despite the growing number of participants, there was no large market for outdoor clothing and equipment from specialist companies in the immediate post war period. In the late 1940s and the 1950s, if you went into the mountains you used ex-army surplus, and fairly awful stuff much of it was.

‘Everything was in short supply and there had been a lot of making do. Almost to make matters worse the Government off-loaded enormous stocks of cheap surplus mountaineering equipment which was little short of useless, if not dangerous. There

were boots which heeled over to one side after a week or so's wear, paper thin cotton anoraks, ice axes with sharp steel edged heads that wore through gloves in a few hours or so and karabiners that opened under low stress'<sup>20</sup>...

It was the successful first ascent of Everest in May 1953 that really provided impetus for a new generation of innovative companies, even if the impact was neither immediate nor obvious. Everest became a symbol of national status and mountaineers the new adventurers:

‘a subject of sermons and for the Goodies[ a cult comedy show], an incentive for export drives, a target for charitable appeals, a trade name for Italian wine and for double glazing against the rigours of the British climate. The names of some members of the expedition have been given to schools and school houses, to streets, to youth clubs, Scout troops, exploration groups and even to three tigers in Edinburgh Zoo.’<sup>21</sup>

Everest then struck a vital chord and changed attitudes to mountaineers and mountaineering.

Everest 1953 came too early to be a direct springboard for new companies and whilst the expedition used custom-made cotton nylon fabrics, manufactured in Lancashire and the revolutionary high altitude boot designed by the SATRA the Shoe and Allied Trades Research Association, much specialist clothing and equipment – including down clothing – came from the Continent.<sup>22</sup> On the surface, then, it looked as though Everest had had little or no impact in encouraging the development of outdoor brands and mountaineering activity. It was, in any event, too early for a sizeable product market to emerge even though the enthusiasm was there. But the successful expedition proved an ignition for a new type of outdoor education which was ultimately to provide a volume market for firms like Karrimor. It was also a great stimulus to setting up new climbing clubs, most of which succeeded

in establishing their own club huts in the mountain regions of the UK. The Mount Everest Foundation (MEF) was established and provided £800,000 over the next 50 years to support exploratory expedition to all parts of the globe. Mountaineering began to flourish.

Most important of all, mountaineers occupied positions of influence throughout society, the education system and even in politics. Through these positions they were able to keep mountaineering and outdoor activity in the public and political arena. It was this that provided the basis of growing demand for products which had been lacking in Britain in previous decades. In the first 10 years of the Duke of Edinburgh award scheme, which was headed by John Hunt ( the leader of the 1953 Everest Expedition) at the personal request of HRH the Duke of Edinburgh, there were 150,000 awards and by 1978 over a million young people had taken part.<sup>23</sup> Outward Bound – a scheme like the Scouts ( with its Boer War origins) was partly spawned by war- also flourished in schools scattered through wild places in Britain. Today it is embedded in the local culture of 35 different countries under a licensing system. In 1955 John Hunt became the first Chairman of the national centre for outdoor pursuits at Plas-y-Brenin in Snowdonia and was President of the BMC from 1965-68, when he played a fundamental role in developing Mountain Leadership Training culminating in the controversial Hunt Report of 1975.<sup>24</sup>

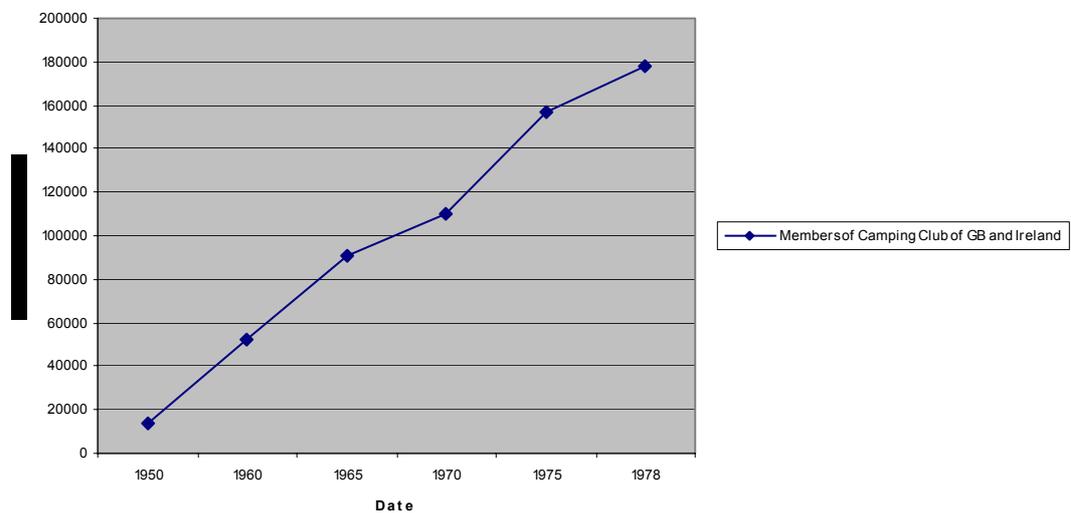
Another earlier Everester, Jack Longland - a veteran of both the 1933 and 1938 Everest attempts- also promoted the rising level of participation in outdoor activities. He became Director of Education for Derbyshire in 1949 and masterminded the opening of the first Local Education Authority (LEA) outdoor centre, at Whitehall near Buxton, in 1950. The 1944 Education Acts had ‘ made it the duty of every education authority to provide facilities for recreation, social and physical training in

primary, secondary and further education and enabled them to establish and manage, amongst other facilities, camps and holiday classes ... and organise expeditions.’ Longland’s success led the majority of LEA’s to open outdoor pursuits centres over the next 30 years, especially in the 1960s and by 1980 there were some 350 centres. Along with Hunt he established the Mountain Leader Training Board and was its Chair from 1964-80, he was President of the BMC 1962-65 as well as being an active member of the Outward Bound Trust Council, the Central Council for Physical Education and Vice Chairman of the Sports Council, 1970-1.<sup>25</sup> Hunt and Longland can be termed mountaineers in high places, capable of influencing the post war course of outdoor sport. Arguably without the momentum from the 1953 ascent, theories might not have been transformed into activity in this way and outdoor education would not have been institutionalised. It was these developments which provided the crucial market volume which provided the initial platform for new companies. It also introduced a generation to the outdoors.

Enthusiasm for the outdoors was therefore growing apace, especially after 1953. But the real mass market in the 1960s was family camping, which in turn provided a stimulus to the expansion of outdoor retailing. This stemmed from rising levels of leisure, increasing levels of paid holiday, the developing motorway system and the emerging love affair with the motorcar. Between 1951 and 1974 working hours fell by 12% and the majority of people stopped working on Saturdays while 40% of the working population were entitled to 3 weeks paid holiday by 1972 compared with just 2% thirty years earlier.<sup>26</sup> It was also the era of motorway building, rising car ownership and the spread of modern gadgetry, which made weekends away and holidays much easier. For instance the opening of the M6 and its extension to Carlisle in 1970 made the Lake District accessible for a weekend to

many in the conurbations of North West and the Midlands.<sup>27</sup> Rising economic prosperity meant people had more to spend on labour saving devices which in turn also meant more leisure. The family camping craze began in France and is captured in the pages of the catalogues of the leading French company Au Vieux Campeur. The firm had its origins in the 1930s and what became Au Vieux Campeur was set up in 1941. Car based camping, trailer tents and of course caravanning, both in England and on the Continent, became the family holiday craze in the 1960s and early 1970s. It altered the whole character of the Camping Club, soon to become the Camping and Caravanning Club of Great Britain and Ireland, (CCC) from its original image of self-propulsion. Much of the rise in membership of the CCC, illustrated in Figure 2, stemmed from car based family camping<sup>28</sup> The British outdoor trade of the 1960s then

**Figure 2 Members of Camping and Caravanning Club of Great Britain and Ireland 1950-1978 : Source : CC Digest of Recreation Statistics 1979**



was camping based. The outdoor trade association therefore was named COLA, Camping and Outdoor Leisure Association,(originally the Camping Trades

Association, now the Outdoor Industries Association) because camping activity and sales of products absolutely dwarfed all others. Blacks, with its growing number of stores, and widely distributed catalogue dominated that trade. However the style of family camping could not have been more different from the pre-war Baden-Powell style of scout camping. A model of comfort emerged, with suspended inner tents and zipped entrances which were entirely insect proof. The growing use of normal height tables and chairs and clean easy to operate liquid gas stoves were an important inducement for women. Many of these developments were then transferred to lightweight tents and to backpacking in the 1970s. Though it should be remembered that, even today, only a tiny proportion of lightweight tents and equipment sold are actually used for backpacking – they continue to be car based. Family camping also provided an introduction to the outdoors for many children in the 1960s – low cost accommodation for the whole family and a base from which to go walking.

## II

This then was the environment in which a range of tiny innovative British outdoor companies emerged during the 1960s and 1970s. But at the beginning of the period there was relatively little specialist clothing or equipment for the outdoors made in the UK and still less that was innovative. For family camping, virtually all the products used in the UK, including tents, stoves, furniture were produced and imported from France and the large companies and retailers, such as Blacks and Pindisports, focused on this obvious and very clear expanding area.<sup>29</sup> The same was true of the much smaller market for clothing and equipment for climbing and walking. Everything from rucksacks, through duvet jackets to technical hardware was imported; there were Millet rucksacks and Pierre Allain's rock boot from France, Erve down clothing and sleeping bags from Switzerland, Fairy Down sleeping bags

from New Zealand, Austrian Dachstein mitts, and Norwegian knitwear. To get round some of the shortages retailers sometimes co-operated by making joint imports as Tony Lack remembered :

‘ At Pindisports we had a very successful arrangement to do this in conjunction with Graham Tiso [for Fairy Down sleeping bags which were posted from New Zealand] and we eventually extended it to bringing in Chouinard hardware, Camp Trails pack frames and various brands of footwear – mainly Italian. This continued until a viable supplier of equal or better products became readily available from suppliers in the UK.’<sup>30</sup>

Karrimor was founded in 1946 making cycle bags but it moved into rucksacks in 1958 and began to grow during the 1960s becoming a household name in the 1970s. Others included Peter Storm, Henri Lloyd, and Mountain Equipment. In addition, for the first time Britain became an important manufacturer of innovative climbing hardware with companies like Troll, Snowden Mouldings MOAC, Clog, and Wild Country.<sup>31</sup> After 1970 there were many more, of which Berghaus and Ultimate Equipment were among the most prominent. From a position in the early 1960s, when virtually all the best clothing and equipment was imported, by the 1970s a high proportion of innovative designs were being developed in the UK.

An entrepreneur’s networks are likely to be based on experience, which not only determines the range of contacts, but may also influence perceptions of opportunities and courses of action. Such linkages are based upon personal ties and operate through informal social contact, but individual contacts alone, while reducing uncertainty, may become constraints on both the entrepreneur and the business unless reinforced by a wider external network. External networks frequently involve more formal contractual arrangements, including strategic alliances with other companies,

which may themselves initially derive from personal contacts. However, they bring with them significant external advantages including sharing of knowledge and innovation as well as the significant commercial advantages associated distributive and licensing arrangements .<sup>32</sup> Both kinds of networks underpinned innovation in the outdoor trade and helped to shape and differentiate innovative strategy.

Innovation and the development of innovative companies after 1960 can be divided into 3 principle phases, each of which had their distinctive and evolving networking arrangements. This evolution of networks highlights the tendency for networks to evolve from strong to weak ties through time.<sup>33</sup> The first phase lasted from 1960-1970 when the mountaineering market was tiny but when a bulk market was offered by the Outdoor Centres. This was a period of transition, both in terms of materials and designs and networks were intensely personal, since most owner-designers also did their own marketing. The second phase from 1970-1980 was arguably the watershed and coincided with fundamental breakthroughs in climbing techniques and hardware, in the emergence of mountaineering as a media attraction and the growing significance of the Continental trade show as a mecca for both companies and mountain practitioners. At the same time other outdoor activities, including backpacking and trekking gained in popularity. This created opportunities for new companies and distinctive network arrangements could differentiate companies and indeed products. The third phase from 1980s to 1990 saw the development of increasingly innovative clothing and footwear designs using new materials. It was also a period when skiing grew dramatically in popularity and when the stylish designs, which had long characterised ski-wear, influenced the general outdoor market. It was also a period which saw the emergence of strategic alliances

between firms, which had an important role in the development of such innovative products as the Gore-Tex jacket and the lightweight K-SB boot.

Successful innovation is the commercialisation of a new product or process and this requires an acute understanding of the needs of customers.<sup>34</sup> In the outdoor trade this came partly as the result of the sporting backgrounds of entrepreneurs, for the majority of those owning or establishing firms in this period were active outdoor people as Table 1 indicates.

**Table 1 Principal Innovating manufacturers in the British Outdoor Trade, 1946-1970**

<b>Company name</b>	<b>Date</b>	<b>Product</b>	<b>Founders/ Innovator and outdoor interests</b>
<b>Karrimor Bag Company , later Karrimor Weathertite Products, then Karrimor International</b>	<b>1946</b>	<b>Cycle Bags, nylon rucksacks, Whillans Box, Karrimat</b>	<b>Charlie and Mary Parsons, Cycling Mike Parsons Cycling, fell running, skiing, climbing</b>
<b>Peter Storm</b>	<b>1954</b>	<b>Lightweight Nylon cagoule First waterproof breathable coating</b>	<b>Noel Bibby Sailing and walking</b>
<b>Mountain Equipment</b>	<b>1961</b>	<b>Down clothing and sleeping bags</b>	<b>Pete Hutchinson Climbing</b>
<b>Henri Lloyd</b>	<b>1963</b>	<b>Heavy weight nylon waterproof clothing for sailing</b>	<b>Henri Strezlecki sailing</b>
<b>Troll</b>	<b>1965</b>	<b>Whillans sit harness</b>	<b>Tony Howard Paul Seddon Climbing</b>
<b>Snowdon Mouldings</b>	<b>1968</b>	<b>Joe Brown Climbing Helmet and Titanium Ice Screw and Curver Axe</b>	<b>Joe Brown and Mo Antoine Climbing</b>

**Sources** : Interviews by Mary Rose with Mike Parsons, Peter Hutchinson, and Tony Howard between August 2000 and September 2001; E-mail exchanges with Paul Bibby February 2002; *Climber and Rambler* March 1978, ‘Visit to Henri Lloyd

Factory’ ; A. Alvarez, *Feeding the Rat : A Climber’s Life on the Edge* (New York, 2001) 78-88; Tony Lack ‘Troll Safety Equipment’ Report *Mountain Ear*, January 1992.

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Karrimor, for example, had developed out of the cycling interests of founders Charlie and Mary Parsons and was sustained and expanded by their son Mike’s wide ranging outdoor interests which included cycling, climbing and fell running. Parsons was by no means exceptional and virtually the small innovative companies to emerge between 1960 and 1990 were owned and run by outdoor enthusiasts. Peter Hutchinson, founder of Mountain Equipment, which emerged as market leader in down clothing and equipment was himself a keen mountaineer. Pete Hutchinson’s Mountain Equipment began in a shack on a farm near Glossop where he lived and worked. Peter Gildersleve remembers visiting Pete in the 1960s, with the outdoor retailer Bob Brigham, :

‘ I got the shock of my life - I went into a chicken shed and it was full of down and Pete was stuffing duvet jackets... he was a prime mover at the time.’

It was hardly a glamorous existence – he would clean out the cattle sheds to pay his rent and then go back to his tiny shack and make a jacket.<sup>35</sup> But his down jackets and soon sleeping bags, produced initially on a bespoke basis, developed an enviable and justifiable reputation. Hutchinson was a good mountaineer and his hallmark was a craftsmanship which reflected a deep understanding of the demands placed on climbers at high altitudes and an empathy with his gear. He is one of very few designers to whom climbers have consistently paid tribute for over 40 years. The exceptionally good relationships he built with climbers brought commercial benefits too, for he got the earliest expeditions photographs, which he always used

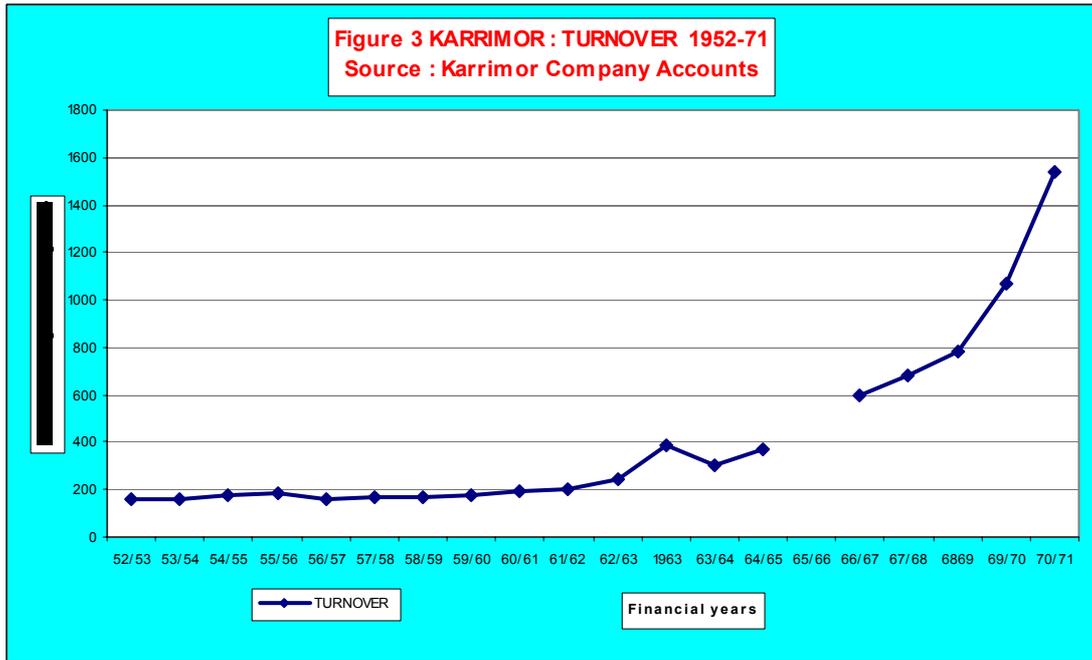
immediately in advertisements or catalogues.

Personal sporting enthusiasm and knowledge was not only a characteristic of the 1960s owners and continued with the new start ups in the 1970s and 1980s. For example, Berghaus founders Peter Lockey and Gordon Davison were keen mountaineers and skiers indeed Lockey, was granted a BMC Guide Certificate in 1958.<sup>36</sup> The Bill Wilkins founder of Ultimate Equipment the 1972 company which became synonymous with high quality, lightweight and sleeping bags in the 1970s and 1980s had no previous knowledge of making gear, but was a fanatical climber. He learned to make garments by a process of trial and error, first in a room with a couple of sewing machines above Lockey and Davison's outdoor shop, working half time in the shop and half time on making waterproofs. This arrangement did not last, relations cooled and he moved to Northumberland and set up Ultimate Equipment where eventually he made tents, clothing and sleeping bags.<sup>37</sup> Rab Carrington was a leading edge climber in the 1970s who set up a tiny business in 1980. His company Rab was ultimately to unseat Peter Hutchinson's Mountain Equipment at the top of the down market –somewhat to his surprise. His philosophy was simple - as a top climber he knew what other climbers wanted and like Hutchinson's his gear has always had an integrity based on its high quality and performance. But of course in 1980 he was 'a well known commodity' himself and by calling his company Rab he was able to build on something that was already public knowledge and which inevitably appealed to retailers.<sup>38</sup>

Personal sporting enthusiasm was often the catalyst for setting up a business and certainly brought insight into the needs of user. But it was not enough to secure success for the company. Indeed the outdoor trade is by no means the only sector to include niche firms established by enthusiasts. Other sectors that spring to mind

include computer software, special interest travel companies and specialist book companies.. What distinguishes those which remain little more than a hobby from the entrepreneurial firm is the conversion of that niche production into wider market penetration, something which the small firm can only do through networks. For Karrimor, it was the networks which evolved from this personal knowledge which proved crucial to the commercial viability of innovations. Indeed Charlie Parsons credited the firm's significant growth from 1960 to 1975 to his son's broad sporting shows. By 1975 numbers employed rose from 7 to 163 and there was virtually a 10-fold increase in turnover in real terms, of which over 40% was exported.<sup>39</sup> From its tiny beginnings as a craft workshop Karrimor emerged as the UK's largest rucksack producer with around 80% of the market. Mike Parsons' recalled :

‘When discussing the progress of Karrimor, he [Charlie Parsons ] suddenly told the whole meeting how it was a strange quirk of life, that had he still had his eyesight it would have constrained the business because he **did not have** all the contacts and indeed sports interest that I had. That was why he said the business had progressed so much. This was after...15 years of battle and was without precedent. I was completely and totally stunned, and embarrassed that he should give me all this credit having seemingly, to me at least, failed to give me any at all.’<sup>40</sup>



Networks are vital because ‘the innovation process, has elements of learning, adaptation and socialization...and [it must be based] on extensive interaction processes’.<sup>41</sup>

An entrepreneur may therefore initiate an idea or design a product on his or her own in what may seem a chaotic way based on chance and inspiration, but develop it using informal and formal networks. In what are often long term relationships with both customers and suppliers innovation becomes both an evolutionary and a ‘learning’ process.<sup>42</sup>

Outdoor retailers were also generally outdoor enthusiasts and they formed a crucial dimension for all innovative outdoor designers after 1960 and were vital to the innovation process. Of these the most influential were George Fisher of Keswick, Frank Davies of Ambleside, Graham Tiso of Edinburgh, Bob Brigham of Ellis Brigham, Manchester, Tony Lack of Pindisport in Holborn, Alan Day of Jackson and Warr and later Blacks in Sheffield and Tanky Stokes also of Sheffield.<sup>43</sup> Developing a good and open relationship with these men was crucial in the 1960s. They not only

understood the outdoors, but they knew their way round numerous Continental workshops and trade shows, at a time when barely anything of quality was made in the UK and they knew where the potential gaps in the market were. All the innovators relied on their knowledge and advice to inform their innovations and to develop new markets and products. Parsons is quite clear that the Keswick outdoor retailer, George Fisher, was instrumental to his move into supplying Outward Bound Schools – which became his bulk market in the 1960s.

‘George Fisher ... brought us the Outward Bound Pack. You know he came from OBS and they had a need for a pack that was BOYPROOF . At the time it used to be said that when boys got tired it was not unknown for them to kick the rucksack down the hill. So there were very specific performance requirements! We got the early samples made developed the business and then rather later developed a critically important dialogue with Outward Bound Schools and training centres using Ken Ledward ’. <sup>44</sup>

But Fisher could be uncommunicative and difficult to deal with and Parsons talked of a triangle of advisors with Graham Tiso in Scotland, Frank Davies or Bob Brigham in the North West and Tony Lack in the South. Tiso was notoriously arrogant and outspoken but widely respected for his integrity, quality of advice and as a keen climber he had an excellent knowledge of Scottish mountain conditions. He also understood Continental designs, gleaned initially from touring the big Continental trade shows in search of goods for his shop.

Graham Tiso, had one of the most respected reputations in the trade. His career began as a sales rep. with Cadburys in southern Scotland. He was also a very keen climber and the prospect of moving away from the mountains as his career progressed encouraged him and his wife Maud to open their shop in Edinburgh in

1962. His earliest suppliers were Blacks' and Peter Storm but, from the start, he travelled the Continental shows looking for new gear and suppliers and bluntly advising new UK suppliers about what they got right and wrong. He could be intimidating to the faint hearted or inexperienced and did not suffer fools gladly so that :

‘A meeting with Graham Tiso was much more comfortable in his office, where he could talk frankly, than on the shop floor or at a trade show, where he liked to project a certain image to his staff and scare the pants off company representatives at the same time !’ <sup>45</sup>

Like so many in the trade at this time Mike Parsons relied heavily on Tiso. Comparing him with Fisher he commented :

‘...whereas if something was wrong with a Fisher product he would not take the trouble to lift the phone. He would send you a long letter but he wouldn't lift the phone or he wouldn't come down or he wouldn't even meet you half way, whatever, he was not serious on that dialogue. So for me what Graham Tiso was about was about a serious dialogue, very often fierce, but it achieved results’ <sup>46</sup>

He had strong views about what was suitable for his specific customers and in those early days choice was distinctly limited. Mike Parsons undoubtedly gained from this, since 95% of Tiso's rucksack sales were of the GT sac, made by Karrimor and designed especially for Scottish needs with long walks in to climbs. This was the beginning of a long relationship between Parsons and Karrimor which included the development of one of Karrimor's most distinctive and memorable products – the Karrimat. Mike Parsons recalled one day in the mid 1960s :

‘Graham Tiso said that when he was next down at the Karrimor factory he wanted to discuss a new idea and sounded a little bit excited. When he arrived he

indicated that it was something to do with the closed cell foam that we were using for harness. Graham explained that he had an idea and could he see one of the pieces of foam ? I said yes was he thinking of using it as a sleeping mat, because I had had the same idea but hadn't had time to try it ?. We took out a piece and immediately laid down on the floor. Here, take a piece and try I said. At this time Tiso was acting as a part-time instructor at Glenmore Lodge and they were beginning to teach snow-holing techniques.<sup>47</sup>

In 1969 Tiso enthused about the closed cell mat in an article in the *Alpine Club Journal*, following a trip to Greenland : it proved 100% waterproof and an almost perfect insulator. At just 9 ½ ounces it was also remarkably light and, because it was perfectly waterproof, it did not matter if it got wet in carriage, all you had to do was wipe it dry.<sup>48</sup> The Karrimat became the euphemism for the sleeping mat and the distinctive yellow mats appeared on postage stamps celebrating the Duke of Edinburgh award during the 1970s. But Tiso could be impatient and uncompromising when he thought he was right ( which he usually did) and he had especially strong opinions about boots. This finally led to the parting of the ways when Parsons introduced the lightweight fabric K-SB, of which Tiso strongly and vociferously disapproved.

Peter Lockey, co-owner of Berghaus, Parsons' main competitor in the 1970s and 1980s, also had great respect for Tiso's advice though ruefully recalls his blunt reputation :

'The first time I met Graham in the trade, rather than as a friend was when I was selling our line of Scarpa boots to the Brigham brothers in Manchester. I was well into my presentation and doing rather well, when in walked Graham, picked up one of my sample boots, bent it in half and said 'Crap'. Steam was coming out of my ears,

but the Brigham brothers knew Graham well enough and we got a good order.’<sup>49</sup>

Like Parsons, Lockey and his designer partner Gordon Davison saw Tiso as one of the major forces in the trade and a major influence on design in Berghaus :

... clothing design, colours and features were directly influenced. They [Tiso’s] had an in-house buying team who were very proactive and we would have meetings with them where Gordon and his key design team were present, the idea being to get as close to the end customers' (the buying public) views as possible. In those days, Tisos were probably the most vociferous people in the trade as to what they wanted to see, and some manufacturers got short shrift if they couldn't react. However, we had to be careful as we could not produce solely for Tiso's tastes, as that would not necessarily be what the rest of the UK (quite apart from export markets) would want. Most other retailers might have some input into the design process but in a much more general way’<sup>50</sup>

Retailers were thus more than just the conduit between manufacturer and end user, they were sources of information but also inspiration and direct contributors to the innovation process. But sportsmen were inevitably themselves a vital part of the network. In the late 1960s and early 1970s, the coincidence of technical climbing achievement and equipment development with the emergence of climbing as a media attraction, gave these networks between sportsmen and their suppliers a peculiar significance for British outdoor companies.

The defining moment for the British outdoor trade was the Annapurna South Face Expedition in 1970. From the standpoint of the history of mountaineering when Dougal Haston and Don Whillans climbed the South Face of Annapurna on 27<sup>th</sup> May 1970, their success marked a turning point in a process which began outside Britain. It was based on developments in technical gear and big wall climbing on the Continent

in the interwar period and in post war America. These techniques had been learnt and improved by a post war generation of leading British climbers. They drew on the skill of a quite different breed of climber from either Everest 1953 or the interwar attempts on the Third Pole. The film and the book *Annapurna South Face* and the London lectures, sponsored by Pindisports, were like a breath of fresh air, compared with what had gone before. Chris Bonington summed up *Annapurna South Face* as pure ‘siegemanship’, but it was a marvellous example of grasping the opportunity, of leadership and also of marketing. Funding of expeditions took a whole new leap forward with City expertise and involvement. *Annapurna 1970* was also landmark in terms of gear innovation too, and although some of the developments were quite short-lived the innovating companies, like their climbing users, became household names. As well as being discussed in a book and getting wide media coverage, equipping of the expedition was reported at length in Ken Wilson’s prestigious and international journal *Mountain*.<sup>51</sup>

The 1970 *Annapurna* expedition created massive exposure for supplier companies but the innovations which contributed to the expedition were the result of the relationships between the designer-manufacturers and some of the climbers.

One of these was Don Whillans. A plumber by trade and later a forester he was intensely practical and at the height of his climbing career he designed some really classic gear, ranging from the Whillans Box, through the sit harness to clothing. Some of his ideas were inspired and this included the Whillans box, one of the symbols of the 1970s siege expeditions which began as a rough wooden framed prototype in Patagonia in the 1960s. Whillans lived in Rossendale and was already collaborating with Karrimor on the design of his pack. A second stage product design of the box using angle iron and orange rucksack canvas (and almost identical to those he used as

a forester) had been made for his second Patagonia expedition, on a casual request along the lines of ‘Mike do you think you could make me a cover of rucksack canvas for an angle iron frame ‘..... ‘No problem Don, you realise it will be heavy?’ This meant that the obvious company to approach to develop the tent further for Annapurna was Karrimor and Mike Parsons. Building on expertise developed making pack frames, Parsons used aluminium tubing for the frame and was confident the tent would cope with extreme conditions.. Whillans was also convinced, but one of the other members disagreed and proved his point by hurling himself on top of the prototype flat-topped tent - which promptly collapsed. Parsons wryly recalled that : ‘Personally I was a bit surprised but the look of disgust on Don's face was something to be remembered and not long afterwards when the clothing was being discussed by a super slick salesman called Arnold Angel, Don seemed to have mysteriously disappeared. A quick check of my watch indicated that it was just before Sunday closing time, but no one else seemed to have spotted the coincidence <sup>52</sup>.

The second version did not fare much better as Parsons recalls as it blew away during testing on Ben Macdui in the Cairngorms :

‘About seven days later, Don came into the shop, because the shop was always the front entrance to the manufacturing at the time, and said, ‘I’ve been given this, this pile of bones.’ I said, ‘Oh my God, where d’you get this from Don?’ ‘A friend of mine found them ten miles over from the top of Ben MacDui’ This was a pile of tent poles, and this tent had taken off in this gale off the top of Ben MacDui and had gone ten miles into the next corrie. A friend had recognised what it was, and put it into Don’s hands and Don brought it back to me!’<sup>53</sup>

But it was this kind of testing which enabled Parsons to improve the box. Whillans did not see any need for further innovation once a product had served its purpose. This was deeply frustrating for Parsons who not only had the future of his company to think about, but who positively thrives on change and innovation. When asked in the early 1970s for ideas for improving the classic orange Whillans Alpiniste rucsac –first launched in 1964- Whillans just was not interested; he was no longer climbing in the Alps and had lost touch with what was suitable, as the requirements were so different from the Himalayas. Parsons has contrasted his frustration with Whillans with the development of a new Alpine sac with Dougal Haston. Haston helped him develop the Haston Alpiniste –described by Tony Lack as one of the key innovations of the 1970s . It was designed precisely to accommodate the specific demands of 1970s Alpine climbing.<sup>54</sup>

Pete Hutchinson of Mountain Equipment also worked closely with Whillans. He found he was one of those designers who had ‘an analytical approach to gear’ and this is a view with which Mike Parsons agrees. Together they developed the first one piece down suit and wind suits. He has vivid memories of dealing with Don on designs for Annapurna 1970 and other expeditions. He had strong and highly practical views on clothing for high altitude climbing putting functionality above all else. He believed that:

‘ once you get into the higher reaches of a peak, you don’t want to bother about your gear really, you just want to be warm and protected and get on with it You don’t want to think about changing things and all the rest of it. ’<sup>55</sup>

This was exactly the kind of approach Pete understood and, as they both knew what they were talking about, the design process was a genuine interaction until the garments were right . Hutchinson went for one piece down suits for the Annapurna

expedition based on ideas evolved with Don Whillans in the 1960s. They were a novel idea for climbing at that time , though of course there were one-piece work overalls and flying suits. The main problem was nothing to do with textiles or the quality of down, but all to do with arranging the zips to make ‘going to the toilet’ easy. It was crucial not just because of the potential for messy accidents, but because :

‘just ordinary practical things like this are so important when you are up there because all you want to do is plod on and get up this thing and they say the best gear is invisible. ...we chose the one piece wind suits, which once they put them on, sort of round Camp Four or something, they just keep them on all the way, and as long as you can go to the toilet in them and so on there is no reason why you should take them off. [They were so successful] that we went the next step [for later expeditions] following that into down suits. Again the same idea really, once you got into it you sleep in it, you just live in it, and then you don’t have to think about putting gear on and off, and all the rest of it.’<sup>56</sup>

What Hutchinson really appreciated was the feedback he gained from climbers :

‘ I like to hear that the gear is good but the useful information for me is when the climbers come back and say, ‘It would work a lot better if ...’.<sup>57</sup>

Relationships with climbers on high altitude expeditions was one of the keys to both innovation and marketing in both Karrimor and Mountain Equipment. Sharing the common ground of climbing and outdoor sport helped to create common understandings and shared perceptions. But given the hazards of high altitude climbing it could also be traumatic because climbers get killed. In the early 1980s the loss of two friends and technical advisors Peter Boardman and Alex Macintyre, within a year of each other, led Mike Parsons to abandon the idea of having individual

climbers as technical advisors in Karrimor. He moved to the idea of a 'Think Tank' of outdoor professionals including mountain guides, photographers, polar travellers, skiers and mountain journalists. This brought an invaluable range of new knowledge and allowed Parsons to position Karrimor rucksacks and other products at the top of a range of specialist markets. This powerful idea evolved during the 1980s to become a vital intangible asset for the company, in terms of the development of innovative products and ideas and was an important reason why the company retained its large share of the rucksack market through to the 1990s<sup>58</sup>

Leading climbing was a tiny market although it brought considerable advertising opportunities. The high profile face climbs of the 1970s were only part of a rapidly changing world which brought new techniques, new sports, and new companies. The late 1960s, until 1980, saw the take off of Scottish ice climbing, backpacking, of mountain marathons, the beginning of trekking companies and of skiing in the British Isles, all of which created new markets, new and wider networks and encouraged innovation in the trade.

There began an extraordinary period in Scottish climbing which was to have a major impact on the profile of both UK outdoor sports and the outdoor trade. The combined impact of the Salewa twelve point adjustable crampon and the use of two curved axes on the development of ice climbing. This in turn had far wider implication for the outdoor trade. Outdoor activity, had previously been heavily summer based which of course had created major problems of seasonality for any supplier or retailer. It became an all year round activity, for not only did winter climbing expand but the appeal of winter walking increased significantly.

This growth brought opportunities for new firms, an intensifying of competition and the emergence of distinctive networking strategies. This is not

surprising since there are close links between entrepreneurship, innovation and strategic management which emerge clearly in a period of intense competition.<sup>59</sup> One of the new companies to move into manufacturing both rucksacks and clothing was Newcastle-based Berghaus, a company which was to become Karrimor's greatest rival. One of the key differences between Parsons' experience with Karrimor, where he was both designer and salesman and Berghaus, lies in the partnership between Gordon Davison and Peter Lockey. The pair brought complementary skills and personalities and of course the accompanying networks. Peter Lockey had worked in marketing and selling with Rowntrees and Gordon Davison had been a mechanical engineering lecturer at Newcastle Polytechnic. Like Parsons they were keen sportsmen concentrating on skiing and climbing, enthusiasms upon which they built the LD Mountain Centre from 1966. Indeed initially they ran a ski school part-time in conjunction with the shop as Lockey recalled :

‘ ... we used to take people out skiing at weekends and teach them and all that... and it gave us a wonderful entrée into selling skis. So that undoubtedly gave the business quite a push, quite an impetus at the beginning. I mean, all this frenzied activity Friday, Saturday and bringing skis back Monday caused a constant traffic through the shop’<sup>60</sup>

If skiing helped them build their shop, their interest in climbing indirectly created one of their most significant network opportunities. Prevented from climbing by storms and mudslides in the Italian Dolomites Davison went in search of suppliers of good quality Italian boots for the shop and came away with the agency for Scarpa, which was the start of the wholesale side of the business and the beginning of Berghaus. It was an arrangement based not on a contract but on the personal relationship which Davison and Lockey developed with the owners. Lockey is in no

doubt of the advantages of this strategic alliance, especially after Berghaus moved into manufacturing. Firstly it brought access to one of the of the best quality brands with a strong position in Italy and other European countries. Secondly Berghaus and Scarpa ‘ jointly extended the relationship into other markets such as Scandinavia and Switzerland where we did the marketing and selling. Later, as they developed more international experience, they handled all markets directly’.<sup>61</sup>

In 1972 Berghaus, encouraged by retailer Frank Davies of Ambleside, shifted into manufacturing, having tried and failed to become distributors for Karrimor.<sup>62</sup> They began manufacturing rucksacks and waterproof clothing with 12 employees in a small workshop in Washington, Tyne and Wear.<sup>63</sup> The rivalry between the two companies was legendary and personal and from the start Mike Parsons recognised the potential threat that Berghaus represented to his dominant position in the rucksack market. They were initially tiny and designs experimental, but Lockey’s background in selling gave Berghaus an advantage over Karrimor, as Parsons is the first to admit. He knew that once they hit on a good design they would be able to sell it. It was an advantage which Berghaus keenly pursued in an effort to dislodge Karrimor.

Lockey explained :

‘.. they were the first movers and to dislodge them would require quite a big marketing campaign and we decided as well we had to reorganise selling [under Tony Sharp who had joined the organisation in 1969 from a sales management position in Nestle]. We spent quite a lot of money in those days establishing this marketing and it was very successful.’<sup>64</sup>

Nevertheless, despite sustained Berghaus competition, Karrimor remained the UK’s dominant rucksack manufacturer right through to the purchase of the company by 21

Invest in 1996.<sup>65</sup> A large part of Karrimor's continued dominance undoubtedly came from reliable delivery, but it also stemmed from Parsons' strong networks with textile finishers in Lancashire. The intense competition between Karrimor and Berghaus, for the rucksack market undoubtedly stimulated innovation and led to improved products not least in the soft pack market. The development of the Karrimor Jaguar and the Berghaus Cyclops rucksacks and the introduction of the differing adjustable back systems were major steps forward. But Karrimor's deep and lasting relationship with BM Coatings proved important in the rucksack war with Berghaus, for it resulted in the development of KS-100e. Introduced in 1979 this fabric was described as 'a completely new rucksack fabric with a new elastomer coating. The first fabric purpose designed for rucksacks'. It marked 'the culmination of two decades of technical research and development in fabrics as well as development of quality assurance'.<sup>66</sup> The product was launched with a very special leaflet with a piece of fabric attached and was immensely successful. Very quickly no one wanted a pack that was not KS100-e. Confidence in the quality and performance of this fabric was such that Karrimor was able to launch lifetime guarantees on rucksacks made of the fabric. It was a radical move, a 'first' for the industry and crucial for Karrimor's competitive advantage. It was also controversial with some retailers who viewed it merely as a marketing ploy.<sup>67</sup> Berghaus lacked the depth of contact and the advantages of such a long-term relationship, which Parsons' lifetime in industrial Lancashire provided. This creative long-term relationship has parallels with that which developed between Rab Carrington and Steve Laycock, the producer of Pertex, in the 1980s. Rab became the first commercial sleeping bag producer to use the light, versatile fabric to cover his bags and they developed a long and creative dialogue through which the two men developed a range of fabrics to meet specific outdoor

needs.<sup>68</sup>

Networking behaviour as a basis for innovation continued to change in the 1980s as the character of the outdoor trade and outdoor activity evolved. For the outdoor trade this was truly the period when ‘strong ties’ were supplemented and replaced by much broader, ‘weak ties’, with significant implications for innovation and the building of knowledge.<sup>69</sup> During the 1970s leading UK companies treated the Harrogate Camping and Outdoor Leisure Association ( C.O.L.A) as a clan gathering and a lively and fruitful source of information, but it was firmly UK based . The much larger and vibrant Continental trade shows, with their proximity to the Alps, were dominated by conveniently located German companies. This included firms like Salewa, with their dynamic policies intimately linked to modern technical climbing development.<sup>70</sup> During the 1980s UK companies became more involved in the Continental shows and this, combined with sporting developments and the use of new materials began to influence design.

A new stylishness – common in Continental Europe- began to appear in British outdoor clothing and was combined with functional performance. The transfer of fashionable designs common in skiing for decades was part of the influence here and stemmed in part from the growing popularity of the skiing holiday in the late 1970s and early 1980s. For the innovative designer the vast Continental trade shows were networking centres par excellence for an eclectic mix of people who were at one the same time both mountaineers, skiers, and business people. Gradually, as more and more professional guides/skiers and the newly emerging class of professional mountaineers became involved with business, the date became an important part of this mix. The dates of trade shows in that period conveniently coincided with the end

of the alpine season so that the trade show to some extent also became an end of season reunion. In these often fleeting stand-up discussions in the exhibition corridors, the conversation always began with activity and almost invariably flowed into the product that was used. Vital confirmations of new product suitability were quickly passed from mouth to mouth but most importantly between two people who trusted each other's opinion. The increased use of the fax during the 1980s speeded up communications and made it easier to maintain exchanges begun at trade shows. Equally in this period, the numerous expedition base camps became vital networking points for information on that latest equipment. Innovations therefore were quickly validated or otherwise and those manufacturers with a close ear to this could benefit significantly.<sup>71</sup> In the 1980s this began to apply to clothing as well as equipment and design trends began to move between sports as Peter Lockey of Berghaus remembered :

‘ It was probably our move into the ski clothing market that was influential in the changes to the mountaineering garments. At that time we were also the UK distributors for Atomic skis, Marker ski bindings and Nordica ski boots, so we were always very active at the major international ski exhibitions, getting us closer to what was happening in the ski clothing markets also. So yes, the mountaineering clothing was influenced by the ski clothing, and of course we also manufactured a range of pure ski clothing as distinct from more crossover clothing.’<sup>72</sup>

Innovation is an evolutionary process which builds on knowledge but some innovations can be described as platforms which change the market . New materials, which in turn impacted on design affected a wide range of consumer goods, well beyond the outdoor trade <sup>73</sup> The changes in both clothing and footwear which occurred from the late 1970s fall into this category and required knowledge and

resources which went beyond those of relatively small companies. Strategic alliances between companies are another crucial element in the innovation process and often bring benefits to both small and large firms within the supply chain.<sup>74</sup> These alliances were noticeable in both outdoor clothing and footwear after 1980 and especially in the relationship which developed between Berghaus and W.L. Gore. The jury is still out as to whether Gore-Tex waterproofs really are the most effective breathable garments, but it certainly changed the market and contributed to the evolving world of outdoor clothing.<sup>75</sup> For Berghaus their alliance with Gore and its massive advertising budget which allowed exposure in the national press and Sunday supplements transformed them into the UK's premier outdoor clothing brand.

Wilbert L. Gore was a research supervisor at Du Pont in the 1950s. After trying and failing to persuade the company of wide commercial potential of Teflon, he left to set up his own company W.L. Gore. Working with his son he used the PTFE coating for cable insulation before moving on to develop a porous film based on Teflon. One of the principle breakthroughs involved regenerating tissues destroyed by disease or traumatic injuries and this provided the basis for an extension into outdoor clothing.<sup>76</sup> The patent for Gore-Tex, which was ultimately to transform the market for outdoor clothing was filed in 1973 and issued in 1976.<sup>77</sup>

Gore saw their laminate as only part of the story and believed that its success depended upon the development of high performance goods and clothing. This could only be done through the formation of a number of strategic alliances with outdoor manufacturers. Two pioneers included Peter Hutchinson at Mountain Equipment and Banton's of Nottingham which exhibited a Gore-Tex sleeping bag cover at Harrogate as early as 1975.<sup>78</sup> However, if in 1976 Berghaus was not the first company to experiment with Gore-Tex, they made an enormous contribution to the evolution of

Gore-Tex clothing where they were perceived as ‘first movers’. The alliance with Gore ultimately established Berghaus as the UK’s premier outdoor clothing manufacturer and had a remarkable impact on turnover by the mid 1980s. It was not immediate, however, as early Gore-Tex was problematic. Heralded as the ‘miracle fabric’ which, with its millions of tiny holes, would mark the end of discomfort and chilling caused by condensation, ‘first generation’ Gore-Tex was problematic. Ken Ledward tested a Berghaus Mistral jacket made of Gore-Tex in 1978 and, although he found the fabric was good, he highlighted problems with the seams and found the heat conservation properties were poor, compared with conventional neoprene – because of its high breathability.<sup>79</sup> However, soon other difficulties with first generation Gore-Tex became apparent with prolonged wear . The two main problems were contamination from sweat and leaking seams. This led to returned garments, endless complaints in the outdoor press and Peter Lumley went so far as to say that using such a garment in the Cairngorms had led to potentially life threatening hypothermia. <sup>80</sup>. The imperfections of first generation Gore-Tex virtually lost Gore the German market but also encouraged improvements . The addition of a hydrophilic membrane helped to remove the contamination problem . But the real problem was that the seams were stitched and so leaked like sieves. The next step was high frequency welding but, as Neville Whitley, Berghaus’ production manager remembered, that was problematic too because, ‘if you got a slight mismatch [in the welding] you got a leak.’ <sup>81</sup> The answer lay in taped seams – first used for waterproofs by Macintosh in the 1880s. This involved using technology which had already been developed for polyurethane in 1971. Gore finally sourced a taping machine for use by Berghaus and their designer Marion Barnes recalled :

‘When I went into design ...Gore developed a taping machine and I can

remember coming in over Christmas and Gore came to train me on being able to use the taping machine,'<sup>82</sup>

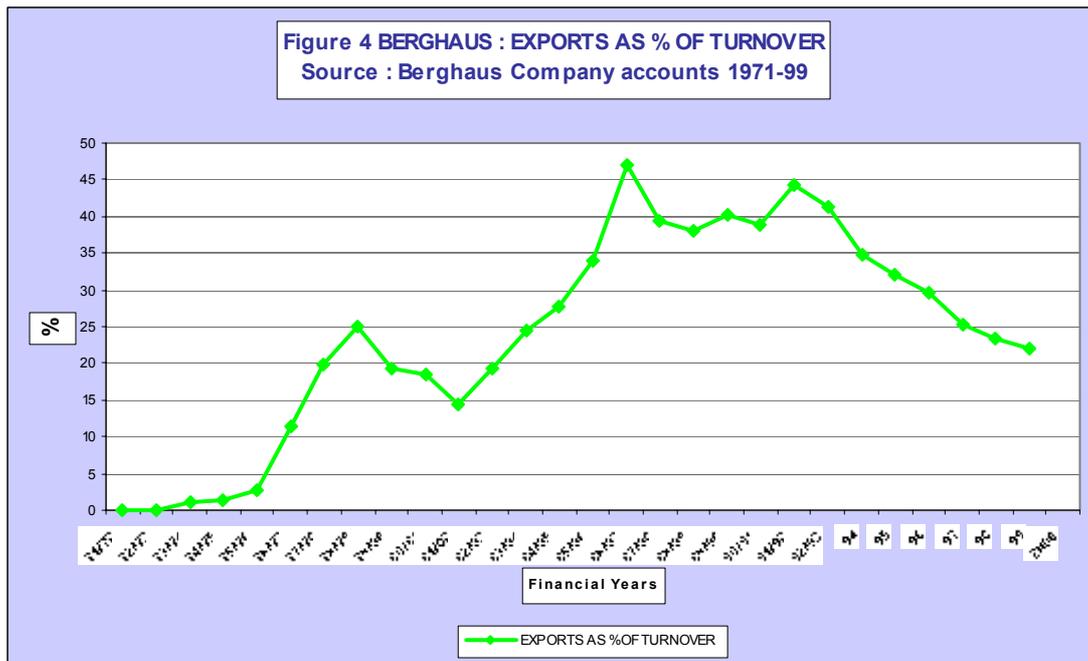
But it was improvements in taping which really transformed Gore-Tex garments. Berghaus's development work was critically important to the success of these breathables in wet and windy climates in Northern Europe. Of course Berghaus's own reputation was also at stake and it was crucial that outdoor enthusiasts quickly forgot the weaknesses of the first generation garments. But if Berghaus were primarily responsible for salvaging the reputation of Gore-Tex, there was a mutual commitment. The advertising budget which came with the alliance had a far wider commercial significance for the company's external profile. For the first time outdoor products were advertised outside the mountaineering press and Berghaus' Gore-Tex products even appeared in the *Sunday Times* supplement. This was far beyond the means of small outdoor companies and only the resources of a major US textile company made it possible.<sup>83</sup>

Gore-Tex and Berghaus products were promoted simultaneously and generally raised both companies' profiles. Peter Lockey was in no doubt that it was the relationship with Gore which put them on the map regarding clothing :

'Once we were working with Gore, we knew that we had a strong potential performer, supported by W.L.Gore's own marketing and advertising budget. We therefore tried to dominate the market for Gore-Tex clothing with 'first mover' advantage, and it did put us on the map for specialist clothing.

Again, we used our sponsored climbers to project this image.'<sup>84</sup>

They emerged not only as the UK's leading outdoor clothing brand but they became market leaders in Europe and experienced a sharp rise in exports from the early 1980s as Figure 4 illustrates.



The development of the first lightweight boot, the KS-B, was dependent upon a combination of personal networks and knowledge combined with strategic alliances. It highlights both the potential of alliances with other companies, but also the potential problems. The KS-B was significant not because it was a fabric boot, but because changes in the design and construction of the sole made it the first lightweight boot with adequate shock absorbency. The origins of the K-SB go back to 1974 or even earlier and stemmed from a sporting and business collaboration between Karrimor’s owner Mike Parsons and Outward Bound Instructor and later outdoor clothing and equipment tester Ken Ledward. Ledward had long believed that the footwear most people wore in the mountains was too heavy. His faith in lightweight footwear goes back to the 1960s when he used a hockey boot to break the running record on Kilimanjaro. Parsons was converted to lightweight footwear after competing with Ledward in the 1974 Karrimor International Mountain Marathon (the KIMM). Following a bad experience with leather fell running shoes Parsons, Ledward and two friends completed a three-day climbing trip in the Lake District carrying all

gear and wearing the first fabric trainers the Adidas SL 72. Their comfort convinced Parsons that lightweight footwear was viable and superior to the conventional boot.<sup>85</sup>

Shared sporting knowledge was thus crucial to the beginnings of the K-SB but it was not enough to bring the revolutionary boot to fruition. There were several false starts and for a while both men pursued the idea separately, Ledward with a UK firm and Parsons with the Italian company ASOLO. Some form of strategic alliance was clearly the key to the development of a boot, which would combine lightness with a new sole design and sufficient shock absorbency. One of the keys to what became known as the KS-B was combining a new shock absorbing material – Sorbothane – with Ken Ledward’s sole [ K.L.E.T.S] and a fabric upper. The boot, the first with a sole which did not ape nailing patterns, was launched by Parsons at Harrogate in 1980. Shortly afterwards ASOLO came up with a good upper design which, if combined with the K.L.E.T.S. sole, would make a good product.<sup>86</sup>

Just like early Gore-Tex clothing the first generation of lightweight footwear was not problem free. However, outdoor writer Chris Townsend, whilst acknowledging the shortcomings of the new boots, concluded that:

‘ Despite ... problems, I am reluctant to go back to conventional leather boots. After KS-Bs, they feel clumsy and heavy. Wearing them is rather like putting on conventional rainwear after wearing Gore-Tex. It is no longer satisfactory and the disadvantages are suddenly very noticeable when you know there is an alternative. The KS-Bs are really a breakthrough so I hope the problems that have arisen can be quickly solved.’<sup>87</sup>

In the third year of the KS-B’s life a leather version, which kept the lightweight construction, was introduced. In theory, it should have meant that the problem of waterproofing was solved. Unfortunately it coincided with the

appointment of a new designer by ASOLO. He not only made some significant and misguided modifications to the K.L.E.T.S. sole of the leather version, but also introduced a fabric tongue which entirely negated any waterproofing benefits and it would not sell. The timing could not have been worse for Karrimor faced growing competition from the Berghaus Bionic SF and the Meindl Gore-Tex boots as well as light leather boots such as the Brasher Boot. The leather Brasher boot quickly emerged, again with a K.L.E.T.S. sole, and became the most popular and best selling lightweight boot, transforming perceptions and expectations of leather mountain footwear and maintaining a strong position today. Certainly the teething troubles of the KS-B contributed to the major commercial crisis at Karrimor in the mid 1980s – though a combination of an overvalued currency, continued inflation and the bankruptcy of their French distributor in 1984, turned a blip into a near catastrophe. The relationship with ASOLO inevitably deteriorated and Karrimor pulled out of KS-Bs, only re-entering the market in 1990 when a new partner was found.<sup>88</sup>

### III

This article has demonstrated the considerable extent to which innovation was a networking process in the outdoor trade after 1960. The small companies of the British outdoor trade were able to achieve high levels of innovation through a combination of personal knowledge and networks. The environment itself – with buoyant, emerging and changing markets – encouraged innovation, which in turn was inseparable from sporting advances.

Networking behaviour also evolved through time with changes in market conditions, company profiles and the environment. Personal networks were especially important in the 1960s and 1970s when firms were small and where owners were usually responsible for both designing and marketing. The face to face meetings and

exchanges with retailers was crucial here partly as a simply conduit of information but also with direct consequences for innovation . Similarly as active sports people themselves the owners of outdoor companies relied heavily on the feedback of their users, especially from high profile expeditions. These personal networks with the leaders and participants of high profile expeditions also provided the basis of the wider networks needed for growth – the building of brands. By the late 1970s International Trade Shows became crucial networking devices where business people and sports people across the whole sector and a multitude of sports met on a regular basis. Yet the strategic alliance was also increasingly important since it allowed firms to develop innovations as joint ventures, to share resources and knowledge.

There have been significant changes of ownership in the British outdoor trade since 1990 which saw many companies like Karrimor, Berghaus and Mountain Equipment losing the intangible assets of the knowledge and networks of their founders. However, this is not the only force which has changed the relationship between innovators and their networks. Globalisation has meant that very little clothing or equipment manufacturing is now carried out in the UK. The whole nature of the supply chain has changed but so too has the process of product development which, with on shore manufacturing could evolve through testing and feedback through a season. With suppliers based in the Far East and eastern Europe the windows of opportunity for testing, interacting with users and improving a prototype are much shorter – a factor which could be seen to inhibit the innovation process.

## **Appendix 1**

This article is part of a much larger project focusing on innovation in the outdoor trade, over the last 150 years. The resulting book, *Invisible on Everest : Innovation and the Gear Makers*, was published in spring 2003 and was the result of an unusual, if not unique collaboration between businessman, Mike Parsons and business historian, Mary B Rose. The methodological implications of such an unusual collaboration are explored here.

The collaboration of researcher and researched, in writing an academic article, challenges the very philosophy of historical research. Business historians have traditionally remained aloof from the researched, to maintain objectivity and judgement. Where research relates to the relatively distant past and exclusively involves archival research this is inevitable. Where the study of the more recent past involves the use of oral evidence, alongside other primary sources, again any collaboration beyond the interview process is a rarity. Indeed, in the case of the commissioned history, where the historian is employed by a company, such distance is vital for the credibility of the work and the difficulties of this particular relationship are well known.

The distance maintained by historians from the objects of their research is not always shared in other disciplines. In anthropology, social sciences and especially management, ‘action research’ the involvement of researcher with researched is widely accepted within an interrelated spectrum of research methodologies and philosophies.<sup>89</sup> Both the philosophy and methodology of this collaborative piece of research lies somewhere between conventional historical methodology and action research. All the conventional tools of the historian are employed – especially those of

verification of oral testimony against other primary and secondary sources. However, whereas in action research the researcher typically works within the organisation which he or she is researching, in this research, since Mike Parsons was himself a leading player in the UK outdoor trade in this period, the researched has become co-researcher. This inevitably raises issues of objectivity and makes verification crucially important to the work's credibility as a piece of academic history.

The collaboration was in many ways a happy accident and the unplanned consequence of a request for an interview by Mary Rose. Had this research merely been a history of Mike Parsons' old company, Karrimor or had it been a commissioned history, the result could have been very different and more problematic. From the start the shared objective was to explore the development of innovation in outdoor clothing and equipment more generally and to set it within a long term historical framework. Consequently the period studied in this article was part of a much wider piece of research in which Mike Parsons was engaged throughout. His depth of business, technical and sporting knowledge brought perceptions which significantly deepened and widened the entire study and almost perfectly complemented Mary Rose's expertise as a historian.

The article provides a holistic analysis of the role of networks in the innovation process and was based upon a combination of interviews with 18 individuals, reinforced by follow up e-mails and telephone calls with individuals from all stages in the supply chain. In total 60 hours of interviews were completed, since in many cases second or even third interviews were undertaken. Interviewees were selected from among those firms which made path-breaking innovations , from all stages in the

supply chain and from outside it to include independent testers, journalists and sports' people. In many cases more than one person from any one firm was chosen. Inevitably some selection was partly pragmatic and based upon availability. Parsons' himself was interviewed and his perceptions were set alongside those of his competitors as well as a broad spectrum of retailers , outdoor testers and outdoor journalists. Throughout semi structured interviews were used and throughout the research process the evidence from direct competitors such as Peter Lockey and Gordon Davison of Berghaus, was collected independently by Mary Rose, who retained full editorial control. Parsons' contribution to the research process of this part of the project was nevertheless immense and related especially to positioning the period within the wider framework of the history of mountaineering and outdoor sport. It also related to confronting theories of entrepreneurship, innovation with practice. This again combined conventional research methods with intensive e-mail exchanges.

This potentially controversial methodology may not be replicable – the circumstances surrounding it were, after all, unusual and some will be sceptical and suspicious of it.. There are inevitably potential pitfalls should an arrangement be based on a lower level of mutual trust than occurred in this partnership. This could lead to attempts at undue influence and damage the objectivity of the account, while academics are not above exploiting their research contacts in equally self interested ways. In this case these problems were avoided by laying down clear ground rules of the objectives of the project from the outset, building a common language and openly examining the risks. There was no written contract, rather an unwritten set of mutually agreed 'rules of the game' – the basis of any successful collaboration. However, it is questionable whether the dangers are any greater or even as great as for

the commissioned history, where a formal contract and a fee underpin the relationship between researcher and researched company. Well known cases of suppression of research abound. Moreover there are other tangible and intangible benefits from the kind of dialogue which has developed and continues to develop between Rose and Parsons. Tacit knowledge lies at the heart of innovation and by its nature is embedded in an individual. Traditional research methods, even when they involve interviews, do not always capture the nuances of the relationship between the technical specification of a product, the market and the customer. This knowledge was transferred between Parsons and Rose in exchange for a deepening understanding of academic research and formed the basis of a genuine relationship of trust.

There are other longer term benefits for the business historian, working in a management school, of forging deeper relationships with business –even if arrangements may be less robust than those between Parsons and Rose. An open dialogue with business can demystify both worlds and lead to better appreciation of the needs of each. In this case the sustained dialogues between Parsons and Rose have brought mutual benefit. They have begun to inform curriculum development, with the pair being commissioned to develop an undergraduate module on innovation for management students, underpinned by business history. Moreover, as a direct result of the research on the evolution of tents for *Invisible on Everest*, Parsons has secured a Business Link innovation grant for his new company KIMMlite. He was able to demonstrate the originality of a new design, by outlining the history of tent development over a 150-year period. This then is not just a pragmatic arrangement, based upon pleas from government for closer links between business and universities. Rather it reflects the recognition that, just as business history is enriched by interaction with other disciplines, so it can be by engagement with business, with the

benefits flowing both ways. At the very least it can lead to new questions being asked by both parties and to the achievement of new levels of understanding. This article is underpinned by the theory of networks and perhaps not surprisingly this is also the philosophy of this collaboration. It was a voluntary, informal, co-operation based upon trust which allowed information sharing and mutual learning and, from the standpoint of the two participants at least, the collaboration is worth more than the sum of the parts.<sup>90</sup>

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<sup>2</sup> T.C. Cochran, 'The Entrepreneur in Economic Change', in Kilby, P. (ed.) *Entrepreneurship and Economic Development*, New York, 1971); T.C. Cochran, *Frontiers of Change*, New York: 1971); B. Elbaum, and W. Lazonick, 1986, *The Decline of the British Economy*, (Oxford: 1986); ) David Landes, *Unbound Prometheus* ( Cambridge, 1969).

<sup>3</sup> Steven W. Tolliday, 'Entrepreneurs in Business History' *Business History Review* LXIII, (1989), preface; H.Livesay, (1989) ' Entrepreneurial dominance in business large and small, past and present' *Business History Review* ,Vol. LXIII, 1989, p.4.

<sup>4</sup> R. Church, 'New Perspectives on the history of products, firms, marketing and consumers in Britain and the United States since the mid nineteenth century' *Economic History Review* (1999), Vol. LII , 3, pp. 405-3.

<sup>5</sup> McCraw, 'Schumpeter Ascending', p.384.

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- <sup>6</sup> Elizabeth Chell and Susan Baines, 'Networking, entrepreneurship and microbusiness behaviour' *Entrepreneurship and Regional Development*, Vol. 12, (2000) p. 195-6; Joseph A. Schumpeter, *The Theory of Economic Development* ( Cambridge, Mass., 1934) p. 78.
- <sup>7</sup> Mark Casson, *The Entrepreneur : An Economic Theory* ( Oxford, 1982).
- <sup>8</sup> H.Stevenson and D. Gumpert, 'The Heart of Entrepreneurship' *Harvard Business Review* Vol., 63, (1985), pp.85-94.
- <sup>9</sup> P. Drucker, *Innovation and Entrepreneurship : Practice and Principles* ( New York : Harper)
- <sup>10</sup> Lisa de Propris, 'Types of innovation and inter firm co-operation' *Entrepreneurship and Regional Development*, Vol. 14, (2002), p.340.
- <sup>11</sup> H Aldrich, and C. Zimmer, ' Entrepreneurship through Social networks' in (eds) Donald L. Sexton and Smilor, Raymond W. *The Art and Science of Entrepreneurship* ( Cambridge Mass., 1986); P. Dubini, . and H. Aldrich, 'Personal and extended networks are central to the entrepreneurial process' *Journal of Business Venturing* Vol. 6, (1991),305-313; I Nonaka, I and H. Takeuchi, (1995) *The Knowledge-Creating Company* (New York, 1995); G.T Lumpkin, and Gregory G. Dess, (1996) 'Clarifying the entrepreneurial orientation construct and linking it to performance' *Academy of Management Review*, Vol. 21, (1996), pp. 135-72; Lisa de Propris, 'Types of innovation and inter firm co-operation' *Entrepreneurship and Regional Development*, Vol. 14, (2002), pp.337-353.
- <sup>12</sup> M. Granovetter, ' Economic Action and Social Structure : The problem of embeddedness' *American Journal of Sociology* Vol 91 (1985) pp. 481-509; Bengt Johannison, and Marcella Ramirez-Pasillas, 'The institutional embeddedness of local inter firm networks : a leverage for business creation' *Entrepreneurship and Regional Development* (Vol. 14) , p. 298 and 309; Chell and Baines, 'Networking' , pp. 196-202.
- <sup>13</sup> P. Scranton, P *Endless Novelty: Specialty production and American industrialization, 1865-1925* (Princeton, 1997); Charles F. Sabel and Jonathan Zeitlin , *World of Possibilities : Flexibility and Mass Production in Western Industrialisation* ( Cambridge : Cambridge University Press, 1997); Andrea Colli, ( 1999) 'Networking the market : Evidence and conjecture from the history of the Italian Industrial Districts' *European Yearbook of Business History* Vol.. 1(1999), pp. 75-92;. Mary B. Rose *Firms. Networks and Business Values : The British and American Cotton Industries since 1750* (Cambridge, Cambridge University Press, 2000).

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- <sup>14</sup> Mike C. Parsons and Mary B. Rose *Invisible on Everest : Innovation and the Gear Makers* ( Old City Press, 2003), p. 134-176; Michael E. Porter, ‘ Clusters and the New Economics of Competition’ *Harvard Business Review*, (1998) November-December, p. 80.
- <sup>15</sup> *TGO*, January 2001, p. 3 Cameron McNeish ‘ Go Outdoors – A Plea to Gear Manufacturers’
- <sup>16</sup> The development of the outdoor trade is extensively explored in Parsons and Rose *Invisible on Everest*.
- <sup>17</sup> Geoff Milburn with Derek Walker and Ken Wilson, *The First Fifty Years of the British Mountaineering Council* ( Manchester, 1997), p. 317
- <sup>18</sup> T.G. Millar, *Long Distance Paths of England and Wales* ( Newton Abbot : David and Charles, 1984) pp.7-16.
- <sup>19</sup> Geoff Milburn with Derek Walker and Ken Wilson, *The First Fifty Years of the British Mountaineering Council* (London 1997, pp.1-22.
- <sup>20</sup> BMC *The First Fifty Years : A Political History* ( Manchester :BMC,1997) p. 17.
- <sup>21</sup> John Hunt, *Life is Meeting* ( Newton Abbot : Readers’ Union 1978) p. 123.
- <sup>22</sup> Royal Geographical Society, Everest Files, 1953.
- <sup>23</sup> Hunt, *Life is Meeting* p. 140
- <sup>24</sup> Hunt, *Life is Meeting* p. 141.
- <sup>25</sup> Countryside Commission *Groups in the Countryside : a study of the distribution and impact of outdoor group activity in England and Wales* ( London : Countryside Commission, 1980) p. 12; Obituary of Sir Jack Longland, 1905-1993, *Alpine Journal* Vol. 99 (1994), pp. 336-41.
- <sup>26</sup> Countryside Commission, *Digest of Countryside Recreation Statistics 1974 and 1979* ( London : Countryside Commission) ; Caroline Harrison, *Countryside Recreation in a Changing Society* ( TMS Partnership Ltd :1991) p.131-9.
- <sup>27</sup> Countryside Commission, *Digest of Countryside Recreation Statistics 1974 and 1979* ( London : Countryside Commission) ; Caroline Harrison, *Countryside Recreation in a Changing Society* ( TMS Partnership Ltd :1991) pp131-9.
- <sup>28</sup> Hazel Constance, *First in the Field : A Century of the Camping and Caravanning Club* ( Coventry, Camping and Caravanning Club, 2001) , pp188-9, 194-215.
- <sup>29</sup> Blacks *Good Companions* catalogues 1959-71; *Pindisport* catalogues 1960-70.
- <sup>30</sup> Letter from Tony Lack to Mary Rose, 16 February 2002.

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- <sup>31</sup> See Parsons and Rose, *Invisible on Everest* for more discussion of these companies.
- <sup>32</sup> Aldrich and Zimmer, 'Entrepreneurship through Social networks', p. 9; P. Dubini, and H. Aldrich, 'Personal and extended networks are central to the entrepreneurial process' *Journal of Business venturing*, Vol 6, (1991), p.306. Bengt Johannison, 'Personal networks in emerging knowledge based firms : spatial and functional patterns' firms, *Entrepreneurship and Regional Development*, Vol 10, (1998), pp. 297-312 ; Bengt Johannison, 'Networking and entrepreneurial growth' in Sexton, D. and Landstrom H (eds) *The Blackwell Handbook of Entrepreneurship* ( Oxford : Blackwell, 2000) 368-386.
- <sup>33</sup> Granovetter, 'Economic Action', pp. 481-509.
- <sup>34</sup> David Deakins, *Entrepreneurship and Small Firms* ( Maidenhead, McGraw-Hill, 1996), pp. 157-76.
- <sup>35</sup> Interview with Peter Gildersleve by Mary Rose 17/01/02; Profile of Pete Hutchinson by Andy Kirkpatrick, PHD Website.
- <sup>36</sup> BMC Lake District Sub-Committee minute book, 1945-69.
- <sup>37</sup> Interview of Bill Wilkins by Mike Parsons, August 2001; Interview with Peter Lockey and Gordon Davison by Mary Rose 10 August 2000.
- <sup>38</sup> Interview with Rab Carrington by Mary Rose 11 May 2001.
- <sup>39</sup> Karrimor Company Accounts 1952 –1975.
- <sup>40</sup> 20 October 2000, e-mail Mike Parsons to Mary Rose
- <sup>41</sup> Hakan Hakansson, (ed.), *Industrial Technological development* ( London : Croom Helm, 1987), p.4
- <sup>42</sup> M. McKelvey (1998) 'Evolutionary innovations: learning, entrepreneurship and the dynamics of the firm' *Journal of Evolutionary Economics* Vol. 8 (1998), p. 162.
- <sup>43</sup> Parsons and Rose, *Invisible on Everest*, pp.230-3.
- <sup>44</sup> Interview with Alan Day and Mike Parsons 13 October 2000.
- <sup>45</sup> E-mail from Paul Bibby to Mary Rose 29 January 2002.
- <sup>46</sup> Interview with Alan Day and Mike Parsons 13 October 2000.
- <sup>47</sup> E-mail from Mike Parsons to Mary Rose 3 October 2002.
- <sup>48</sup> Graham Tiso 'New Waterproof Sleeping Pad' *Alpine Journal* 1969 pp. 324-5.
- <sup>49</sup> E-mail Peter Lockey to Mary Rose 30 October 2000.
- <sup>50</sup> E-Mail Peter Lockey to Mary Rose 30 October 2000.
- <sup>51</sup> 'Annapurna briefing" - report on preparations and equipment for Annapurna south face' *Mountain* 1969; Jim Curran, *High Achiever : The Life and Climbs of Chris Bonington* (London, 1999) p.152.

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- <sup>52</sup> E-mail from Mike Parsons to Mary Rose 3 October 2002.
- <sup>53</sup> Interview with Mike Parsons by Mary Rose 7 June 2000.
- <sup>54</sup> Interview with Tony Lack by Mary Rose , 14 March 2002; Conversation between Mike Parsons and Mary Rose, 21 June 2002.
- <sup>55</sup> Interview with Pete Hutchinson by Mary Rose 3 August 2001.
- <sup>56</sup> Interview with Pete Hutchinson by Mary Rose 3 August 2000.
- <sup>57</sup> Interview with Pete Hutchinson by Mary Rose 3 August 2000.
- <sup>58</sup> Interview with Mike Parsons, 21 June 2002; Karrimor Technical Guide 1985.
- <sup>59</sup> Michael Hitt, and R. Duane Ireland, , (2000) ‘The intersection of Entrepreneurship and Strategic Management Research’ in Donald L. Sexton and Hans Landstrom, *Handbook of Entrepreneurship* ( Oxford : Blackwell Publishing, 2000), pp. 45-63.
- <sup>60</sup> Interview with Peter Lockey and Gordon Davison 10 August 2000.
- <sup>61</sup> E-Mail Peter Lockey to Mary Rose 17 May 2001.
- <sup>62</sup> Interview Gordon Davison and Peter Lockey 10 August 2000; e-mail Mike Parsons to Mary Rose 11 August 2000.
- <sup>63</sup> Berghaus Catalogue 1983, Company Profile.
- <sup>64</sup> Interview Peter Lockey and Gordon Davison 10 August 2000.
- <sup>65</sup> 28 October 1996 *Financial Times*.
- <sup>66</sup> Tom Waghorn ‘Harrogate’ *Climber and Rambler*, January 1982; Karrimor advertising material for KS100e *Climber and Rambler* 1980; see Parsons and Rose, *Invisible on Everest* for a more detailed discussion of the development of this relationship.
- <sup>67</sup> Interview with Alan Day 29 September 2000.
- <sup>68</sup> Interview with Rab Carrington by Mary Rose, 10 May 2001.
- <sup>69</sup> Granovetter, ‘ Economic Action’, pp. 481-509.
- <sup>70</sup> Interview by Mike Parsons with Herman Huber of Salewa, August 2001; Parsons and Rose, *Invisible on Everest*, pp. 161-4.
- <sup>71</sup> Conversations between Tony Lack and Mike Parsons and Mary Rose, September 2002.
- <sup>72</sup> E-mail from Peter Lockey to Mary Rose 31 October 2000.
- <sup>73</sup> James M. Utterback, *Mastering the Dynamics of Innovation* (Cambridge Mass., 1996)
- <sup>74</sup> Hitt and Duane ‘ The intersection of entrepreneurship and strategic management’ p. 49.

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- <sup>75</sup> See Parsons and Rose, *Invisible on Everest* (forthcoming) for details of the evolution of breathable fabrics.
- <sup>76</sup> David A. Hounshell and John Kenly Smith Jr., *Science and Corporate Strategy Du Pont R and D* (Cambridge : Cambridge University Press, 1988) pp. 484-5; e-mail from Derryck Draper to Mary Rose, 21 November 2002.
- <sup>77</sup> E-mail Heidi H. Cofran of W.L. Gore to Mary Rose 30 July 2002.
- <sup>78</sup> 24 March 1977, Letter from Alan Daley ( Director of Banton and Co) to Peter Lumley.
- <sup>79</sup> Tom Waghorn : ‘Gore-Tex : does it work ?’ *Climber and Rambler* , June 1978, p. 42; Chris Townsend ‘Keeping out the Elements’ *Great Outdoors*, October 1983.
- <sup>80</sup> Interview with Peter Lumley 19 June 2001.
- <sup>81</sup> Interview with Neville Whitley by Mary Rose and Mike Parsons 25 September 2001.
- <sup>82</sup> Interview with Marion Barnes, Berghaus, 2 August 2000.
- <sup>83</sup> Berghaus Catalogue, Company Profile 1983;
- <sup>84</sup> E-Mail from Peter Lockey to Mary Rose 28 February 2001.
- <sup>85</sup> E-mail from Mike Parsons to Mary Rose 4 October 2002..
- <sup>86</sup> Tom Waghorn ‘ Harrogate 80’ *Climber and Rambler*, January 1981; Full details of the development of the K-SB can be found in Parsons and Rose, *Invisible on Everest* pp. 259-262.
- <sup>87</sup> Chirs Townsend, ‘Test Report : Karrimor Asolo K-SB III Boots, *Great Outdoors* January 1982.
- <sup>88</sup> E-mail from Mike Parsons to Mary Rose 4 October 2002; Chris Conroy ‘Kit Check : The lightweight revolution’ *Great Outdoors* 1983.
- <sup>89</sup> Mark Easterby-Smith, Richard Thorpe and Andy Lowe *Management Research : An Introduction* (London, Sage Publications 1991) pp35-7.
- <sup>90</sup> Bengt Johannison and Marcella Ramirez-Pasillas, (2002) ‘The institutional embeddedness of local inter firm networks : a leverage for business creation’ *Entrepreneurship and Regional Development* Vol 14, (2002) p.298.