

A PRELIMINARY INQUIRY INTO THE PART PLAYED BY CHARACTER AND TEMPERAMENT IN ACCIDENT CAUSATION.

By E. G. CHAMBERS, M.A.

(From the Cambridge Psychological Laboratory.)

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THE concept of accident-proneness is by no means a new one; but the term has passed into popular use, and although the colloquial usage of the term is frequently incorrect, yet the idea that some people are more liable to sustain accidents than their more fortunate fellows is now widely accepted. Of late years psychologists have made it their business to inquire into the nature of this susceptibility to accidents, and have found that whilst mankind in general is characterized by this proneness, there are individual differences in the degree to which it is possessed. In any sufficiently large observational group it is usually found that most of the accidents are sustained by a minority of the members of that group, and it is obviously of importance to discover what are the personal qualities or lack of abilities which make this minority specially accident-prone.

Up to the present a certain amount of progress has been made in this field of inquiry. It has been found that amongst skilled workers, such as young engineers, bus drivers or air pilots, lack of ability to perform certain sensori-motor tests is related to a high accident rate. Although this relationship is not very pronounced it is found consistently in similar groups of workers, and is now so well established that use might profitably be made of the knowledge in the selection of workers for skilled or dangerous occupations.

In the course of the investigations leading to this discovery the same sensori-motor tests were given to various groups of unskilled workers, but the results were different. In no instance has it been possible as yet to demonstrate a connection between the ability required to perform these tests and accidents amongst unskilled workers. The reason for this is not known, but a possible explanation is that, whilst sensori-motor skill is of the greatest importance in the lives of skilled workers, so that any deficiency in it will tend to make them incapable of reacting appropriately to the demands of their environment, the same is not true of the unskilled workers. Sensori-motor ability plays very little part in their lives, so that it is not altogether surprising to find that differences between one unskilled worker and another in ability to co-ordinate hand and eye do not seem to be related to their differing accident rates. For differences in accident proneness occur just as much amongst the unskilled as amongst the skilled workers. We are forced, therefore, to

look elsewhere for the causes of accidents among the unskilled. If and when these causes are discovered they will almost certainly apply to skilled workers also, for as yet only one of the factors in accident proneness has been demonstrated.

An attempt is now being made to determine to what extent differing qualities of temperament and character enter into accident causation. In a recent article in the *British Journal of Psychology** Dr. H. Banister described an analysis of certain accidents, and attempted to attribute the different accidents to various psychological qualities. He found that there were nine chief causes of the accidents he studied. These he lists as stupidity, foolhardiness, improperly adjusted attention, distraction, hurry, anger and annoyance, worry, wish-fulfilment, and the temperamental effects of sustaining a first accident. This was a new approach to the problem of accident causation, and gave a valuable indication of the possible importance of temperamental and other psychological factors in the causation of accidents.

The present writer has made a preliminary study of two widely differing groups of subjects in an endeavour to find a profitable line of inquiry into the question of the relation of character and temperament to accident causation. The first group was composed of eleven men, all working in the same factory, though not at the same tasks, and selected because they had sustained more accidents in the course of a year than any of their fellows. The manager of the factory had known most of these men for many years, and he was asked to describe, in strict confidence, the character of each of these highly accident-prone individuals. Several items of interest emerged from a study of the information he supplied.

In the first place, only three of the eleven men could be described as a credit to the firm who employed them. One of them was a very reliable worker and so was constantly given hazardous jobs. He had, therefore, a much higher exposure to risk than his fellows, and this fact probably accounts for his high accident-rate. The other two were similar in respect of youthfulness, but whereas one was intellectually developed and so keen to become proficient in a technical direction that zeal outran caution, the other was overdeveloped physically and had to be given a man's job, although he was not sufficiently mature mentally to master it. Time will probably cure both these young workers to some extent, for it has been found elsewhere that youth and inexperience are both related to accidents, and that as workers grow older they tend to have fewer accidents.

Of the remaining men in the group some were of a definitely anti-social type. A quotation of the brief character sketches made by the manager of two of them will illustrate this.

(1) R. C—, aged 21. Sullen and bad-tempered. Has a bad outlook, a

* H. Banister, "Another Approach to the Problem of Accident Causation", *Brit. Journ. Psychol.*, 1937-8, xxviii, 304.

grudge against everything. Impatient and hot-tempered. Under the delusion that most things are his enemy. He is the only son of a widow, and has one sister. The mother is eccentric; she has a fear of being overlooked and has boarded-up the windows of the house. The mother is quarrelsome and the sister very bad-tempered. The man is unsociable and has no sense of humour.

(2) V. S—, aged 16. A boy of low intelligence. A cunning mind, with a vindictive tendency. Takes after his father in cunning. Has a tendency to pick quarrels and must have his own way. Not a normal boy; very abrupt, argumentative and on the look-out for slights.

These two small character sketches speak for themselves. Another unstable type of character is shown by the following:

(3) A. J. A—, a piece-worker. Rushes at his work. Is impatient and careless. Rides a motor-bicycle rather recklessly.

In addition to these types, remarks made about two of the men suggest that they were possibly epileptic, and two others were a prey to morbid physical fears. Suggestions of pronounced domestic unhappiness were also forthcoming in one case.

An examination of the data obtained from this small group gives valuable indications of possible psychological causes of accidents. It will be necessary, of course, to examine the distribution of such qualities of temperament and character amongst a much larger sample of workers, and to see how far they are normally associated with a high accident-rate.

The other group of subjects in this preliminary inquiry consisted of 24 young girls employed in the same department of a large confectionery firm. Of these, 12 had had no accidents at all in a particular observational year, whilst the other 12 had had several accidents each. Information about these girls was sought from their trainers and overlookers without indicating which girls were specially accident-prone and which were not. Details were supplied about the home circumstances of the girls, their general characters, their satisfactoriness as workers, and the reports made about them by their schools when they applied for employment at the factory. The description of character traits was not nearly so full in this case as with the other group, but on the basis of the information given the girls were assessed as being either of a "good type" or a "poor type". This assessment was made without reference to their accident records, but when a subsequent comparison was made it was found that of the 11 "good type" girls, 8 had had no accidents at all and 3 had had several, whilst of the 10 "poor type" girls, 9 had had many accidents and only 1 had had none. In the case of the remaining girls no clear assessment could be made.

A further division of the girls into those with good homes and those with poor homes was also made, and here, again, there was a striking relation with accidents. There were 12 girls with good homes and of these 8 had had no accidents, whilst of 6 girls with poor homes, 5 had had many accidents and

only one had had none at all. Insufficient information was supplied about the home circumstances of the remaining girls.

An examination of the school reports of 21 of the girls also indicated a slight relationship with accidents. The girls were graded as A, B, C or D for handwork, intelligence and learning ability, dependableness, and industry and application. The following table shows the assessments in these four categories of the highly prone girls (H) and those with little proneness to accidents (L).

		A.	B.	C.	D.
Handwork	H	..	3	8	1
	L	..	6	3	..
Intelligence and learning ability	H	..	3	9	..
	L	2	4	3	..
Dependableness	H	12	..
	L	3	1	5	..
Industry and application	H	..	1	11	..
	L	3	2	4	..

It may be seen that the highly accident-prone girls do not score a single A but they appear in the majority of cases in the lower categories C and D. It is interesting to note that there appears to be some small relationship between intelligence and accidents in this group, for no such relation has yet been found in the case of skilled workers. Possibly in the case of workers with a less developed intelligence, differences in mental ability are of more importance in their reactions to their environment than is the case with workers with a higher standard of intelligence.

The results of this preliminary inquiry are based on data which are admittedly slight. Nevertheless, they are most encouraging, and an investigation on a much larger scale is now in progress. A good deal of information is being gathered about the temperament and character traits of a group of 250 men, all of whom are employed in the same occupation in a large industrial firm. Details of their home circumstances, distance travelled to work, social activities, relations with their fellows and superiors, etc., are also being recorded. Specially full records of each accident sustained by these men over a lengthy period are also being kept, so that an analysis of accident causation from two points of view should be possible.

The results of this further investigation should reveal how far qualities of character and temperament enter into the causation of accidents amongst such workers. It may then be possible to devise tests suitable for selective purposes for some of these traits, so that the work should be of direct practical value, quite apart from any gain in theoretical knowledge of the question of accident-proneness which may accrue.*

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