General Procedure of the Danish Medico-Legal Council in Cases Concerning Motor Drivers under the Influence of Alcohol

Section 24, sub-section 1, of the Danish Motor Act provides as follows:

"A motor vehicle must not be driven, or attempted to be driven by a person who on account of intake of alcohol is unable to drive in a safe manner."

It is provided by the Act that any person sentenced for an offence against section 24, sub-section 1, of the Act has forfeited his driver's license for a period of not less than six months. An offence against the said provision will, for all practical purposes, render the offender liable to a term of imprisonment, usually from 10—20 days.

It will be observed, that the wording of the said provision is rather vague since the Act gives no directions as to the meaning of the words "unable to drive a motor vehicle in a safe manner". This vagueness opens, of course, possibilities for rather pronounced, individual treatments of the cases.

If a person is charged with the offence of driving while under the influence of alcohol the police will submit him to a medical examination, preferably undertaken by a medical officer of health but, in numerous cases undertaken by a general practitioner. In pursuance of the Act the police is authorized to demand such examination to be performed. At the clinical examination the appearance and general behaviour of the accused is observed by the medical officer, in particular, whether during the examination he gives the impression of "pulling himself together". His physic and his physic functions are subjected to certain rather simple tests but, on account of the limited time, I do not propose to deal with them here. The findings from the various observations and tests are recorded and accompanied by the conclusion reached. If the accused is found to be under the influence of alcohol, the degree of such influence is stated as: light, medium, or severe, as the case may be; in cases of the highest degree of influence, as: intoxication.

The accused must submit a specimen of his handwriting; after a couple of days, when he must be presumed to be sober the police requires a control specimen to serve as a basis for comparison with the one submitted at the clinical examination. Besides, three specimens of blood from the lobe of the ear, and one specimen of urine must be taken. The specimens are sent to the Institute of Phorensic Medicine to be analysed for contents of alcohol.

The majority of the cases against persons charged with the offence of driving motor vehicles while under the influence
of alcohol are decided by the Courts, without previously having been laid before the Medico-Legal Council. This will be the general procedure, provided that the examining physician concludes, without any reservation, that the accused was under the influence of alcohol at the time of the examination, that the concentration of alcohol in the blood was more than 10/100, and that the case did not contain any special features. Special features may consist in a presumption that the alcohol concentration in the organism of the accused at the time of driving differed essentially from the concentration found at the time of the examination, either because of a rather long interval between the time of driving and the time of examination, or the accused may have consumed alcohol after the driving or, finally, because the greater quantity of alcohol was consumed shortly, or immediately, before the driving took place, so that the absorption of alcohol, presumably, was not completed before the driving took place. Moreover, the accused may be suffering from a disease or, he may have taken some medicine influencing his general condition at the time of the clinical examination. Cases in which a clinical examination of the accused was not performed, among other things on account of injuries, are generally, laid before the Medico-Legal Council.

The Medico-Legal Council is the expert medical knowledge, and operates as a consultative body for the legal authorities. I do not propose to deal in detail with the organisation of the Council. Three so called "experts on cases concerning motor drivers under the influence of alcohol" are attached to the Council. Cases concerning motor drivers under the influence of alcohol, which are laid before the Medico-Legal Council are first dealt with by one of the experts, who in writing prepares the particulars of the case together with a proposed opinion to be given. (Conf. the below example). Subsequently, the case is gone into by two other members of the Council, and finally by the President.

Cases to the Council are drawn up on a special form; the form includes certain definite questions to which I shall refer later; additional, specific, questions may be made to the Council. The form is accompanied by the main points of the case as stated by the police, together with the proofs and evidence of the case, which normally mean: the police report, the findings at the clinical examination, both specimens of the handwriting, and the findings from the alcohol determinations on blood and urine.

The two first questions laid before the Council are: 1) Is the accused's own explanation of his consumption of alcohol presumed to be correct?, 2) If not, may the consumption have been slightly, essentially, or far, greater than stated by him?

These two questions are answered according to a computation based on the concentration of alcohol in the blood, the weight of the accused, and the time which has elapsed since he commenced his consumption of alcohol and up to the time when the blood samples were drawn. The constants for the volume of distribution (r), and the constants for the drop in concentration per time unit (fj), as laid down by Widmark are applied to the computation. In determining the amount of alcohol present in the organism when the blood samples were drawn, a margin, of + 25 % is allowed for; in determining the amount of alcohol combusted a margin of
I shall not go into the legal value of these two questions.

The third, and last of the permanent questions is the most significant one, and purports to ascertain whether or not the accused may be considered as having been under the influence of alcohol at a certain stated hour or period (i.e. when the driving was performed) and if so, the degree of such influence. Here, it should be observed that the wording of the Act "unable to drive in a safe way on account of intake of alcohol" is not used. The Medico-Legal Council adheres on principle to the standpoint that it is beyond its authority to give any declaration as to the degree of alcoholic influence which renders a person unfit to drive in a safe manner. The Medico-Legal Council applies the term "under the influence of alcohol" in the sense: influenced so as to cause deviations from normal condition demonstrable by the tests applied at the clinical examination and/or the writing tests and referable to influence of alcohol. In accordance with this definition of the term "under the influence of alcohol" the answer of the Medico-Legal Council to the question whether the accused may be considered under the influence of alcohol must be based principally on the findings at the clinical examination and the writing test, whereas the concentration of alcohol in the blood only serves as a guide. The concentration of alcohol in the blood may be so slight that a diagnosis "under the influence of alcohol" made by the examining physician must be considered incorrect. In cases of moderate concentrations it is required that the deviations from normal conditions, diagnosed at the clinical examination, are definite whereas even slight deviations are taken into consideration in cases of high concentrations of alcohol in the blood. If nothing abnormal is found at the clinical examination or at the writing test, the Medico-Legal Council will conclude: "not influenced", without regard to the concentration of alcohol in the blood. I may mention here, that the writing test, according to our experience, constitutes a very valuable supplement to the clinical examination. The remaining proofs in the case, viz., the reports on the driving, the evidence on the accused's behaviour during the time preceding the driving, are of only secondary importance in the deliberations of the Council. Such information may operate to sustain or weaken the conclusion which is based on the clinical examination and the writing test.

If only a determination of the blood alcohol concentration but no clinical examination has been performed or, if the clinical examination has been made so late after the driving as to make it of no value, but alcohol, nevertheless, still was present in the blood, the answer of the Council must be based exclusively on the computed concentration of alcohol in the blood at the time of driving. In cases of this type the Medico-Legal Council only gives an opinion on the probability of an alcoholic influence, and consider themselves incapable of stating the degree of such influence. Here the Medico-Legal Council will rely on experience gained throughout the years as to the interrelation between the findings at the clinical examination and the concentration of alcohol in the blood. According to Danish experiences about 50 % of the persons examined will show clinical symptoms of being under the influence of alcohol at blood alcohol concentrations round 1 o/oo. At higher concentrations the frequency of positive findings will increase rapidly and at concentrations about 2 o/oo the fre-
quency will go up to 90—95%. Only in cases of concentrations at 2 0/o0 and above, and provided it is warranted by other circumstances, the Medico-Legal Council may sometimes declare that the accused has been under alcoholic influence without being able to base this assumption on the result of a clinical examination.

Of course details of the cases vary so much as to make it impossible to give anything but rough outlines of the procedure of the Medico-Legal Council in cases of the above description. The fact which I, particularly, want to emphasise is, that in the treatment of cases of the above nature, the Medico-Legal Council lays particular stress on the findings from the clinical examination, whereas the determination of the contents of alcohol in the blood is only taken as a guide.

By this procedure it is contemplated to apply such individualistic treatment to the various cases as the Act in its present wording presumably implies.

It cannot be denied that there is a certain discrepancy between this practice of the Medico-Legal Council and the practice of the Courts, in any case in the practice of certain judges. The Courts have, as far as I can see, an increasing tendency to lay decisive stress on the point of concentration of alcohol in the blood.

The question has been raised on various occasions whether it might be opportune to amend the Act and have it codified in conformity with those of Norway and Sweden, where a person is considered to be under the influence of alcohol if the concentration in his blood is beyond a certain limit.

In 1936 the Medico-Legal Council submitted a proposal for such amendment, viz., that a person with a 1 0/o0 or above concentration of alcohol in his blood in any case should be considered to be under the influence of alcohol. During my ten-year-connection with the Medico-Legal Council the question has not been taken up for general discussion and I am unable to say anything about the attitude adopted at present by the Council as a whole. The following observations of mine should therefore only be taken as my personal opinion which, of course, must bear the signs of a biological school of thoughts.

Considering the pronounced individual variation in human alcohol tolerance it must, biologically, be held wrong — and therefore probably unjust — to apply identical classifications to persons whose blood contains certain alcohol concentrations, without regard to their individual reactions to such concentrations.

From a biological point of view there is no fundamental difference between an alcohol concentration in the blood of 1.05 o/o0 and one of .95 o/o0, whereas there is a fundamental difference in conditions in which deviations from the normal may be ascertained in the physic as well as in the psychic functions, and those in which no such deviations are ascertainable.

By way of definition it might very well be provided that a person whose blood shows a concentration of alcohol of 1 o/o0 or above be considered to be under the influence of alcohol to such an extent as to make him unfit for driving motor vehicles. Seen from a biological point of view this must, however, be considered a rather arbitrary provision. The seriousness of the cases here dealt with ought to weigh heavily against the introduction of any arbitrariness in their treatment.

If a professional driver of motor vehicles forfeits his drivers licence suffer-
ings are inflicted not only on himself but on his whole family.

The argument that the treatment of these cases would be simplified by introducing a "concentration limit" is unworthy.

The only argument which according to my opinion must be taken into consideration is the argument that a concentration limit would serve "general prevention". It is up to the legislation to what extent this argument holds water, but as an ordinary citizen I should warn against sacrificing too much of the traditional individualistic treatment of law suits for the benefit of "general prevention".

Should a concentration limit ever be introduced in the Danish Traffic law, measures must be taken to avoid a completely theoretical treatment. Meting out graduated sentences must not be given up. And such meting out must be based not on the degree to which the blood alcohol concentration exceeds a certain, arbitrarily fixed, figure but on the fact, whether or not it may be proved that the condition of the accused deviated from his normal condition and on the degree of this deviation.

In the procedure practiced by the Danish Courts at present examples can be found of persons having shown clinical signs of being under the influence of alcohol but with a concentration below 1 o/oo who are only held liable to a fine, whereas persons having shown no such signs at all but with concentrations of alcohol in their blood beyond 1 o/oo are sentenced a 14-day-term of imprisonment. In my opinion this is unreasonable and well adapted to stimulate any doubts which might prevail as to the justification of introducing a definite "concentration limit" into the Motor Act.

**ADDENDUM**

Example of the deliberations of The Medico-Legal Council in cases of persons under the influence of alcohol while driving motor vehicles.

X., Lorry-driver Re-Nr. /1950
Born on the 14th February, 1918 (32 years old).

The Chief Constable at Bogense.

Charged with the offence of driving a motor vehicle while under the influence of alcohol on the 4th April, 1950, at 2.45 p.m.

On this occasion the accused was the driver of a big, empty lorry. At a bend of the road, turning sharply to the right in relation to the direction of traffic, he came so far over to the left of the road-way that he hit one of the left side way trees. The accused was not injured but considerable damage was caused to the car.

The police was informed by a named person, who observed the accident from his house close by. When the police arrived, the accused had left the car. There were no brake-tracks. A search for the accused was instituted but, in vain until he, three hours after the accident was found at his home. The police got the impression that the accused was under the influence of alcohol because he was self contradictory and his gait was rather unstable.

The explanation given by the accused to the effect that he had had one bottle of beer after the driving was confirmed by several witnesses.

*He stated that he had had:*

1 Beer at 10 a.m. — 11.45 a.m. 12 g
2 Snaps (Danish Corn Brandy) 20 g
2 Beers at 13 p.m. — 13.45 p.m. 24 g

after the driving:
1 Beer at about 15.15 p.m. 12 g

Consumption stated: 68 g
Blood sample at 6.15 p.m.: 1.48 % (1.42—1.50—1.52)
Urine sample at 6.15 p.m.: 1.96 % (1.90—2.02)
Computation: weight 75 kg.; estimated net weight 71 kg.

Present in the organism at 6.15 p.m.: medium 71 g min. 54 g
Combusted from 10 a.m.—6.15 p.m. (8 1/4 h):
Calculated consumption: medium 130 g min. 93 g

According to evidence given by witnesses it is presumed that the accused has had 3 more beers in the period between 10 a.m. and 11.45 a.m., thus making a total consumption of 104 g alcohol.

The medical examination, which was performed at 6.10 p.m., was undertaken by Dr. X., Bogense.

Conclusion: Slightly influenced. The pulse was rather accelerated, the face congested, and there were conjunctival injections. The gait was slightly unstable, and some swaying was apparent at Romberg's test. The movements of the arms and hands were stable. He faltered in cases of long words. Backwards counting was rather hesitating with a single mistake. He was rather logoucious and gave an impression of being elated. The specimen of his hand writing deviated definitely from the control specimen and included a couple of the typical errors. The degree of influence was, according to my opinion, close on "medium".

The alcohol consumed between 1 p.m. and 1.45 p.m. was consumed without food, and the absorption of this amount of alcohol must be presumed finished not later than at 2.45 p.m., when the accident occurred.

However, during the period from 2.45 p.m. to 6.15 p.m. the accused may have combusted about 25 g alcohol. Since he in the same period has only consumed 12 g there should at 2.45 p.m. have been 13 g more alcohol in his organism than was found at the examination, and correspondingly, the concentration of alcohol in the blood should have been about .25 % higher. It must be tenable to presume that he was influenced to the degree of "medium" at such concentration.

Proposed replies:
as regards no. 1) No.
as regards no. 2) According to the computation based on the concentration of alcohol in the blood, the weight of the accused, and the hours stated for the consumption of alcohol, it must be presumed that his consumption was essentially greater than stated by the accused, while it may be in conformity with the consumption stated by the witnesses.
as regards no 3) If the findings from the clinical tests at the medical examination be compared with the writing test and the determination of the alcohol contents in the blood, it must be presumed that the accused at the time of the medical examination was under the influence of alcohol towards "medium".

Even if it be taken into account that the accused after 2.45 p.m., and previous to the medical examination has consumed 1 beer, it must be presumed that the concentration of alcohol in the accused's organism was essentially higher than at the time of the examination.

On the facts of the case it must be presumed that the accused on the 4th April, 1950, at 2.45 p.m. was influenced by alcohol to the "medium" degree.
as regards no 4) No further observations.