Some survivors from the battle of Arnhem, 26 September, 1944. Douglas Swinscow is on the right. (Reproduced from "Reap a Destiny" by D Swinscow. London: BMJ/Memoir Club, 1989)

carried out but these seem to have been perpetrated by younger members of the German SS divisions.

An interesting aspect of the book is how the men endured such tremendous hardship. There was suffering and death all around them. They were losing their officers and friends at a very rapid rate. There was no food. They were running out of ammunition, and physical conditions were extremely difficult. Nevertheless, their morale seems to have been remarkably high and they endured these conditions for several days.

There is little reference in the book to any psychological breakdown. This of course was before the term post-traumatic stress disorder was used. In the first world war it was called "shell shock" and in the second world war a variety of terms were used, such as "combat fatigue" and "battle neurosis." The psychological mechanism is similar in all of these conditions. Although there is brief reference to one or two people being shell shocked, this does not seem to have been common among the soldiers at Arnhem. Was this because they thought they were going to be relieved by the main army advancing towards the Rhine? Or was it due to their intensive training? The fact that they were hand picked to be paratroopers and the strong companionship existing among the men were obviously important. It would be valuable and interesting to try to ascertain which of these factors kept up the high morale of the men, and possibly in the future someone could attempt this research, although the length of time since the action would make it difficult.

Remember Arnhem. J Fairley. (Pp xvi+235; figs; £12.95 paperback.) Glasgow: Peaton Press, 1990. ISBN 0-9515509-0-X.

Nine ladies laid bare?

Chris McManus

The foyer of the Montreal Neurological Institute is dominated by a nineteenth century French sculpture of a half naked woman entitled "Nature revealing herself to Science"; her torso is already bare, and her remaining flimsy clothing will soon succumb to Science's relentless onslaught. Creativity, scientific and otherwise, is the subject of *Before the Gates of Excellence*, which asks how individuals generate creative ideas of lasting cultural value; the author, R Ochse, emphasises the unconscious forces motivating creators and the underlying cognitive processes. In Ottawa, in the National Gallery of Canada, there is a bronze statuette entitled "Inspiration" in which a bemused sculptor stands, hammer and chisel in hand, apparently unaware of the naked woman who clings to his back, about to fire his imagination. The latent eroticism of these two sculptures illustrates Freud's theory that unsatisfied, unacknowledged sexual needs, ambitions, and fantasies underlie the overdetermined nexus of creative thought. Freud compared creativity with those medieval paintings that in one corner show a portrait of the donor; so, he said, "we can discover in some [psychological] corner or other [of creativity] the lady for whom the creator of the phantasy performs all his heroic deeds and at whose feet all his triumphs are laid."

In reviewing creativity Ochse argues that it is random in neither time nor space: "Golden Ages" undoubtedly occur, as also does familial aggregation, albeit of cultural rather than genetic origin. Intelligence alone contributes little, as seen in Terman's presumptuously entitled *Genetic Studies of Genius*[1]; even IQs of 180 did not predict transcendent achievement. Better correlates of exceptional creativity are precocious specific ability, independent study and work habits, a desire for solitude, and a relentless capacity for hard work; very hard work. Edison's description of genius as 1% inspiration and 99% perspiration was anticipated by the anonymous pre-Socratic who provided the book's title: "Before the Gates of Excellence the high Gods have placed sweat."

The drive for hard work is argued to arise in early childhood: deprivation, isolation, bereavement, broken homes, familial psychosis, physical disability, illness, and hardship seem disproportionately common in the creative and can all motivate a desire to excel. In conjunction with hypertrophied intellectual ability this desire allows control to be regained over a harsh, threatening social world, which is replaced by the secure, safe world of ideas. "Apartness" (the single word Pais used to describe Einstein) allows total immersion in the knowledge, skills, and practice of an intellectual discipline (and note the important ambiguity of that last phrase).

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Maurice Denis: "The Muses"

Where does inspiration itself come from? Ochse argues that the immediate source is the increased random associations occurring during primary process thinking, when attention is defocused because of lowered arousal levels—the "bed-bath-bus syndrome" that so well describes the typical locations for inspiration of any sort (and this review's first paragraph arose unbidden while I was dozing on a flight from Toronto to London). But, Ochse argues, the moment of inspiration is not when the real intellectual work actually occurs; it is merely its final emergence. The real work occurred during years of preparation, of continual study and thought, which rendered complex intellectual algorithms routine and automatic and applied unconsciously to anything and everything, including primary process thinking itself. This automaticity means that inspiration manifests phenomenologically as unbidden and incomprehensible to its very begetter.

This ambitious, interesting, and well written book will interest anyone who wishes to understand human creativity, artistic or scientific. It attempts no less than a cognitive psychology of the highest intellectual achievements of mankind; perhaps even a psychology of the muses themselves.

1 Terman LM, Oden MH. *The gifted child grows up: twenty-five years' follow-up of the superior child.* Stanford: Stanford University Press, 1959. (Vol 4 of Terman LM. *Genetic studies of genius.*)

Before the Gates of Excellence: the Determinants of Creative Genius. R Ochse. (Pp ix+300; £9.95 paperback.) Cambridge: Cambridge University Press, 1990. ISBN 0-521-37699-8.

Family business

D H G Cotter

The provision of artificial limbs is one of the more idiosyncratic "back alleys" of medicine, and for many doctors it is unfamiliar territory into which they rarely venture. For those patients who require them limb prostheses are as important as the most fashionably dramatic intervention such as transplantation surgery. Artefacts attempting to replace limbs extend back into prehistory, predating scientific medicine. It took the forcing house of wars, however, to speed the development of both the technology of the limbs and the organisation required to supply them. This laid the foundation on which the development of advanced modern structural materials could build, to give today's high performance prostheses.

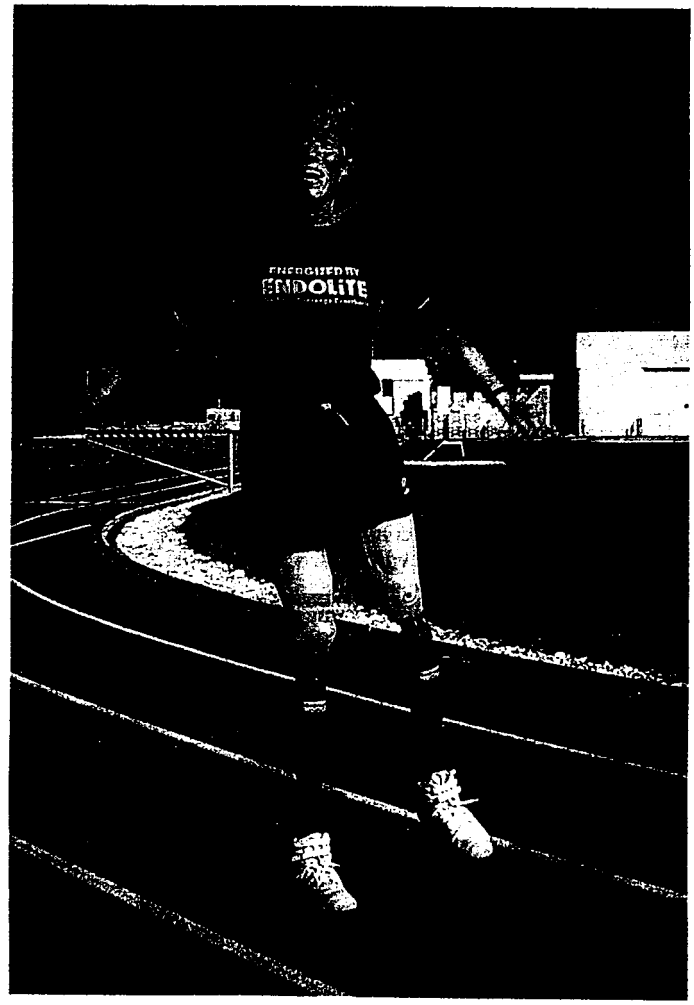
Best Foot Forward chronicles the 100 year history of the family business of Chas A Blatchford and Sons, manufacturers of artificial limbs. Gordon Phillips has set this in the context of both the family background and the social environment of the day. He has achieved this with great skill and a very readable style, so that accounts of changes in management, company policy, and the ups and downs of the balance sheets, inherent in a work of this nature, fail to elicit a yawn. He has produced a delightful cameo of a family that progressed from very humble origins to a pre-eminent position in its specialist business.

In setting the scene Gordon Phillips has produced a succinct history of the development of artificial limbs which I think it would be hard to improve on. He cleverly interweaves his account of the progress of the firm with background information on the establishment of an organisation to supply artificial limbs. He shows how the commercial environment in which the company operated has influenced its evolution and also how technical advances by the company have in return effected changes in this environment.

It is particularly appropriate that the book should be published at this time. Not only is it Blatchford's centenary year but the basis for the supply of artificial limbs is undergoing radical change. The book can provide an interested reader, with little or no knowledge of the subject, with valuable insight into the world of limb prosthetics. The progression of events it describes give a feel for the reasons why delivery of a limb service to the patient took the shape it did.

Many people still have an image of artificial limbs as "wooden legs" and associate them with antiquated practices. They have in fact often been in the forefront of several fields. The cooperation between prosthetists and doctors to produce the best possible results for the patient is an early example of multidisciplinary working. The development of some early laminated composite materials was undertaken for use in artificial limbs, and current limbs use some of the most advanced materials of this type available. In another sphere the supply of artificial limbs has for many years entailed separate purchaser and provider organisations in a way now proposed for the NHS.

Amputees are a small group of patients with particular problems requiring long term commitment as they can never be "cured" and yet their limb loss will not be fatal. Although the incidence is low, most doctors will encounter wearers of artificial limbs at some time in their medical practice. Surely it is incumbent upon us as a profession, if we involve ourselves in the necessary removal of limbs, not to dissociate ourselves from the subsequent care of the patient.



Detail from cover

I found the book most enjoyable, and although I have worked in this subject for some years it has improved my background knowledge.

Best Foot Forward: Chas A Blatchford & Sons Ltd (Artificial Limb Specialists) 1890-1990. G Phillips. (Pp xiv+140; figs; £14.95.) Cambridge: Granta Editions, 1990. ISBN 0-906782-48-1.