Drinking experiment were carried out on male payed volunteers, recording polygraphy (EKG, cardiotachogramme, pneumogramme, etc.) continuously during all the experimental course, and setting various mental tasks intermittently and repeatedly.

Experiments lasted for 5 to 6 hours. Subjects at first took lunch at about 11:30, then finished a set of mental tasks, before alcohol, then they were given 120 ml of whisky, with a cup of water. After alcohol was drunk, an other series of mental task were given repeatedly, and blood letting for blood alcohol level evaluation also repeated.

One of these adopted mental tasks ia Random Number Generation Test (RN Test) which is originally developped by one of our colleague. This test has the characteristics of simple procedure and repeatability without learning effect.

Subjects were divided into two groups by changes of heart rate level after alcohol intake. In one group, Group A, the change for rise in heart rate level was considerably great, and in the other, Group B, the change was slightly or rather negative than before alcohol.

As to the results of RN test, in Group A the result was remarkable poor after alcohol, and in the other side, in Group B, the results was unchanged or rather improved than that of before alcohol.

The curve of change in heart rate level corresponds generously to that of blood alcohol level. Therefore, the heart rate level and the result of RN test are regarded as some of the indicators of alcohol
intoxication, and also that of recovery from inebriety.

**Fig. 1** Blood alcohol level (BAL) following the time transition. (mean value).

**Fig. 2** Difference in increase of heart rate level between two groups of subject (Group A and Group B).