C. FACILITIES					D. GENERAL TREATMENT AND CARE				
Accommodation	Additional Facilities for Casualty	Equipment	Patient Comfort	Records	Control of Infection	Appreciation of the Sepsis Problem	Rehabilitation	Resettlement	Interest in Prevention and Follow-up
8	9	10	11	12	13	14	15	16	17
■	■	■	■	■	■	○	■	■	■
■	■	■	■	■	○	○	■	■	■
■	○	■	■	■	○	○	■	■	○
■	○	■	○	■	○	○	■	○	○
■	■	■	■	■	■	○	■	■	■
■	■	■	■	■	■	■	■	■	■
■	○	■	■	■	■	○	■	○	○
■	○	■	■	■	○	○	■	■	○
■	■	■	■	■	■	○	■	■	○
■	■	■	■	■	■	■	■	■	○
■	○	■	■	■	○	○	■	○	○
■	○	■	■	■	○	○	■	■	○
■	○	■	■	■	■	○	■	■	■
■	■	■	■	■	■	■	■	○	■
■	■	■	■	■	■	■	○	○	■

with general practice work. For the hospital departments there should be more career appointments of non-specialist type for men who are both physicians *and* surgeons (with no prefix), who are good administrators, men of wide clinical acumen, practised in the problem of reception, immediate treatment and disposal of all types of urgent medical and surgical casualty. Such a man would work as part of the team, the captain of which would be the director of accident services.

The grimness of much of the organisation and of the physical conditions in which casualty work is done can be shown by the excellent visual rating chart which is contained within the report. It is notable that whereas medical care is often deficient, the very high level of nursing responsibility is excellent. The grave deficiencies in facilities should also be recognised.

The Nuffield report asks that regional surveys should be carried out. While this is being done and while the Government is waiting for these and other reviews, it is urgent, as suggested by the British Orthopaedic Association, that a start be made to rectify some of the present difficulties. The needs of the country differ widely from place to place.

Although in this review one has given vent to personal opinion, it must be emphasised that the Nuffield document is one which should be in the hands of every medical and surgical consultant. Also may we remember that while such reports present much self criticism they can be of great help in other countries, few of which have anything better to offer at the present time.

Doubtless it is healthy that we should be critical, but a little international publicity for the great things of our National Health Service would not come amiss.—Norman CAPENER.

Crash Injuries. The Integrated Medical Aspects of Automobile Injuries and Deaths. By Jacob KULOWSKI, M.D., F.A.C.S., F.I.C.S., Attending Orthopaedic Surgeon, St Joseph's Hospital and State Hospital No. 2, St Joseph, Missouri. 9×7 in. Pp. xlii + 1,080, with 533 figures and 67 tables. 1960. Springfield, Illinois: Charles C. Thomas, Publisher. Oxford: Blackwell Scientific Publications Ltd. Toronto: The Ryerson Press. Price £13.

Injuries generally, and crash injuries from road accidents particularly, represent the first great epidemic in the history of surgery. All others have been "medical," caused either by bacteria or viruses and have been sporadic. This one is man made, world wide and continuous, and is related

to the age of power and speed in which we live, work and play. Crash injuries from road accidents have already accounted for more deaths in the United States than all the wars in the history of that republic. In this country the road component of this epidemic has yet to reach its peak, but even now is responsible for one-third of all deaths in males during the years of promise—between the ages of seventeen and twenty-five.

In handling this first epidemic, surgery will have to reorientate its thinking and study new problems. It may even have to accept surgeons whose interest is not in treatment alone but in the close study of the causes and the nature of injuries in order to provide authoritative information leading to their prevention. Dr J. Kulowski has written a long and ambitious work, bringing together for the first time a mass of valuable information, much of it extremely stimulating to further thought and, one hopes, action. The opening two sections of the book—the first on “Biomechanics,” the study of the human body as a mechanical system, and the second on “Pathomechanics,” relating the degrees of violence to car occupants after crash impact to present American vehicle design—will, because the subjects are unfamiliar, present difficulties to most surgeons and many engineers. Yet these are some of the new subjects that the surgeon-epidemiologist must seriously consider.

Crash Injuries contains valuable summaries of the findings of all major American studies, such as DeHaven's early work on deceleration, the studies of experimental crashes made by the Institute of Traffic and Transport Engineering in Los Angeles, the work of Dye, the extensive surveys of the Cornell Group, including their prototype safety car, and the truly heroic experiments of Colonel J. P. Stapp on deceleration from high velocities. The forces assaulting the occupants of crash vehicles are clearly defined and the tolerance of the human body to such violence is well described.

Surgery has made great advances in the treatment of severe injuries and these are covered in separate sections of this very comprehensive work. Yet it is quite clear, from the evidence produced in this book and from the experience of all surgeons in this country responsible for the immediate care of the seriously injured, that far too many irreparable and fatal injuries still occur to car occupants and are still considered with complete complacency by the designers of modern motor vehicles in all countries. For example, the Cornell safety car (illustrated in Figures 22, 42, 43A) was built some years ago after careful research into the causes of injuries to car occupants and incorporates safety design for preventing or lessening the severity of such injuries. Although the Cornell Group was sponsored by two great American car manufacturing companies, such safety design has not been incorporated in any of their production models. The very few safety design features that have appeared from time to time in British cars have never been more than inadequate gestures, often to be forgotten in subsequent models. Yet the new science of safe packaging is already a well developed industry with principles that could be applied to the safer packaging of car occupants. Figure 42A on page 59 is a good illustration of this point, an illustration that could with advantage be hung in the office of every car company's managing director. It shows one car of a three-car collision in which the occupants of all the cars suffered severe injuries; the car illustrated also contained a box of well packed eggs, most of which have not even been cracked. Who then convinces car manufacturers and the public generally of the need for safer car design? On the evidence of this work 15 per cent of those who now die from road accidents are killed outright and another 15 per cent die within four hours of their injury. From our own research we know that in one rural area of England over 50 per cent of those who die from road accidents are brought to the hospital dead.

This book should be widely read by all surgeons interested in the many-sided aspects of this epidemic and will undoubtedly not leave them complacent about their responsibilities in the prevention of injuries.

It is not an easy book to read for those on this side of the Atlantic. More thorough editing could improve its style and eliminate unnecessary repetition. Although the work has a large bibliography this does not give details of all the references used in the text. Its value as a book of reference is considerable; yet it does not contain an index. Having recently become involved in research into the causes of injuries to car occupants, I find it difficult to understand how Dr John O'Moore (page 101) compiled his statistics so accurately, relating in exact percentages car occupant injuries to specific features of vehicle design. If these are informed guesses (as I suspect) they at least give a basis for further important research. It would seem that one of the responsibilities of surgeons is to study this matter if the very hard-headed car manufacturers are to be convinced of the need of safety design and the safer packaging of car occupants.

Judging the work as a whole these are very minor points of criticism and should not detract from the book's status as the most authoritative account of this important subject at present available, or likely to be available in the foreseeable future. *Crash Injuries* merits frequent reference by surgeons, design engineers and others interested in the prevention and treatment of injuries from road accidents.

—William GISSANE.