

Book review

Traffic Safety, Leonard Evans, Science Serving Society, Bloomfield Hills, MI, 2004, pp. 444, US\$99.50, hardback (ISBN 0-9754871-0-8).

This review starts with some statistics: every year on the world's roads, a million people are killed. By 2020, that number will have doubled. On current figures, the US alone contributes 40 000 fatalities towards the world's total, which equates to more fatalities every month than in the 11 September terrorist attacks. Indeed, since the automobile first appeared, more than 3 million Americans have been killed by cars – far greater than the 650 000 victims of all wars since the 1775 revolution.

All these stats can be found within the opening paragraphs of Evans's latest book, an update and revision of his renowned 1991 classic, *Traffic Safety and the Driver*. They quite set the tone for the rest of the book, which I would say is most definitely a resource for (morbid) dataphiles – it is full of facts, data and statistics on car crashes and, in particular, fatalities. As the author himself sets out in the Preface, 'Traffic Safety presents what science has taught us about harm in traffic' (p. xiii).

It is hard to deny that Evans has achieved his objective, the book covers pretty much every aspect of the physical interaction between vehicles and their occupants when the unfortunate crash occurs. He covers societal effects, vehicle influences, infrastructure variables, demographics as well as the role of drivers themselves in traffic safety. Evans rightly claims that this is a truly multidisciplinary book, covering physics, engineering, medicine and psychology at one point or another (although there is no mention, let alone recognition, of ergonomics).

Another tone of the book is the author's almost fastidiously correct use of terminology. My use of the words 'statistics' and 'stats' above would undoubtedly have riled Evans, for I was quoting data rather than statistics. Such attention to detail might infuriate some readers, although personally I am in agreement with Evans and appreciated the clarity of expression that his approach offers. In a field where the slightest change in definition can have wild effects on a dataset, I believe it is appropriate to set out the rules and stick to them. I rather suspect, too, that anybody attracted to this book will have a similar attitude.

That is not to say that the book does not have its faults. Quite often, it seems, Evans loses a sense of objectivity in order to promote one of his personal hobbyhorses. There is nothing wrong with this in your own authored book, of course, but it does rather detract from an otherwise clinical treatment of the facts. It could be that I just personally disagreed with his stance on many of these – for instance, Evans is rather scathing about Intelligent Transport Systems, risk homeostasis theory, simulator-based research and the widespread adoption of airbags as a restraint system – not to mention his derision of US traffic safety policy. He may well be right, perhaps a plateau has been reached in terms of increasing safety by vehicle design, and maybe focus should instead be turned to the driver. But that does not sit with my instincts as an ergonomist – should the task be fitted to the man, or something like that?

This brings us on to Evans's chapters on driver performance and driver behaviour, both giving nice, albeit necessarily superficial, overviews of driver psychology. Evans

again correctly separates these terms into what people can do and what they choose to do. Having said that, the latter chapter is somewhat disappointing, as the content does not really distinguish itself from that on driver performance – the overriding message being that ‘young male drivers take more risks’, without suitably explaining why.

Notable absences from the book are any constructive treatment of advanced technology (apart from the summary dismissal already referred to) and very little on mobile (cell) phones, despite the recurring prevalence of this debate on safe driving. Evans also fails to mention time-to-contact or the elusive ‘tau’ concept (even in a derisory way), despite an otherwise detailed statistical treatment of braking reaction times. Other contemporary issues are addressed, however, such as the growing concern about vehicle mass – particularly with the increasing presence of sports utility vehicles on the roads. Perpetual issues of speed and alcohol are also covered in depth, although, intriguingly, fatigue is largely neglected. Finally, the book is also predominantly US-focused, which the author explicitly acknowledges, but this does perhaps make the information somewhat restrictive for readers from other motorized countries.

Overall, however, *Traffic Safety* is most definitely a useful resource for anyone working or researching in this area, and it will undoubtedly be a well-thumbed volume on my bookshelf. It is a book to dip into and find the data that are needed, rather than a readable text. There is plenty of overlap between chapters, making it easier to gather the relevant information in one place rather than searching around the book. It is intriguing that Evans decided to drop the ‘...and the driver’ suffix from the title. Given his lament on driver education and training, one would have thought that the driver focus was even more important in this book. The closing message – that we should take a lesson from aviation and focus on crash prevention rather than crashworthiness – is a laudable one. However, my personal hobbyhorse is that we can achieve this aim by understanding the driver-vehicle system much more than Evans gives us credit for.

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