SUICIDE or attempted suicide is usually considered in terms of conscious and overt self-destructive action. However, data introduced in this paper suggests that many persons with self-destructive inclinations may attempt to destroy or injure themselves through automobile accidents, and that these accidents are rarely perceived as suicidal attempts by either the driver or the public.

Failure to reduce the large number of traffic accidents through punitive or educational measures has resulted in diverse efforts to assess the personalities of drivers who incur more accidents than their fellows. Conger et al. stressed the poor control of hostility, low tolerance for tension, dependency, egocentricity, and unreflectiveness found in their accident group.1 Tillman and Hobbs, investigating both low and high accident taxicab drivers, found that the latter could not tolerate, and were chronically in revolt against authority. This group was also characterized by anti-social attitudes, impulsiveness, distractibility, and marital and fiscal irresponsibility.2 The above investigators made no reference to suicide or depression as a contributory factor, but did find evidence of poor hostility control.

Recently the authors initiated a research effort to determine if any correlation existed between suicidal disposition and automobile accidents. Interviews were held with 30 alcoholic and 30 non-alcoholic male in-patients who were undergoing psychiatric treatment at the Veterans' Readjustment Centre of the University of Michigan. Data obtained included suicidal attempts, past or present persistent preoccupation with suicidal thoughts, and a history of all traffic accidents for which the patients were responsible. (Inasmuch as all patients were undergoing psychotherapy, the data relating to suicidal preoccupation could later be confirmed with the therapist. It was our impression that the psychotherapy contributed to the patient's candour in revealing traffic transgressions and suicidal preoccupation.)

### Table I

<table>
<thead>
<tr>
<th></th>
<th>Suicidal</th>
<th>Non-suicidal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Accidents</td>
</tr>
<tr>
<td>Alcoholic</td>
<td>17</td>
<td>63</td>
</tr>
<tr>
<td>Non-alcoholic</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td>Totals</td>
<td>33</td>
<td>89</td>
</tr>
</tbody>
</table>

In the 60-patient group, 33 men admitted having seriously considered committing suicide or reported one or more suicidal attempts, while 27 men disclaimed a history of either. The two groups did not differ significantly in miles driven or socioeconomic background. The median age for each group was 33.5 years, with a total age range for both groups of 24–58 years. Psychiatric diagnosis of the suicidal and non-suicidal groups respectively were: personality disorders (predominantly passive-aggressive personality), 20 and 18; schizophrenia, 9 and 7; psychoneuroses, 4 and 2; and chronic brain syndrome, 0 and 1.

The 33 "suicidal" men were responsible for 89 automobile accidents, with a mean of 2.70 accidents per person. The 27 non-suicidal patients accounted for 36 automobile accidents or 1.30 accidents per person (Table I). Thus, there were over twice as many accidents per person among the group who had serious suicidal thoughts or had made suicidal attempts than among those who had not considered suicide. Due to the distribution of accidents (Table II), a test on logarithmic transformation was used which established a significant accident difference between the two groups in the range of 0.01–0.05.

*In the absence of the authors this paper was read by Dr. P. Joliet.*
The Alcoholic Group

Since the alcoholic's responsibility for automobile accidents might be attributed solely to intoxication, the accident breakdown within the alcoholic group was of particular interest. Of the 30 alcoholics interviewed, 17 were suicidal using the above criteria. These 17 suicidal alcoholics were responsible for 63 automobile accidents, whereas the 13 non-suicidal alcoholics precipitated a total of 24 accidents, yielding mean values of 3.70 and 1.77 accidents per person for each group respectively (Table I). Here again the suicidal group accumulated a mean accident value twice that of the non-suicidal group. The difference was also significant (p = .05), and of course independent of the patient's alcoholism which was a constant for the entire group. It appears, then, that intoxication per se may not be the sole determinative factor in automobile accidents caused by alcoholic drivers. This may be of importance in light of several investigations indicating that the so-called "drinking driver" who is brought to the police or the coroner is quite frequently an alcoholic rather than a social drinker who has over-imbibed.

In the 30-patient non-alcoholic group, the 16 suicidal patients reported 26 accidents, and the 14 non-suicidal patients reported 12 accidents. The respective mean values for accidents per patient were 1.62 and 0.86 (Table I). Although the non-alcoholic, suicidal group averaged almost twice as many accidents per patient as the non-alcoholic, non-suicidal group, the difference here proved to be of borderline significance (p = .06).

Attempted Suicide

On the assumption that the individuals who converted their suicidal thoughts into action would have more automobile accidents than those who did not, the 33-patient suicidal group was broken down into the 12 patients who had actually attempted suicide and the 21 who had merely been preoccupied with suicidal thoughts and fantasies. The 12 "suicide-attempters" (nine alcoholics and three non-alcoholics) accumulated 43 accidents, while the remaining 21 patients in the "suicidal" group reported a total of 46 accidents, yielding mean values of 3.60 and 2.20 accidents per patient respectively. This difference was not statistically significant (perhaps due to the small numbers involved), and hence we could not say that the increased accident rate of persons with suicidal preoccupation depended on whether or not they actually had attempted suicide in the past. It is interesting to note that of the 21 conscious suicidal attempts reported by the 12 patients who attempted suicide, only one attempt was made by the patients deliberately wrecking his car.

Comment

There are a number of compelling reasons for the self-destructive individual to become the victim of his own erratic driving. Suicide is a regressive phenomenon. It has even been described as a perversion: "an indirect form of gratifying instinctual drives in a manner more primitive and more infantile than normal". The overt expression of self-destructive impulses—whether fundamentally oral, libidinal, or aggressive—implies that the individual has reached a modus vivendi with his super-ego in order to accomplish his regressive suicidal task. The automobile lends itself admirably to attempts at self-destruction because of the frequency of its use, the generally accepted inherent hazards of driving, and the fact that it offers the individual an opportunity to imperil or end his life without consciously confronting himself with his suicidal intent. All of the men in this study but one perceived their traffic mishaps as completely fortuitous.

It should not be assumed, however, that all suicidally-motivated automobile accidents are the product of unconscious processes. As noted above, one patient consciously and deliberately tried to end his life by driving a car into a solid object while driving at high speed. A current study by the Harvard Department of Legal Medicine has revealed a number of fatal automobile accidents in which the
calculated and planned suicidal intent was unmistakable. In addition, life insurance company actuaries have expressed concern over the disproportionately high number of fatal automobile accidents in the first year of double indemnity life insurance policies, and have speculated that this may be due to "simulation of accidental death conditions by persons who actually committed suicide".

Stone has pointed out that cultural and situational factors may influence the mode of suicide selected. Certainly ours is a culture in which speed and daring are admired. Witness the heavily-attended annual debacle at Indianapolis where high-speed collisions and a human sacrifice are an accepted and almost inevitable occurrence. The automobile presents the depressed and frustrated individual with an opportunity to end his life in what he may perceive as a burst of glory. The automobile may also constitute a special enticement to the aggressive and vengeful feelings present in many would-be suicides. In an accident not only is the automobile damaged or demolished but so is any object struck by the automobile—human or otherwise. More conventional modes of suicide do not offer as dramatic an opportunity for the gratification of destructive and aggressive impulses. All this may be further complicated by the fact that even a half-hearted suicidal gesture, initiated while driving an automobile at high speeds or on a crowded highway, may set in motion irrevocable forces which result in catastrophe.

Alcoholism—The self-destructive bias of the alcoholic has been emphasized by several investigators, as has the alcoholic's predilection for automobile accidents and serious traffic violations. In our study, alcoholism itself was significantly related to automobile accidents at a 1% level of confidence (Table I). Not surprisingly, most of the alcoholic's automobile accidents (59%) occurred when the principals were intoxicated. Superficially one would be inclined to attribute this to greater and more frequent intoxication with resultant driving impairment. However, most alcoholics' suicidal attempts also occur when they are intoxicated. Of the nine alcoholic patients who admitted to suicidal attempts, seven probably were intoxicated when they made their attempts. In addition to producing driving impairment, the effect of alcohol vis-à-vis both automobile accidents and overt suicidal attempts is probably that of neutralizing the protective function of the super-ego. Alcohol often precipitates acting-out behaviour in persons who otherwise are quite capable of controlling their unacceptable impulses. Similarly, intoxication may permit the overt expression of self-destructive impulses in the same manner that it lowers super-ego restraints against aggressive and libidinal drives. In such instances, the automobile accident may be viewed as an expression of underlying self-destructive (and aggressive) impulses liberated by the effects of alcohol.

Summary
Thirty alcoholic and thirty non-alcoholic male psychiatric patients were evaluated to determine past serious suicidal pre-occupation or previous suicidal attempts. This data was correlated with the total number of automobile accidents for which the patient was responsible.

The 33 patients deemed to be suicidal averaged 2.70 accidents per patient, whereas the 27 non-suicidal patients averaged 1.30 accidents. In the 30-patient alcoholic group, the 17 suicidal patients were responsible for 63 accidents, whereas the 13 non-suicidal patients were responsible for 24 accidents, yielding mean values of 3.70 and 1.77 accidents per person respectively. These differences were statistically significant.

Due to the accepted and real hazards of driving, the automobile constitutes an ideal self-injurious or self-destructive instrument, particularly for persons intent upon camouflaging their suicidal motivation from others—and from themselves. With one exception, all patients believed their traffic accidents were fortuitous.

Alcohol intoxication may be responsible for automobile accidents not only because of the resultant driving impairment, but also because of its potential for reducing the controlling and conforming function of the super-ego, thus releasing aggressive and self-destructive impulses which find expression in traffic "accidents".

This investigation points towards the possibility that unconscious self-destructive impulses, sometimes abetted by alcohol intoxication, are a major although covert factor in the etiology of certain automobile accidents.

Acknowledgment
We wish to express our appreciation to Dr. Charles A. Mettner (School of Public Health) and to Dr. William V. Horvath (Mental Health Research Institute) for their analysis of the data used in this paper.
DISCUSSION

Brigadier Stoney (U.K.): Would Dr. Joliet say that the accidents to which Dr. Selzer refers are all types of accidents, that is to say including “damage only” accidents?

Dr. Joliet: I would assume so, yes.

Brigadier Stoney: How was this information as to the number of accidents obtained? Was it by questioning of the various patients?

Dr. Joliet: The information was obtained from the patient himself, and of course the question of his ability to recall arises. Therefore, one will assume that those accidents recalled must have been serious in nature.

Dr. Van Loon (Netherlands): I should like to ask whether the drivers who were suicidal were suffering from chronic or acute depression with anxiety and so on? Did they cause accidents in a danger situation or under normal road conditions? I only saw this phenomenon as a reaction to sudden danger, as an aggressive reflex action. I have treated so many people who talk about suicide and who possibly on the road will commit it, but I only see this in a danger setting. In a dangerous situation they lose their heads and then they get aggressive. And in that way they commit suicide. Were they patients who were under treatment and who the doctors knew very well, or was it only that they said “I have suicidal thoughts”?

Dr. Joliet: No. These were all in-patients under long-term treatment and were known very well by their physicians, and this gives much more credence to some of the conclusions. This was not a “fly-by-night” diagnosis and the information was obtained over a period of time.

Dr. O’Connor (Ireland): It is said that most drivers who have accidents are experienced drivers rather than new drivers. Is there any difference between this distribution as between the ordinary population and the driver reported on as having been alcoholic and suicidal?

Dr. Joliet: I don’t know. All Dr. Selzer said was that they came from the same social-economic level and that they were approximately in the same age range.

Dr. Cooper (Canada): It does not mean much to say, as Dr. Schmidt said, that drunks are more likely to be drunk and I do not think that this abnormal group of those who have been apprehended and/or convicted of drunken driving is any criterion on which to draw inferences as to the effect of social drinking. Sir Joseph Simpson, Dr. Haddon and several others have shown us that, at least among the English-speaking group represented here, there is no clear definition of impairment or of drunkenness and that almost all the convictions are in cases of a very high blood alcohol content. Now, I submit that we haven’t any material on which to draw the inferences that have been drawn to exonerate the social drinker.

Dr. Schmidt (Canada): I just want to point out that I did not indicate that the alcoholic drivers are entirely responsible for the problems of drinking-driving. As Dr. Glatt showed on the table that they contribute to the problem. The point I wanted to get across is that we must not think entirely in terms of the social drinker, but keep in mind that the pathological drinker might contribute considerably to this problem. What we showed was simply that he contributes more than his share to such problems.

Dr. Glatt: I completely agree with what Dr. Schmidt has just said. I also feel that the alcoholic driver contributes much more than his share to incidents and that I just comment on the possible relationship between suicide and more social disintegration because I had collected some time ago some figures about it. Amongst the 200 male alcoholics I was talking about, it was at the age of about 36 years that they contemplated suicide, i.e. it was about four years before they first came for treatment. This would fit in with the view that serious suicidal ideas among alcoholics occur relatively late in the disease. Now, there are two possible ways to look at suicide attempts in alcoholics. On the one hand we have got the very well-known theory brought forward, for instance, by Menninger that alcoholism itself is a gradual, long drawn-out process of gradual self-destruction. But I think that it is also possible that in some alcoholics it is the other way round, i.e. many alcoholics may drink in order to protect themselves from the urge they would otherwise have to commit suicide. So in some alcoholics it is possible that alcoholism is really an expression of their self-destructive tendencies.