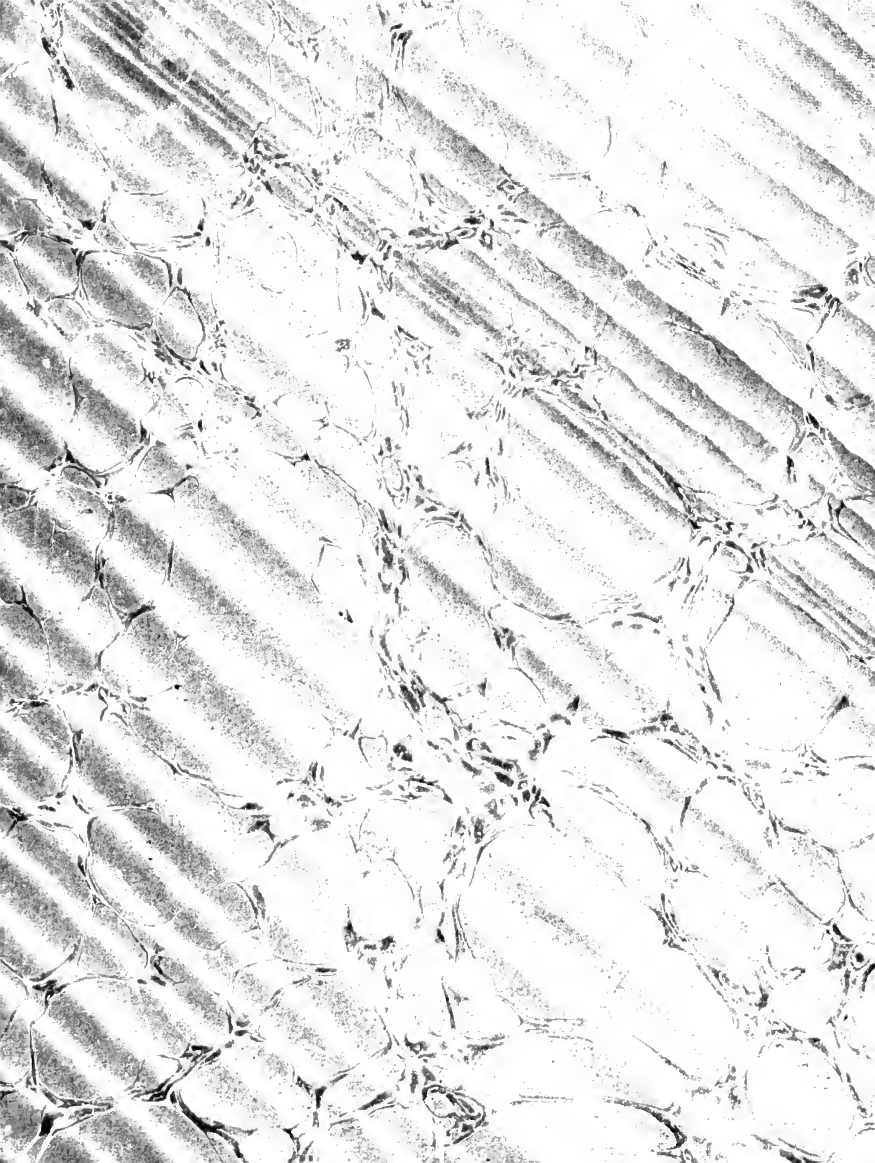

[illegible]

[illegible]

[illegible]

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[illegible]

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[illegible]

[illegible]

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[illegible]

[illegible]

[illegible]

[illegible]

THE NUMBER AND DISTRIBUTION OF TRIALS IN

LEARNING IN THE WHITE RAT.

The present study on the influence of the number and distribution of trials on learning in the white rat grew out of work already done along similar lines on human beings and out of the work on learning in animals along other lines. Ebbinghaus (1) in his pioneer work on nonsense syllables found that it was better to distribute the periods of learning over several days than to attempt all in one day. There was a saving of time and retention was better. The influence of the length and number of daily periods of learning has recently been further investigated by Pyle (2). He has shown that daily periods of half-hour practice in learning certain characters are, for most individuals, more profitable than longer periods. Again a second daily practice period "is not quite as beneficial as two first

practice". Apparently learning [illegible] periods of practice are distributed over [illegible], rather than accumulated on a single day. The work similar to that of Ebbinghaus and of Pyle had been conducted on animals before this study of the white rat was undertaken, and the experiments embodied in these problems were completed before Pyle's work appeared.

THE PROBLEM.

The object of the work here reported was to determine whether the rat, in learning a simple problem, learns more economically when making one trial or three or five trials per day, and also in learning two or three problems, whether it is more or less economical to learn one problem before beginning another, than to learn them concurrently.

APPARATUS.

Three different problems, involving the latch box, the maze and the inclined plane box, were used. The first two were employed once alone, and then in connection with

the inclined plane box. All three problems have been previously used in animal behavior, in similar or modified forms. None of them can be said to be difficult problems to learn.

The latch box (Fig.1) was a box frame about 18 cm. square and 18 cm. high. In the lower left hand corner of one side was a door, 12 cm. by 12 cm. The box, as well as the door, was covered with wire netting. A wooden latch was attached to the frame work of the box and this fitted in a notch on the door. Inside of the door was a light spiral spring which opened the door when the latch was released and also held the latch more firmly in its notch, as a result some pressure was required to push the latch upward. When the latch was raised the door would open, springing inward. The box was placed on a table. To avoid an undue amount of curiosity on the part of the rats, and, as far as possible, to re-establish conditions of cage life, the box was covered with a wire hood. One

side of the hood was hinged to the table to prevent shifting out of position. Opposite the hinged side and about ten inches from the door of the latch box was the entrance box of the hood.

The maze (Fig.2) was one not previously used in behavior work. The paths 12 cm. wide, were arranged in concentric circles, separated from each other by vertical partitions of sheet aluminum, 15 cm. high. These aluminum strips were set in grooves in a circular wooden base, 152 cm. in diameter. Wire netting in two semi-circular sections covered the paths and an additional circular piece covered the center. The arrangement of the openings to adjoining paths, and the cul de sacs are rather difficult to describe. The placing of these can be better understood by consulting Fig.2. The distance from the entrance to the center of the maze, when following a direct line, was 37 cm.

The inclined plane box (Fig.3), in general construct-

ion resembles the [illegible] box with the exception that the latch was inside the box and was released in a different manner. A wire chain connected with the latch passed over two pulleys attached to opposite corners of the upper frame work inside the box, then through the mesh of the wire netting to an inclined plane behind the box. Thus a rat stepping on the plane would release the latch from the notch and the door would open inward. The plane was about seven inches long and three inches wide and was hinged to the floor of the table on which the box rested. It was about 7 cm. behind the box and made an angle of about 15° with the table top when the door was closed. Like the latch box, the inclined plane box was covered with a wire hood.

METHOD OF EXPERIMENTATION.

Young white rats were used for experimentation. Usually, when thirty-five days old the mother and her litter were separated. When forty to forty-five days old

FIG. I
LATCH BOX.

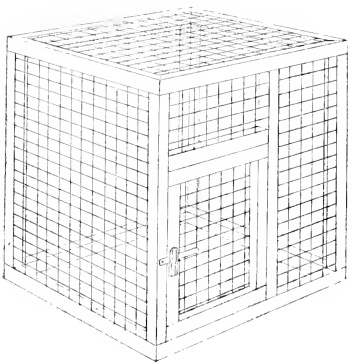


FIG II
MAZE

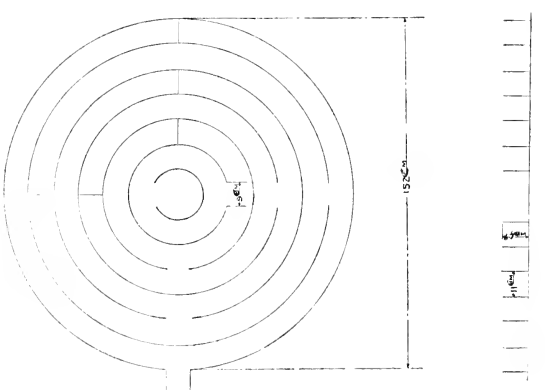
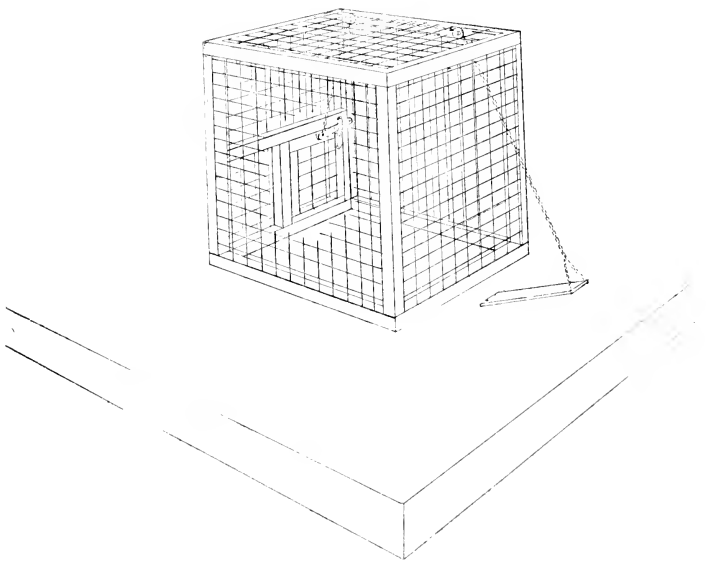


FIG. III
INCLINED PLANE BOX



the rats were divided into groups of two or four, according to sex. At this age the simple environment of the cage had not become monotonous and sleep was not indulged in a greater part of the day. The rats were then excitable and extremely curious, which conditions were ideal for experimentation. The rats were taken at an age when far less complex activities have been ingrained than the ones they must make in solving the problems. Movements were demanded of the rats which were very different from those usually made in the narrow environment of the cage.

A greater part of the work was done in the same room in which the rats were kept, and, as far as practicable, in the morning hours, though sometimes extended into the afternoon. Towards the end of all experimentation the work was conducted chiefly in the afternoon. As soon as food was prepared for the rats, work was started immediately. No delay was permitted and the experiment was continued usually without interruption. This was

done because it was early noticed how keen the rats were to feed when the operator first entered the room, and how this eagerness subsided after he had been present any length of time. This connection of the operator with the getting of food was seized upon as indicating a timely moment for work. Of course, when there were from five to ten groups of rats to work with, it was impossible to reach the last of them before this eagerness subsided, therefore a system of rotation in handling the groups was adopted, whereby the same group was not taken first every morning but every second or third morning. If the rats had been kept apart from the room in which the work took place, rotation would probably have been unnecessary.

The time for each trial was taken by a stop watch in minutes, seconds and half seconds. Later the seconds were converted into decimals of a minute. The time spent by the rats in nosing about in the entrance box was not considered, but from the moment when the rats entered the

maze or hood of the latch-box or inclined plane box. It was taken the entire period the rats remained in the hood or maze and up to the moment the problem was solved; that is, when the rats entered the center of the maze, or when the latch of the latch-box was raised, or when the plane of the inclined plane box was pushed down.

The next thing to consider is the incentive to activity. In all experimentation, food was used as a stimulus and consisted of a preparation of bread and milk. Besides this mixture grain and, occasionally, fruits were added. When food is properly controlled it becomes one of the best stimuli to arouse activities. Behavior under the desire for food or stimulation of hunger is in the nature of a normal life process. A mild degree of hunger gives tonicity to the muscles, and movements are sudden, numerous and active. In order to obtain the greatest activity, and not disturb general metabolism, particular attention must be paid to the kind as well as the amount

of food necessary. It was [illegible] metabolism was needful to success in learning.

LATCH BOX.

The latch box was the first problem worked with. All that was necessary to solve the problem was to open the door of the box. The solution was accomplished by the rats, either by raising the latch with their snouts or by some more complicated method. The snout was usually the agent for entrance, though not always the first adopted.

In the beginning of the work on this problem it was thought necessary, when taking rats at forty days old, to give a few preliminary daily runs in a square maze of the Hampton Court type, before actual experimentation. This was only done to familiarize young rats to strange surroundings and to accustom them to noise and confusion. This early preparation was continued in all but one test with the latch box when used alone, but was given up as unnec-

essary with other problems. It was found that these rats were quite ready to solve any problem offered them without such preparation. They were active at all times and not unduly disturbed by the change in their environment. After the preliminary runs in the square maze, the rats were fed for two days in the problem box. They were then given the first of the problems to solve.

At first the entrance box was taken to the cage in which the rats were confined and then a transfer was made to the hood, but this method was soon abandoned as it was found exceedingly difficult to move the rats without some handling. An untrained and excitable rat became greatly disturbed when placed in a closed cage and it usually took several minutes before it calmed down. A new procedure was therefore adopted. A rat was carried by hand to the entrance box of the hood and then admitted to the hood surrounding the latter box. The rats were handled as little as possible and by the time they

petted or [illegible]. [illegible] very timid, it was left a short time in the entrance box before it was permitted to enter the food.

A group of rats was given one trial, another group three trials and a third group five trials a day. The rats having had one trial were permitted to feed for a short time in the problem box. They were then removed and fed in their own cages. The ones which had three or five trials were allowed, after each trial, to nibble food for a very short time before starting the next trial. At the end of all trials these rats, like those given one trial, were fed in their cages. No harm seems to have resulted from not feeding the rats entirely in the problem box. On the other hand, there was a material advantage, for a variety of food was given which could have been impossible if fed in the box alone.

Daily experimentation was continued until a group of rats reached a norm or average of one second in three

successive days. Thus for rats given one trial a day the average would be taken of [illegible] trials, others given three trials of nine trials and still others given five trials of fifteen trials. It was scarcely, if ever, a difficult norm to reach for many of the more active rats entered the box in one quarter to one half of a second and the less active ones close on to one second, or finally in one second. This norm cannot be considered low, but on the contrary a moderately high one, as the slowest rats found it rather difficult to reach. Rats would reach this norm in one second or less when they went directly to the door and lifted the latch with their snouts. Any unusual way of opening the door or habitually going around the box would increase the time considerably. For these cases the time varied from one second and a half to two seconds. The norm was then taken at two seconds. When either norm was reached learning was assumed to be complete. The rats were then held for retention, which test was taken after

an interval of sixty days. In [illegible] of this work, the rats were tested after thirty days, but retention seemed so perfect at the end of this time that the interval was increased to sixty days. In the meantime the rats were not left idle but were still fed once a day after being again allowed to run in the square maze to keep them in trim. They were even permitted to run about after feeding. Thus the evils arising from close confinement to cage life were in a measure avoided. Several days before the retention tests were made, the freedom of the maze was restricted and the rats put back in the cage as soon as hunger was satisfied. This was done in order to prevent overfeeding and to again accustom them to short diets. Just before a retention test was taken, the rats were run once through the square maze. The tests were taken for two days only and no attempt at relearning was made. All that was desired was to determine how persistent was the habit learned.

EXPT 2.

obviously [illegible], as when [illegible] not entered the head, it ran directly for the door of the [illegible] box, the more timid ones approaching more cautiously. Sometimes they ran around all over the box, but eventually tackled the door. All the cats were very active and there was the case of indifference and utter helplessness. It was often a pleasure to watch their eagerness to get into the problem box for food. Usually this characteristic, in a high degree, was a correlate of the ability to learn. It was often noticed that movements were made which were far more complex than was necessary to solve the problem. Especially was this true when a solution of a problem was made in some unique way. The simple movement of raising the latch by the mouth was all that was required to open the door. Seldom was it the case that a cat adopted this satisfactory and simple method from the very beginning and maintained it throughout learning. Some modification

of [illegible] method [illegible] a head of [illegible] the
learning [illegible], however, [illegible] difficulty
[illegible] subject, [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
learned. Each [illegible] [illegible] [illegible] [illegible]
only, and then for [illegible] [illegible], [illegible]
and [illegible] method of [illegible] which [illegible] was
adopted.

The data obtained from [illegible] the [illegible]
box are found in Tables I-a, I-b [illegible] I-e. Table I-a gives
the number of trials each [illegible] of [illegible] took the
problem when given on [illegible], Table I-b for three
trials, and Table I-c [illegible]. The time for each
trial is given in [illegible] of [illegible]. The
averages for each trial for all [illegible] of the [illegible]
for males and females are found in [illegible] of the table.
At the end of each table are [illegible] in words [illegible]
averages. It will be noticed [illegible] were [illegible]

for [illegible] an interval of [illegible], and others [illegible] ranges of [illegible] interval [illegible] [illegible], [illegible] I-[illegible] I-[illegible] in addition, [illegible], the number of trials as well as the number of days in which the maze was learned.

[illegible] important fact to be noted in the examining these tables in succession, is that rats which were given one trial a day, required fewer trials than those given three or five trials, and that those given three trials fewer than those given five trials. It is just the reverse, seemingly, when taking into account the number of days as three and five trials required fewer days than one trial daily. On closer examination it will be seen that a few rats were trained somewhat beyond the time when they had reached the norm of one second or two seconds. This was done to obtain a satisfactory norm. Such a prolongation of [illegible] was scarcely harmful to

results. It has been effected by practice rather than not materially. If anything of the sort resulted it was the daily variations in distribution rather learning can assumed to be normal. These were, at times, higher than the norm. [illegible] for the rats as good as the last trial, but the averages for all the rats are better than those of the last trials. It cannot be said that the distribution is better for one than for three or five trials. Three trials seem to be the best of all. These results cannot be considered a true test of retention, for better methods of preparing the rats for the tests are necessary than those adopted, before something more definite can be ascertained.

The number of trials, or total time and errors which each rat required before it learned the problem is indicated on the distribution curve, Plate I. Though the rats were run in groups, but the mean was an error of one second in three successive days for all the rats in the

SIX DAYS

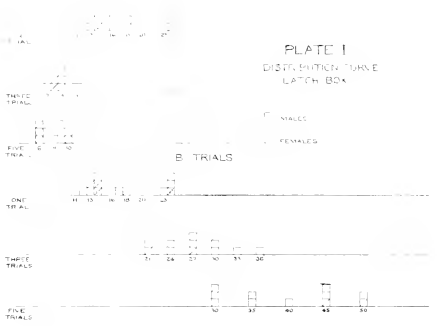
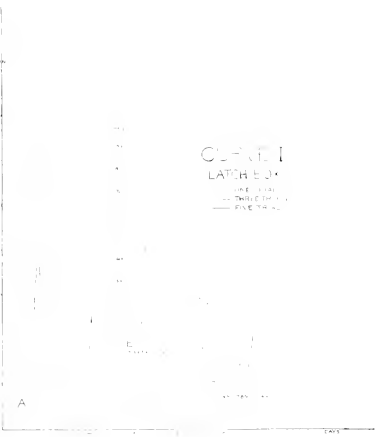


PLATE I

DISTRIBUTION CURVE

LATCH BOX



groups, [illegible] time experi[illegible] some rats of a group fi[illegible] Both the number of trials [illegible] problem are shown by small squared areas on base lines. Males are indicated by plain squares, females by squares with diagonal lines in them. Zeros on the three base lines at the lower left of the figure indicate the number of trials by rats finishing at each age, three by five trials more often, and so on. The upper part of the plate shows the number of rats. Rats which [illegible] learning the problem with a given number of trials are indicated by a single ribbon of that height.

The curve helps in understanding [illegible] individual differences. It will be seen that [illegible] trial a by filled learning [illegible] fewer trials but usually more days than [illegible] trial b. In addition there are a few [illegible] fewer trials

but [illegible] rats [illegible] trials a day.

[illegible] significant in [illegible] not in [illegible] that a rat is [illegible] trial [illegible] more [illegible] saving in trials, and, on the [illegible] hand, when [illegible] trials are given there is usually a saving in the number of days.

Before taking up the particular curve [illegible] shows the growth in the elimination of primal or [illegible] movements in the learning of the latch box problem, it would be well to describe, at this stage, the structure of all curves of this sort. All are plotted on the same scale. The time taken is the average time of trials of all rats. A length of one-eighth m.m. on the abscissa represents one trial, and one-[illegible] m.m. on the ordinate represents for curves A and B .005 of a minute and curve C .2 of a minute. [illegible]th on the abscissa and the ordinate only every tenth trial or every tenth .005 or .2 of a minute are respectively indicated. The early trials are on a scale of .2 of a minute, and later trials .005 of

a minute. [illegible] is division of [illegible] curves was found necessary because of the great [illegible] of the [illegible] if they were constructed on a scale of .06 of a minute; and if constructed on a scale of .01 of a minute, variations from trial to trial would scarcely be noticeable. When using the scale of .005 of a minute for later trials it was found possible to use such denominations as .015 of a minute, and .03 of one-half of a minute.

Having described the construction of the curves, features characteristic of Curve I of the latch box can be pointed out. The most important feature is the greater length and irregularity of curves representing the two and five trials as compared with one trial. The irregularity is seen especially in the early trials and is due to the fact that a few more trials are required before the rapid descent in the curve takes place. When one trial a day is given, this descent occurs in the eighth trial and with three and five trials a day, in about the eleventh trial. Already in the early trials there is an

indication of a number [illegible] will be required before the problem is learned. A retardation in learning is [illegible] evident. Again the curve for one trial a day shows that little effort was required after the descent of the curve, before the learning was completed. On the other hand greater effort was required after the descent with the three and five trials. This is shown not alone in the greater length of that part of the curves but also their irregularity. This is not true of all individual rats, for some learned the problem sooner than others, and, of course, finished sooner, as is indicated by the rapid drop in the curves. A small circle on each of the curves indicates just when the first rat left off learning, and the curve first reaching a circle is that plotted for one trial a day, the next for three trials and lastly for five trials. A possible cause for the greater number of trials indicated, when three and five trials

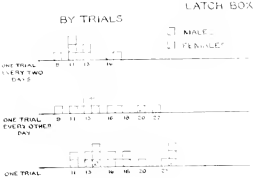
ing [illegible], free [illegible] tests to [illegible].

Tables I-1 and I-2, [illegible] Table I-1, show that [illegible] will cover 6 [illegible] of the [illegible], and of the two, I-1 and I-2, the [illegible] is the [illegible] very [illegible] is [illegible] of trials. In [illegible], a [illegible] longer [illegible] before the [illegible]. [illegible] found necessary [illegible], when trials were [illegible], after [illegible], are indicated in [illegible] on the distribution curve, Plate II.

[illegible] just [illegible], some additional data was taken. About [illegible] months were [illegible] experimental with [illegible] problem on the [illegible] Bay, Professor [illegible], of Union Institute, engaged [illegible] volume of [illegible] and soil [illegible] of the rate in each [illegible]. [illegible] were sent, after the [illegible] tests, to Mister [illegible] and

PLATE II

DISTRIBUTION CURVE
LATCH BOX



and before learning the problem. A learning guide [illegible] was given every day and every boy [illegible] different colors where the first set completed learning.

THE.

Though the maze was the last problem taken up, it is convenient to treat it at this point, for it is the only other problem taken alone. The plan of the maze has already been given and it differs in one important respect from the square maze in that it has no corners and only short turns from one part to another. For this reason it may be said to be an easier problem to learn. This plan of the maze had another advantage: towards the end of learning, the movements of the rats are confined to a quadrant of the maze and the observer could easily detect errors without changing his position.

As with the last two, the rats were divided into groups which were given one, three and five trials. The

norm [illegible] for the learning o[illegible] a run at average of six seconds in three consecutive [illegible]. In addition to this criterion, the runs had to be relatively free of error. No definite standard was set for an error, but one was counted when a rat turned in the direction of a wall he was not retraced its steps. Mere hesitation at any point was not considered an error. Such error is adopted as an additional criterion it seems to be one, in later words, the rule is this, for the runs in the maze were made at one time with no error in six seconds, and again with several errors in the same time. This is not because the standard of time is too high, for some rats can barely make an error-free run in six seconds. An active rat, on the other hand, may make the run in less than six seconds and have several errors to its credit. The norm established in this experiment was a run obtained in six seconds and relatively free from error.

That it became necessary to take into account errors

to determine what factors are involved in learning the maze. Two types of errors in this experiment which were not noticeable in learning the latch box problem. These must be eliminated before it can be said that the maze problem is solved. Running movements are chiefly in demand and such movements are far simpler than those involved in raising the latch of the latch box. Probably the most complex organized movements required in running the maze are those made in turning into another path quickly. As soon as these are integrated the time is materially lessened, for in nearly every case in learning the maze, speed was the first thing attained, the elimination of errors coming later. Errors were made often by running in the paths as they turning from one path into another one.

They seem to have been made because of interfering stimuli of the sort which cause distractions. There must take place, in order that a run be error-free, a more consistant or fixed interpretation of stimuli which bring

success. Seldom, however, is [illegible] organization of movements, which produce quick turns, in the proper instant of the ball work at first equally [illegible] learning the maze. [illegible] usually occurs when the latch bar is learned. Some movements are organized and at the same time speed is acquired. Not until the interaction of stimuli which produce the diving movements act properly will the run in the maze be free from error.

It is the influence of the former stimulus which evokes movements in position to the critical while learning is in progress. Some long [illegible] this stimulus acts in the early trials, however, [illegible] used in the experiment were taken, as Carr (3) [illegible] to his room on the square maze, "governed by a [illegible] clacks". In every case [illegible] the rats were led from the second path when the [illegible] odor of food and [illegible] was entirely removed [illegible] which was known by inactivity of the rats.

Thi[illegible] activit[illegible], however, [illegible] irregular. [illegible] stimulus is [illegible] intermittent i[illegible] manner, [illegible] is [illegible] most [illegible] maintained [illegible]. [illegible] early trials [illegible] the presence of [illegible] offering [illegible] stimuli, [illegible] rats [illegible] to be governed by curiosity.

[illegible].

[illegible] records [illegible] from [illegible] work [illegible] are not to [illegible], [illegible] them from the [illegible]. Some of the rats [illegible] a [illegible] right [illegible] of the [illegible] during a [illegible] [illegible] [illegible]. A few rats [illegible] [illegible] [illegible], were [illegible] [illegible] [illegible]. Their [illegible] of response [illegible] [illegible] seemed to [illegible] lack of [illegible]. Tables II-[illegible] and II-[illegible] show how these rats were [illegible] the data obtained. Table II-[illegible] [illegible] records of [illegible] rats. [illegible] considering the records [illegible] rats, one trial [illegible], [illegible] to [illegible] [illegible] [illegible] in a [illegible] of [illegible], [illegible] [illegible] [illegible] in re-

about [illegible].

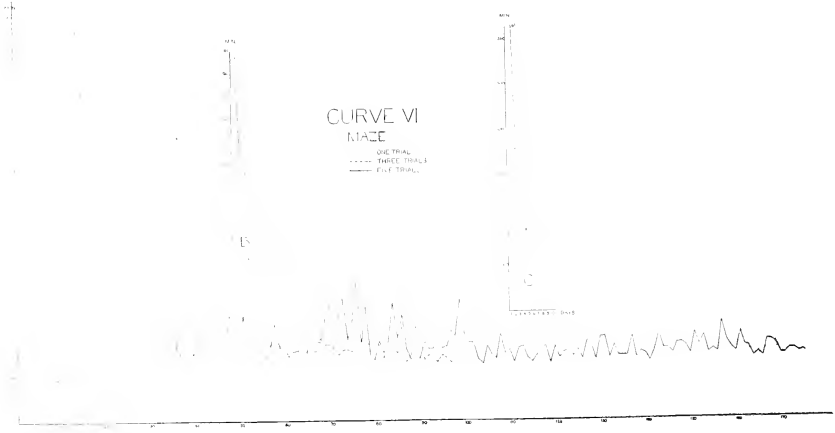
[illegible] Curve [illegible] II indicates clearly [illegible] [illegible] [illegible] num- ber of trials [illegible] required [illegible] i[illegible] [illegible], [illegible] trials daily [illegible], [illegible] trials, [illegible] trials required [illegible], [illegible] 775 trials, [illegible] the norm, must [illegible]. The average number of trials required [illegible], [illegible] trials daily [illegible] for [illegible], [illegible] trials [illegible], [illegible] dif- ferences [illegible] closely with the results [illegible].

Likewise Curve VI [illegible], [illegible] normal [illegible], [illegible]. The [illegible] individual curves [illegible], however, these [illegible] trials [illegible]

PLATE III

DISTRIBUTION CURVE

MAZE


CURVE VI
MAZE
ONE TRIAL
THREE TRIALS
FIVE TRIALS

unu[illegible]ll, lo[illegible] [illegible]. [illegible]ful ri[illegible]
most pronounced in the early trials before [illegible]
lessent in the curve is [illegible], though it [illegible],
in the curve of the trials [illegible] [illegible]. The
descent in the curve for five trials is [illegible] in the
first, for three trials it is [illegible], and for one trial in
the fifth trial. There is also in the [illegible]
of more or less irregularity, where exists a relation to learning. There I shall [illegible] for five trials, and correct for three trials, which is just the reverse of the [illegible] test of the hypothesis.

Before leaving [illegible], it would be well to [illegible] results obtained for [illegible] box will be given [illegible]. In the [illegible] learning when distributed over several [illegible] economical. [illegible] particular point will be reserved for later discussion, but it is of earlier interest to [illegible] the [illegible]. They all

have th[illegible] general [illegible], [illegible] takes
place aft[illegible] To [illegible] [illegible] reach
then the curves [illegible] to [illegible] or lesser ex-
tent. But they differ in [illegible] individual curves of
the one, those of five trials only of the more [illegible] much
longer and more irregular [illegible] those of the latch box.
This could be said also of [illegible] of the case when per-
fectly normal [illegible] were used. In all probability this
difference is due to the case being a more difficult
problem to learn, though it is said to be one where more
natural movements are made. The increase in length
may be due to the fact that an additional criterion,
error-free, has been added to that of time in determining
the norm of the case. It is certain that the cats would
have required fewer trials and the curves, as a consequence
would have been shorter if time alone had been considered.
The length of the curve would then approach that of
the latch box, yet the irregularity in the curves would

still remain.

[illegible]

Since it was found [illegible], at 96 hour intervals when one problem was employed, was the most economical in the number of trials, it was decided that three problems be given in succession, viz. one, three and five trials. The latch box, maze and inclined plane box were worked concurrently and always in the order named. With all three problems when one, three or five trials were given, a total of fifty-four rats were used. In the beginning, it was thought that the rats, which would have five trials daily for each problem, total of fifteen trials for the three problems, could not stand the strain of so many successive trials, but this did not prove true. The rats stood the tests well from the very first and no indication of fatigue or apathy was at any time noticable. The rats were a hardy strain similar to those employed with the latch box and were at all times

active and eager to get to their food. In all probability, if rest between trials had been given, the results would have been different. Only sufficient time was given after each trial for a little food. This seemed necessary, and was the only change in the method of experimentation from that with the latch-box alone. For the experiments with the latch-box and maze similar norms were used, an average of one second in three successive days for the former, and six seconds without error for the latter. For the new problem, the inclined plane box the norm was two seconds. The rats had to work on all three problems until all three norms were reached.

RESULTS.

Behavior: As might be expected, fundamental differences in behavior were noticable in learning the three problems together. Some rats found one problem more difficult than others. The most difficult one was the inclined plane box. Of interest, in this connection, was

a type of [illegible] down [illegible],
that was [illegible] problem alone [illegible].
The latch-box afforded an interesting [illegible]
this respect. Many [illegible] random [illegible] and unique ways
in solving this problem were evident when the
same problem was offered alone. Some rats would go to
the door, smell or touch the latch and go away, returning
later to raise the latch with their snouts. Other rats
would stand still before the door and move their heads
to-and-fro before making the decisive movement which
opened the door. At times there appeared to be a degree
of helplessness. Most of these obstacles to learning
were dropped suddenly and unexpectedly. Nothing very
significant in behavior was noticeable in the rats, when
in the maze, with the exception that fewer errors were
made; the greatest difficulty was to obtain speed. Since
the inclined plane box was not taken alone, but only with
other problems, no comparison can be made on these elements.

A few points in regard to the [illegible] inclined plane box problem are of interest. The movements of the rats were more complex than those involved in learning the maze or latch-box. At first the plane was set off by the rats accidently. Usually the noise of the opening of the door startled them, but gradually familiarity with the plane and the method of opening the door was established. This characteristic was first evident on the sixth or seventh day. At first movements were organized to push down the plane. Often when a rat had pushed the plane down, it would remain still for a time or wander off before going to the door of the box. There was no reaction to the noise of the door opening, and it appeared that an additional neural association of movements must be made before reaction could be facilitated. When this had taken place, learning was rapid.

The records for the two problems, then learned in succession, are found on Cards III, IV and V, a, b and c

DAYS

PLATE IV

DISTRIBUTION CURVE

LATCH BOX WITH TWO OTHER PROBLEMS

FEMALES

TRIALS

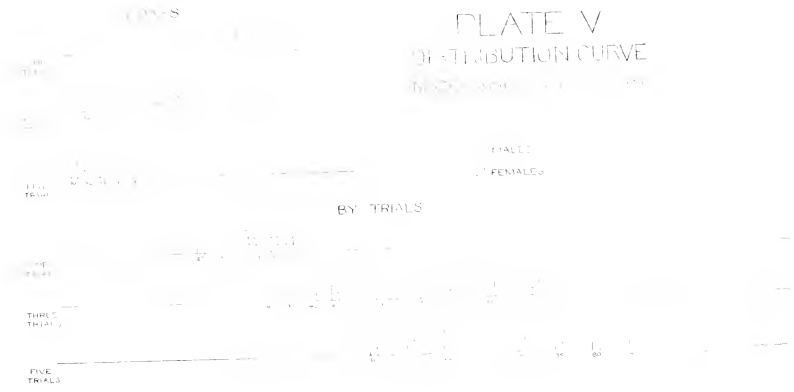


PLATE V
FEMALES
BY TRIALS
THREE TRIALS
FIVE TRIALS

BY DR. L.

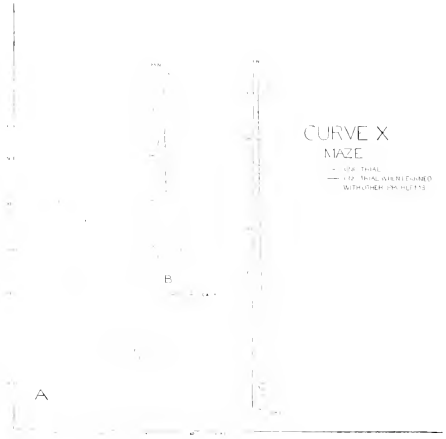
PLATE VI

[illegible] CURVE

IV and V of [illegible] three-box [illegible] Tubes I and III of [illegible] problems, [illegible] alone. [illegible] problems were [illegible] in succession with two inclined plane box, [illegible] usually [illegible] than when one problem was [illegible]. However, in [illegible] this [illegible], the records of the abnormal rats, when the maze was used alone, have not been [illegible] aberration. The time [illegible], therefore, [illegible] to learn the three problems is greater than [illegible] one problem is given. Learning is more difficult when problems are given concurrently than when one is given [illegible]. This can be seen better, perhaps, on the curves which show the growth of organized movements. Curves VII, VIII and IX are the same in general contour. The individual curves for one and three and five trials show differences in length and regularity. Again, curves representing three and five trials are more irregular than those of the trial. This is [illegible] chiefly of the early trials


CURVE VII


CURVE VIII


CURVE X
MAZE
B
A

before the rapid descent in the curves is made. After this the curves are more regular.

Besides this general appearance of the curves, there are some individual differences in the curves of the latch-box, maze and inclined plane box which are worthy of notice. The most irregular ones are those of the inclined plane box and the maze. This is also true of the individual curves representing one, three and five daily trials. This irregularity is again more pronounced in the early trials and is an indication that the problems are more difficult than that of the latch-box. The inclined plane box is the most complex and this condition is probably due to the neural associations which must be formed. Additional indication of this is seen in the number of trials required before the drop in the curves takes place. More such trials are necessary in the problems of the maze and inclined plane box than of the latch-box. This and the additional fact that learning is increasingly

more difficult [illegible] problems were learned [illegible], is represented by Curves VII, VIII [illegible] IX. The individual curves of the latch-box, [illegible], horse and fire trials [illegible] given with one or more problems, are represented on the curves. It is evident in each case that when one problem is given the curves are shorter and simpler. The same thing may be said of Curve X of the maze. This might be expected when consideration is given the fact that three sets of organized movements or intergrations must be learned simultaneously when solving the problems.

SUMMARY.

The results obtained from all the experiments of this study point to the conclusion that a trial given every two days is most economical as regards the number of trials. In other words, when learning is distributed over several days and not accumulated in one day, the total time of learning is the shortest. In all probability, such distribution of trials is physiologically

the most effective in [illegible] process, for it is apparent that less energy is consumed. Furthermore, one trial given daily, though not so profitable in learning as a trial given at greater intervals, remains more economical and effective than when several trials are given in succession. The further conclusion may be reached that, if several problems are given concurrently, fewer trials are necessary to learn them than if one problem had been learned completely before another had been undertaken. But it has been shown, when comparing the curves of several problems with those of one problem, that the former are more irregular and learning is more difficult.

On the other hand, when several trials are given, fewer days are required to learn a problem or problems. The most economical in the number of days is when one problem, with several daily trials, is given. Although there is a saving in the number of days, learning is increasingly difficult when several trials are given as

has been shown by several writers curves and also in the number of trials.

As a result the question arises as to the comparative value of a saving of days or a saving of trials. This can be answered by considering the amount of energy consumed and the span of life of the rat. If several trials are given and energy is too freely used, one trial is the most economical; but, if it is not used and no harmful results are evident, then several trials daily are the most advantageous in the number of days, and the number of days is of more importance when the short life of the rat is considered. If, in the life-time of the rat, several problems are to be learned, it is almost necessary to give several trials daily. This has additional weight when it is considered that the growth of the rat, when learning is best accomplished, is very great. The conclusion may be reached that, if the life of the rat is to be a strenuous one, several trials are more available,

but one [illegible] by [illegible] rather [illegible] trials will [illegible] prove to be [illegible] economical in the total [illegible] required for learning a problem.

[illegible] OF [illegible].

The rats are endowed with a physiological disposition to repeat [illegible], but native [illegible] required. Many of those which the rats [illegible] when confronted with a new situation or problem are more-or-less [illegible] and primal in nature. In the solution of a problem these primal movements are organized. The problem is then learned. It has been said that the learning process consists of the "mechanical stamping out" of the useless movements and the "mechanical stamping in" of the useful ones. There have been some objections to this supposition as to the method of learning in animals. The general objection, as raised by Hobhouse (1), is that it precludes intelligence. Since this paper will not touch upon the question of the presence or absence of intelligent activities,

[illegible] of [illegible]. Learning [illegible] to be due to facilitation of [illegible] responses. [illegible] no novel [illegible] be [illegible]. Their mechanism [illegible] evolved [illegible] their true value is lost when one [illegible] changed or useless.

The process of organization of movements shows certain objective manifestations. It may be said to consist of the animal passing from an inexitable state to an exitable one when a problem is understood, and, then, as soon as progress is made in the organization of movements, a disappearance of the exitable states occurs. This exitable state when the animal is first given the problem, is the emotional one so often mentioned. According to Dewey (6), it is the time when energy is provided and adjustments feature. This has been recently substantiated by Cannon (7) on the work of the function of adrenal secretions during emotional or exitable states. It seems that adrenalin in the blood increases the

are partially [illegible] of antagonistic muscles [illegible], [illegible] great excitement, disappears. [illegible] the rapid drop in the curve. With the more reliable work, there is an absence of the reflex convulsions of the body musculature. There is a little more ease and comfort and no clashing between opposing activities of different parts of the body. From this stage learning or the progress of the organization of movements will take place more smoothly and the curves become more regular. The stimulus hunger now dominates over the action of the body as a whole. When this has taken place, learning is said to be complete.

There are some differences in the course of events outlined above. Occasionally organization of movements was scarcely prolonged beyond the point graphically represented by the rapid descent in the curves. Especially was this the case at points of the curve showing when the first reflex drop off learning. Again when a problem is

relatively easy, or trials are given at greater intervals, as is indicated by Curve II, there is little of the irregular and steeple-like character to the curves; the descent of the curves is rapid. On the other hand, when the problem is difficult or several trials are given, the curves are more complex and irregular. There is some difficulty in forming early organized movements.

RETENTION.

Very little has been said regarding the retention characteristics of the rats. No definite conclusions have been reached in regard to the distribution and the number of trials on retention, for the results do not indicate whether retention is better after one, three or five trials when one problem was offered. In some cases one trial showed the best retention, and again three or five proved more effective. This might be accounted for by individual differences in the power of retention. The same doubt exists when three problems were given at once,

as to whether one, two or five trials were most beneficial in retention. But the retention tests, when three problems were given at once, seem to show that they are not as good as when one problem is given. This is the most interesting data obtained in these tests, other than the fact that relearning is much easier than learning.

The results are not conclusive. What is needed for retention tests are better systematic methods of preparation after learning is complete. The length of the period of preparation should be determined. All more attention paid to daily exercise, diet and disturbing influences which might affect perception tests. The principal disturbance noticed was that aroused by odors. It is an old obstacle often appearing in the work of learning, and how to control it is a difficult matter. The first trial of retention is often prolonged because of the detection of a new odor. Daily exercise and

diet are [illegible] though even food, especially in the diet, difficulties are 'run'. Our rat [illegible] in fat very rapidly on a small quantity of simple food such as bread and milk, whereas others will require a variety of food. Therefore, before anything can be concluded from the effects of the number of trials on learning, better methods must be devised for measuring retention. But something must be said of the retention of organized or integrated movements. These were often as perfect as when learning was completed. A slowness of action was also evident in the movements, but usually from an initial start was the speed regained. When, in lifting the latch of the latch-box, a rat would hold it: uncut for a short time (from ½ to 1 sec.) before making a movement up and to release it from [illegible]. Also in pulling [illegible], there was essentially a hesitation in pushing [illegible], and successive attempts were made before [illegible] accomplished.

Ev[illegible] this [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] to the noise of [illegible] [illegible] [illegible] rush
to the food. In the case of the mice, there was an in-
crease in the time of the runs with a recurrence of errors.

DISTURBANCES DURING LEARNING.

Learning is dependent upon many influences, both
internal and external. Internal influences usually defy
analysis, but the external ones can be more easily detected.
When a response out of the ordinary is noticed some
cause is looked for. Most of the external disturbances,
such as noises and great variations in temperature, can
be avoided. When ideal conditions prevail irrelevant re-
sponses diminish, and, since learning is dependent upon the
effectiveness of every previous response, every arrangement
to avoid disturbances ought to be [illegible].

[illegible] these external disturbances are [illegible] [illegible] con-
stant for successful [illegible] [illegible] than the control
of the stimulus which [illegible] responses. Especially

[illegible] properly controlled, it is [illegible] for experimental purposes. Too little or too much food results undesirably. It is a great mistake to overfeed the animal in order to increase the activity of the animal. This is especially harmful in the early trials when original movements are made and when an animal is acquiring skill. The animal may miss making a favorable movement that it might have made if there had been better hollily tone. Oftentimes, it appears, that it is the control of the amount of food which hinders learning. When either too little food motivation a maximum of effort is obtained without disturbance to metabolism.

Because of the disturbances to metabolism the supposed numerousness of hunger as a stimulus, objectionable have been raised against it, and it has at some other stimulus has been substituted. But objection is not well founded. [illegible] stimuli used, never seem

to find the general tonicity of the muscles and the movements are far more violent than those evoked by punishment or any other stimulus. Any stronger stimulus than hunger, such as punishment, has an unfavorable effect on the animal. A stimulus, as an electric shock, has a decided effect on antagonistic muscles; there is an inhibition of these muscles and since these play an important role in the process of the organization of movements the learning process must be interfered with. Harmful results in the long run must ensue. Learning, no doubt, does take place, but not naturally. No better evidence for this statement can be had than what any strong stimulus, as it is usually found necessary to employ, causes a spread or irradiation of reflexes and movements, which are unnecessary to learning. Punishment appears to be far from being as natural a stimulus as hunger.

DISCUSSION.

Put on trial, daily, over a longer period, consumes less time, and, as a consequence, less energy, is of some physiologic interest. One trial arouses a start after the first trial and the animal is a little fearful, the second trial would heighten the tendency to the same movements which, in the first trial, proved useful, and this tendency would be more beneficial in all succeeding trials up to a point at which the animal becomes mildly fatigued. The effect of one trial would be to diminish the resistance so that the second trial would evoke responses more easily. There would also be a process of summation, and facilitation or "Bahnung" would be accomplished. This is, when all things are equal, a regular process in the functioning of reflexes. But this does not seem to be the case when several trials are offered in succession. Trials distributed over several days consume less time and less energy.

No observable difference in [illegible] evoked by each trial, [illegible] in succession, was recognized. It seems probable that the rat was less active in the last of the succeeding trials. Frequently the last of three and five trials was accomplished in a shorter time than the ones preceding. The changes which must take place cannot be detected by observation of the animal's behavior; they are evidently physiological. Probably when the time between trials is of such a length that the physiological state created by the preceding one is permitted to "set", so to say, before the next one is given, every trial is effective. Learning is dependent upon every successful and effective trial. If several trials are given in succession, only the physiological state created by the first trial is of advantage in learning, the others do not, to any great extent, reinstate the conditions of the first trial; time must intervene between trials so that the physiological state of the

second will refute or [illegible].

At one time we [illegible] something to [illegible] necessary to learning, when several were given daily, but if its stimulus has possibly only an indirect effect. There might arise, because of unsatisfied hunger after the first meal, bodily disturbances which would interfere with the proper functioning of the digestive mechanism while the second or succeeding trials are given. A flow of gastric or salivary secretion would consume a loss in bodily tone. Moreover, we must remember that a stimulus [illegible] repeated, often times produces depression, [illegible] not always reactions [illegible] same in rat [illegible].

CONCLUSION.

[illegible] results obtained from this study can be summed up in a few words.

When food is used as a stimulus it is [illegible] for successful learning [illegible] and we call it [illegible]

be properly [illegible]. [illegible] [illegible] [illegible]
important being [illegible] learning, and [illegible]
this [illegible] in [illegible] trials [illegible] learning is laborious
and there is a change in the amount as well as in the
periodicity of [illegible].

The experiments show that a trial [illegible] by two
days, is more economical [illegible] than [illegible] trials, that
is, even the number of trials is distributed over several
days the total time required for learning is the shortest.

Again one trial given daily with either one problem
or several in succession, is less economical than several trials
given daily. All it is easier to
give one problem [illegible] than several at [illegible].

When several trials are given daily with one or more
problems [illegible] are required to learn either one or
several problems.

From the above, for [illegible] the total time
for energy consumed, learning distributed over several

days is the most economical.

TABLE I — [illegible] OF TOTAL.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
[illegible]	1	9.55	1.32	.175	.150	.133	.083	.035	.070	.024	.041	.033	.041	.066	.075
	2		4.12	4.00	.333	.050	.050	.024	.083	.028	.024	.016	.033	.041	.008
	1	45.0	49.0	.00	.633	.035	.100	.024	.044	.333	.016	.022	.016	.033	.100
	2	4.50	3.66	1.83	.088	.333	.066	.033	.066	.033	.016	.016	.133	.033	.050
	3	.350	2.50	.250	.050	.058	.070	.066	.024	.076	.016	.076	.024	.010	.010
	1	.300	1.0	.134	.050	.116	.033	.043	.016	.016	.066	.024	.016	.008	.008
	2	2.02	10.0	.100	.050	.050	.033	.041	.016	.024	.016	.008	.074	.008	.016
	1	.716	.300	.166	.183	.200	.100	.200	.134	.083	.033	.058	.024	.016	.066
	2	4.71	10.8	.333	.266	.250	.054	.134	.016	.083	.016	.024	.024	.024	.016
Donald	1	6.16	.950	.255	.283	.158	.043	.066	.250	.066	.041	.066	.041	.024	.016
	2.	7.75	14.6	7.33	1.15	7.56	8.25	.350		.291	.183	.183	.108	.083	.116
	1	.300	.158	.300	.124	.183	.083	.020	.050	.016	.016	.043	.033	.050	.024
	2	.083	.083	.133	.024	.058	.100	.041	.033	.074	.041	.033	.150	.033	.033
	3	10.2	1.01	.066	.116	.024	.174	.016	.050	.024	.016	.012	.016	.016	.008
	1		22.4	.175	.433	.483	.124	.024	.150	.058	.166	.016	.016	.008	.008
	2	3.46	1.18	.084	.100	.034	.024	.024	.016	.016	.033	.041	.016	.016	.016
	3	.730	16.0	.500	.150	.050	.133	.316	.020	.116	.024	.016	.016	.016	.016
Averages	17	6.37	8.99	1.16	.244	.574	.601	.085	.059	.064	.044	.036	.045	.028	.032
	9	8.40	10.8	1.81	.200	.135	.056	.065	.042	.060	.027	.024	.042	.027	.034
	8	4.05	6.93	1.09	.290	1.06	1.31	.107	.081	.070	.065	.050	.049	.030	.029

Retention.

	15	16	17	18	19	20	21	22	23	24		1	2	
1	.033	.041	.033	.016	.024	.033	.008	.016	.008			.008	.008	*
2	.016	.008	.050	.024	.016	.033	.016	.008	.024			.050	.024	*
1	.016	.024	.008	.016	.012	.012						.017	.016	
2	.020	.020	.020	.016	.024	.008						.041	.050	
3	.066	.016	.016	.008	.012	.004						.074	.026	
												.58	.024	
												.12	.016	
1	.033	.033	.033									.033	.016	
2	.016	.016	.016									.033	.033	
1	.016	.041	.083	.141	.024	.033	.016	.016	.008			.066	.016	*
2	.050	.041	.066	.074	.100	.024	.016	.016	.008			.033	.016	*
1	.016	.024	.016	.008	.016	.024	.008	.016	.008	.016		.083	.024	
2	.100	.024	.024	.033	.033	.033	.024	.024	.033	.033		.050	.024	
3	.150	.016	.008	.008	.008	.012	.008	.024	.016	.008		.033	.016	
												.041	.024	
												.116	.033	
												.041	.041	
17	.044	.025	.031	.034	.026	.021	.013	.017	.015	.019		.097	.030	
9	.022	.022	.025	.016	.017	.018	.012	.012	.016			.026	.024	
8	.066	.029	.039	.052	.036	.025	.014	.019	.014	.019		.110	.037	

*Thirty Days.

TABLE IV LATCH BOX FREE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	9.20	.166	.440	1.56	.266	.053	.033	.016	.024	.100	.041	.050	.015	.016
	2	1.93	6.38	.650	.071	.141	.108	.033	.083	.083	.024	.016	.033	.033	.033
	1				7.18	12.0	3.71	1.66	.083	.083	.033	.083	.024	.033	.024
	2	14.0	.800	.241	.750	.033	.085	.014	.158	.024	.091	.250	.050	.016	.024
	3	8.23	.235	.241	.741	.208	.035	.024	.024	.016	.024	.024	.020	.016	.191
Females	1	.416	9.00	1.08	.033	.100	.050	.024	.066	.024	.012	.016	.013	.133	.016
	2	8.56	.833	.483	.133	.300	.091	.024	.024	.208	.008	.016	.024	.066	.016
	1	30.	.833	1[illegible].0	.250	.050	.133	.033	.024	.024	.024	.024	.024	.066	.166
	2	3.11	6.41	.566	.083	.033	.066	.016	.033	.016	.016	.016	.016	.083	.050
	1	19.0	.266	.233	.500	.500	.083	.266	.166	.016	.100	.024	.024	.058	.024
	2	2.83	1.[illegible]8	.266	.750	.233	.500	.150	.083	.050	.058	.041	.033	.024	.016
Averages	11	9.22	2.01	1.61	1.09	1.26	.440	.218	.059	.051	.044	.050	.032	.049	.052
	5	8.34	1.89	3.83	2.06	2.50	.793	.354	.072	.046	.054	.082	.045	.022	.057
	6	9.81	3.10	2.43	2.91	.202	.153	.085	.066	.056	.036	.022	.012	.071	.048

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.024	.216	.116	.016	.016	.033	.016	.016	.033	.016	.008	.016	.016	.008
2	.050	.050	.033	.024	.016	.008	.033	.016	.024	.008	.008	.016	.024	.016
1	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.012	.008	.008
2	.024	.024	.016	.016	.016	.016	.016	.024	.083	.008	.016	.016	.016	.016
3	.016	.024	.133	.016	.016	.016	.100	.016	.008	.066	.033	.016	.016	.016
1	.012	.016	.016	.008	.008	.008	.008	.050	.008	.008	.012	.008	.016	.012
2	.024	.024	.016	.016	.024	.016	.158	.008	.008	.008	.016	.012	.016	.008
1	.050	.024	.033	.008	.016	.016	.008	.024	.008	.004				
2	.050	.024	.016	.016	.016	.008	.008	.016	.008	.024				
1	.058	.033	.024	.016	.024	.024	.016	.016	.016	.016	.016	.016	.016	.016
2	.041	.024	.050	.041	.033	.016	.016	.008	.008	.008	.012	.008	.008	.008
11	.033	.045	.042	.017	.018	.016	.035	.019	.020	.016	.015	.013	.015	.012
5	.026	.066	.032	.017	.016	.017	.036	.017	.032	.022	.016	.015	.016	.012
6	.039	.024	.025	.017	.020	.014	.035	.020	.009	.011	.014	.011	.014	.011

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.008	.016	.016	.016	.024	.016	.033	.050	.016	.024	.008	.016	.016	.008
2	.050	.016	.024	.008	.008	.008	.008	.008	.008	.016	.008	.008	.016	.016
1	.016	.016	.016	.008	.008									
2	.008	.016	.016	.008	.016									
3	.008	.008	.008	.008	.016									
1	.008	.016												
2	.008	.024												
1	.016	.016												
2	.016	.016												
11	.015	.016	.016	.009	.014	.012	.020	.029	.012	.020	.008	.012	.016	.012
5	.018	.014	.016	.009	.014	.012	.020	.029	.012	.020	.008	.012	.016	.012
6	.012	.018												

Retention.

	43	44	45		1	2	3	4	5	6				
[illegible]	[illegible]	.016	[illegible]		.033	.016	.035	.016	.016	.024				
[illegible]	.008	.008	.012		.016	.016	.004	.016	.016	.008				
							Thirty Days							
					.016	016	.008	.016	.008	.008				
					.020	.008	.008	.008	.008	.008				
					.012	.008	.008	.033	.008	.016				
					.010	.008	.050	.008	.008	.008				
					.016	.016	.024	.024	.016	.016				
					.050	.012	.008	.008	.008	.008				
					.033	.058	.008	.008	.008	.016				
					.013	.012	.012	.016	.016	.008				
					.017	.016	.016	.016	.008	.008				
11	.008	.012	.018		.021	.017	.015	.015	.009	.010				
5	.008	.012	.018		.016	.010	.003	.019	.008	.010				
					.024	.020	.019	.013	.010	.010				

Thirty Days

TABLE I-c LATCH BOX FIVE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males.	1	21.5	.733	1.10	1.06	52.0	.285	.050	.016	.016	.024	.066	.024	.066	.050
	2	6.00	1.15	.550	.550	15.0	.050	.866	1.75	1.43	.033	.233	.033	.050	.066
	1	2.66	.950	.266	.041	.050	7.01	.050	.024	.016	.024	.074	.016	.016	.016
	2	1.61	1.15	.766	.283	.183	.041	.133	.174	.116	.016	.033	.033	.024	.033
	1	2.66	.950	.266	.041	.050	4.01	.050	.024	.016	.024	.074	.016	.016	.016
	2	1.51	1.15	.774	1.28	.666	.041	.133	.174	.116	.016	.033	.033	.024	.033
Females	1	.516	6.33	.366	.166	.783	.116	.067	.158	.066	.074	.024	.016	.033	.041
	2	.583	.850	.500	1.31	.383	.083	.050	.116	.183	1.90	.083	.024	.266	.083
	1	.833	.150	.533	.350	.124	.016	.008	.083	.066	.016	.016	.024	.016	.008
	2	9.08	1.36	.500	.466	1.76	.333	.016	.016	.024	.016	.033	.150	.083	.024
	3	.516	.166	.066	.066	.416	.066	.083	.034	.008	.058	.033	.033	.033	.083
Averages	11	4.30	1.35	.517	.505	4.67	1.09	.156	.233	.187	.200	.063	.036	.057	.041
	6	6.01	1.01	.620	.534	7.99	1.90	.215	.360	.285	.022	.085	.025	.032	.035
	5	2.26	1.77	.393	.471	.693	.122	.044	.081	.069	.412	.037	.049	.086	.047

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.033	.008	.008	.008	.016	.008	.016	.100	.008	.074	.041	.024	.016	.016
2	.216	.066	.016	.166	.116	.083	.016	.008	.024	.124	.050	.008	.008	.016
1	.016	.016	.024	.016	.016	.533	.016	.024	.158	.016	.041	.016	.016	.024
2	.033	.033	.024	.016	.016	.100	.016	.008	.008	.008	.004	.012	.016	.016
1	.016	.016	.024	.016	.016	.533	.016	.024	.016	.150	.034	.016	.016	.024
2	.033	.100	.033	.024	.016	.016	.016	.008	.008	.008	.004	.012	.016	.016
1	.033	.008	.016	.083	.016	.083	.183	.041	.200	.016	.024	.041	.024	.050
2	.024	.066	.066	.024	.016	.233	.024	.150	.150	.033	.083	.016	.233	.100
1	.016	.016	.024	.008	.016	.016	.024	.024	.016	.016	.016	.016	.016	.024
2	.012	.008	.024	.091	.050	.016	.016	.016	.016	.016	.016	.008	.008	.016
3	.033	.008	.050	.033	.033	.016	.008	.016	.024	.024	.024	.016	.016	.024
11	.042	.031	.028	.044	.029	.148	.031	.038	.057	.044	.030	.016	.035	.029
6	.057	.039	.021	.041	.032	.212	.010	.028	.037	.063	.029	.014	.014	.018
5	.023	.021	.036	.047	.026	.078	.051	.049	.081	.021	.032	.019	.059	.042

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.016	.008	.033	.016	.008	.024	.008	.050	.016	.008	.016	.008	.008	.016
2	.024	.016	.008	.033	.008	.008	.016	.008	.008	.008	.008	.008	.008	.008
1	.041	.133	.008	.008	.008	.008	.050	.008	.008	.008	.024	.016		
2	.012	.012	.008	.008	.008	.016	.016	.008	.008	.004	.004	.004		
1	.041	.133	.083	.224	.008	.016	.016	.016	.024	.012	.024	.008	.008	.024
2	.012	.012	.016	.012	.012	.008	.008	.016	.008	.008	.008	.016	.008	.008
1	.041	.024	.016	.016	.016	.016	.016	.016	.008	.016	.016	.012	.050	.016
2	.433	.083	.016	.050	.033	.041	.016	.008	.024	.024	.016	.016	.016	.016
1	.016	.008	.008	.008	.008	.008	.008							
2	.004	.008	.016	.008	.008	.008	.008							
3	.024	.016	.008	.008	.008	.008	.008							
11	.060	.041	.020	.035	.011	.014	.015	.016	.010	.011	.014	.011	.016	.014
6	.024	.052	.026	.050	.008	.013	.019	.017	.012	.008	.014	.010	.008	.014
5	.103	.027	.012	.018	.014	.016	.011	.012	.016	.020	.016	.014	.033	.016

	43	44	45	46	47	48	49	50						
1	.008	.008	.016											
2	.016	.008	.024											
1	.008	.016	.024	.008	.008	.016	.008	.016						
2	.008	.016	.008	.008	.008	.008	.016	.016						
1	.016	.008	.008	.016	.016	.008	.008	.024						
2	.008	.008	.016	.008	.008	.008	.008	.012						
11	.010	.010	.016	.010	.010	.010	.010	.017						
6	.010	.012	.018	.008	.008	.012	.012	.016						
5	.012	.008	.012	.012	.012	.008	.008	.018						

Retention.

	1	2	3	4	5	6	7	8	9	10				
1	.016	.016	.016	.016	.016	.016	.024	.008	.008	.008				
2	.024	.024	.008	.012	.016	.016	.016	.016	.008	.016				
1	.024	.024	.024	.050	.033	.016	.166	.016	.008	.017				
2	.024	.012	.024	.050	.016	.008	.008	.008	.008	.008				
1	.024	.008	.024	.050	.033	.016	.016	.016	.008	.024				
2	.024	.583	.024	.050	.016	.008	.008	.008	.008	.008				
1	.033	.016	.008	.016	.033	.050	.008	.008	.050	.500				
2	.058	.008	.016	.008	.016	.016	.008	.024	.042	.500				
1	.033	.016	.016	.033	.016	.008	.016	.008	.008	.016				
2	.350	.016	.016	.016	.016	.016	.008	.004	.008	.058				
3	.583	.016	.016	.016	.016	.016	.016	.016	.016	.024				
11	.117	.066	.046	.053	.045	.016	.010	.017	.028	.079				
6	.022	.111	.022	.038	.021	.033	.064	.014	.033	.013				
5	.231	.013	.074	.027	.029	.021	.011	.012	.023	.158				

TABLE I-d LATCH BOY EVERY OTHER DAY.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Values	1	30.3	4.56	.333	.416	.500	.100	.050	.166	.033	.058	.024	.016	.016	.016
	2	30.6	1.63	1.75	.016	.118	.100	.886	.033	.016	.024		.016	.008	.012
	1	.766	.241	.124	.250	.066	.083	.016	.016	.016	.008	.016	.016	.016	.008
	2		10.8	1.50	.216	.133	.116	.083	.100	.062	.058	.100	.024	.016	.041
	1	.750	.500	.150	.016	.500	.058	.033	.024	.050	.041	.016	.016	.016	
	2	.300	.550	.150	.083	.024	.024	.033	.024	.050	.050	.016	.008	.016	
	1	.583	1.08	.783	.233	.150	.033	.033	.016	.016	.024	.016	.008	.016	.008
	2	.166	.433			.500	.350	.066	.033	.033	.050	.033	.033	.050	.008
Females	1	1.11	.500	.141	.166	.008	.008	.033	.016	.016	.008	.084	.050	.033	.008
	2	7.53	1.83	1.50	1.25	.266	.033	.033	.033	.033	.033	.150	.016	.024	.041
	3	30.3	1.63	.116	.220	.166	.016	.083	.116	.108	.024	.024	.024	.016	.033
	1	.200	1.06	.783	.208	.350	.083	.033	.100	.016	.016	.008	.008	.008	.008
	2	.216	.121	.333	.016	.024	.016	.016	.016	.016	.074	.066	.016	.008	.008
Averages	13	8.38	1.93	.663	.250	.215	.078	.107	.053	.035	.052	.046	.019	.018	.017
	8	8.77	2.45	.680	.170	.248	.108	.150	.051	.034	.039	.031	.017	.019	.015
	5	7.83	1.07	.634	.370	.162	.041	.059	.056	.037	.021	.066	.022	.017	.019

	15	16	17	18	19	20	21	22			Retention 1	2		
											.633	.050		
											.033	.066		
1	.008	.008	.008	.008	.008	.008	.016	.016			.080	.016		
2	.050	.041	.024	.041	.024	.016	.016	.016			.024	.024		
											.166	.166		
											.916	.016		
1	.016	.016									.024	.008		
2	.016	.016									.100	.016		
1	.024	.028	.033	.033	.050	.033					.016	.016		
2	.083	.017	.016	.016	.008	.008					.08	.033		
3	.016	.016	.016	.016	.008	.008					.033	.024		
											.024	.016		
											.583	.016		
13	.030	.019	.019	.022	.019	.014	.016	.016			.204	.032		
8	.022	.020	.016	.024	.016	.012	.016	.016			.230	.032		
5	.041	.018	.021	.021	.022	.016					.147	.021		

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain M_2O	Cord M_2O	Body Length	Tail Length	Age
1	1	1.8759	.1950	118.7	78.443	72.094	170	137	148
7	30	1.4996	.4058	104.9	78.[illegible]	72.285	168	137	148
9	9	1.6415	.4890	134.8	78.301	71.67[illegible]	166	134	148
20	22	1.[illegible]359	.5889	74.5	78.108	71.820	119	110	148
23	23	1.9267	.5248	199.8	78.030	70.10[illegible]	191	155	145
13	13	1.7464	.5119	111.1	78.5[illegible]	71.147	186	151	14[illegible]
12	12	2.0643	.6055	254.[illegible]	78.374	71.82[illegible]	231	160	144
15	15	1.8730	.5410	190.7	[illegible].060	72.366	189	160	144
28	28	1.[illegible]547	.3977	100.[illegible]	[illegible].210	71.707	170	137	148
24	24	1.4975	.3[illegible]70	92.6	78.517	72.287	153	117	148
17	17	1.5642	.4250	114.2	78.[illegible]76	71.768	164	136	148
11	11	1.7824	.4820	151.1	78.742	72.323	176	150	144
14	14	1.7776	.5[illegible]87	147.4	78.454	72.107	179	159	144
		1.6960	.4640	137.5	78.419	71.816	173	140	146
		1.7210	.4781	147.8	78.[illegible]36	71.664	181	141	146
		1.6558	.4414	1[illegible]7.0	78.519	72.058	165	137	146

TABLE I-e LATCH BOY EVERY TWO DAYS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	5.66	3.66	.058	.100	.016	.016	.183	.066	.033	.033	.008	.016	.016	
	2	21.3	.333	.383	.083	.150	.033	.024	.024	.016	.016	.008	.008	.008	
	3	17.3	4.16	.783	.183	.033	.150	.183	.183	.033	.033	.016	.008	.016	
	1	1.31	1.38	.400	.250	.041	.083	.024	.066	.041	.016	.016	.050	.100	.024
	2	.816	.708	.100	.650	.058	.083	.083	.066	.041	.016	.016	.016	.033	.066
Females	1	1.41	.500	.033	.083	.024	.033	.016	.016	.016	.008	.016	.033	.016	.016
	2	35.0	3.06	1.88	.700	.850	.233	.050	.033	.033	.033	.016	.016	.016	.016
	1	.400	.333	.100	.116	.100	.050	.066	.016	.033	.008	.008			
	2	1.16	.200	.166	.050	.016	.016	.150	.050	.016	.016	.008			
Averages	9	9.38	1.58	.433	.246	.143	.077	.086	.057	.029	.019	.012	.021	.029	.030
	5	9.29	2.04	.344	.253	.059	.075	.099	.081	.033	.022	.012	.019	.034	.045
	4	9.49	1.03	.544	.237	.247	.083	.070	.028	.024	.016	.013	.024	.016	.016

	15	16	17			Retention. 1	2							
						.041 .174 .116	.016 .016 .016							
1 2	.016 .016	.016 .016	.016 .016			.066 .191	.034 .016							
1 2	.008 .016					.024 .041 .108 .616	.016 .034 .083 .016							
9	.014	.016	.016			.154	.056							
5	.016	.016	.016			.084	.019							
4	.012					.197	.034							

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain $\%H_2O$	Cord $\%H_2O$	Body Length	Tail Length	Age
[illegible]	17	1.7214	.5181	152.9	78.425	72.049	191	149	165
[illegible]	15	1.9192	.5469	1[illegible].1	78.277	71.110	195	156	145
[illegible]	11	1.8005	.5813	1[illegible].7	78.263	71.398	1[illegible]	154	145
17	17	1.8210	.5002	187.3	78.216	71.251	193	148	157
[illegible]	13	1.7952	.5274	186.0	78.354	71.256	195	[illegible]	137
9	9	1.7601	.4836	146.2	78.529	72.045	183	147	114
15	15	1.7751	.4821	149.8	78.698	72.101	177	151	144
11	11	1.9099	.4911	142.1	77.869	70.780	179	158	157
11	11	1.7378	.4778	140.9	78.046	71.105	174	14[illegible]	157
		1.8240	.5054	160.4	74.954	71.452	185	151	150
		1.8466	.5228	176.8	78.289	71.408	190	151	149
		1.7957	.4836	144.5	78.286	71.507	178	150	150

TABLE II-a MAZE ONE TRIAL.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	2.81	.366	7.42	.216	.185	.158	.10	.091	.083	.100	.083	.091	.083	.083
	2	1.75	3.75	.325	.700	.400	.335	.154	.100	.216	.150	.100	.500	.083	.133
	1	6.05	3.67	1.51	.770	3.20	.300	1.25	.336	.200	.253	.200	.166	.214	.100
	2	8.10	1.15	2.16	.933	.567	.733	.200	.200	.200	.216	.150	.117	.100	.266
Females	1	2.70	7.75	.083	1.10	2.83	.583	.583	.266	.216	.316	.133	.100	.083	.124
	2	2.00	3.50	4.83	4.13	2.08	1.82	1.41	.416	.466	.583	.216	.100	.264	.166
	1	15.1	10.0	2.85	.506	.966	.250	.183	.274	.216	.108	.183	.150	.083	.116
	2	57.7	.666	.633	.733	6.00	.804	.466	.233	.316	.158	.100	.083	.091	.133
Averages	8	9.09	5.86	1.46	1.01	1.95	.600	.387	.243	.264	.239	.145	.111	.135	.140
	4	4.34	2.22	1.41	.662	1.09	.331	.420	.189	.284	.187	.133	.114	.130	.145
	4	13.8	5.50	2.32	1.35	2.81	.869	.635	.297	.303	.291	.158	.108	.130	.154

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.108	.124	.153	.133	.100	.091								
2	.100	.116	.100	.085	.08[illegible]	.083								
1	.100	.116	.091	.253	.200	.108	.083	.100	.083	.141	.116	.[illegible]95	.150	.083
2	.116	.150	.100	.[illegible]93	.116	.116	.100	.083	.100	.150	.091	.100	.116	.083
1	.183	.108	.116	.116	.083	.083	.083	.083	.116	.083	.083	.083	.083	
2	.133	.100	.116	.083	.116	.133	.116	.150	.083	.100	.085	.074	.091	
8	.123	.119	.109	.121	.116	.101	.095	.104	.095	.118	.095	.085	.110	.085
4	.104	.110	.116	.109	.091	.087								
4	.133	.118	.105	.128	.128	.110	.095	.104	.095	.118	.093	.085	.110	.085

										Retention				
	29	30	31	32	33	34	35			1	2			
										.250 .100 .400	.150 .108 .100			
3	.067 .078	.091 .100	.133 .108	.124 .091	.095 .100	.086 .091	.083 .083			.215 .274 .250 1.03	.116 .108 .091 .124			
8	.078	.095	.120	.107	.091	.087	.083			.341	.113			
										.239	.114			
4	.078	.095	.120	.107	.091	.087	.083			.442	.106			

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain % B	Cord % C	Body Length	Tail Length	Age
14	14	1.6360	.4565	116.2	78.75	72.27	165		146
14	14	1.6676	.5097	160.	78.68	72.12	184	149	146
20	20	1.6787	.4475	97.8	78.46	72.46	162	135	155
20	20	1.6988	.4515	113.6	78.49	72.47	170	148	155
35	35	1.5166	.3657	70.6	78.45	72.65	150	125	146
35	35	1.5121	.3836	70.5	78.20	72.24	149	131	146
24	24	1.6072	.4151	91.4	78.55	72.28	159	124	146
27	27	1.5576	.3758	71.9	78.44	72.55	147	132	146
		1.6160	.4125	103.0	78.49	72.37	165	133	148
		1.6436	.4660	129.9	78.57	72.33	175	142	150
		1.5484	.3590	76.1	78.41	72.42	151	125	146

TABLE II-b MAZE THREE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	1.76	7.25	3.40	.400	.583	1.06	.883	.616	.433	.883	.750	1.10	.450	.433
	2	6.25	11.5	4.20	.900	.600	1.10	1.50	1.91	.916	.683	.591	1.63	.316	.900
	1	6.33	8.75	9.13	.750	.933	.891	.700	.774	.950	.283	.616	.666	.174	.183
	2	1.80	5.00	1.05	1.53	1.51	1.06	.950	1.0	.783	.450	.250	.216	1.11	.400
Females	1	3.1	7.38	2.58	1.30	1.13	.350	.500	.391	.616	.134	.750	.700	.150	.483
	2	5.66	1.85	1.16	.983	2.70	2.61	1.08	1.01	1.81	2.06	1.76	1.73	.308	.553
	1	2.08	4.51	3.48	3.00	1.16	1.40	2.30	.450	3.26	1.25	2.38	1.30	.566	.400
	2	3.48	.916	2.06	1.45	1.95	2.16	.483	.916	.500	.466	1.63	1.40	.366	.800
Averages	8	3.81	5.68	3.38	1.20	1.32	1.32	1.59	.885	1.15	.774	1.09	1.04	.417	.520
	4	4.01	7.62	4.44	.890	.906	1.02	1.00	1.07	.770	.574	.551	.903	.487	.479
	4	3.62	3.73	2.32	1.52	1.73	1.63	1.09	.691	1.54	.975	1.64	1.17	.547	.526

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.183	.183	.100	.083	.083	.083	.074	.916	.350	.300	.183	.074	.083	.111
2	.333	.150	.166	.266	.116	.183	.216	.200	.483	.200	.116	.141	.116	.116
1	.233	.133	.1 9	.191	.116	.150	.100	.083	.[illegible]	.11	.083	.083	.083	.091
2	.583	.116	.350	.250	.[illegible]	.083	.100	.083	.085	.200	.083	.116	.184	.083
1	.111	.10	.174	.116	.166	.500	.085	.116	.10	. 11	.085	.085	.[illegible]	. 85
2	.700	.366	.350	.316	.166	.283	.516	.141	.133	.474	.150	.383	.666	.233
1	.666	.400	.283	.724	.316	.324	.333	.250	.133	.324	.250	.450	.683	.316
2	.850	.166	.733	.316	.183	.416	.300	.250	.250	.116	.166	.366	.816	.174
8	.149	.203	.233	.380	.160	.221	.215	.254	.202	.287	.159	.205	.270	.154
4	.320	.145	.181	.197	.129	.112	.142	.320	.249	.204	.116	.105	.116	.107
4	.578	.260	.285	.368	.191	.330	.308	.189	.156	.251	.152	.308	.424	.201

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.124	.238	.100	.081	.083	.[illegible]	.074	.[illegible]	.141	.083	.074	.124	.060	.056
2	.100	.116	.100	.[illegible]	.091	.108	.083	.100	.083	.108	.[illegible]	.[illegible]	.[illegible]	.[illegible]
1	.08[illegible]	.074	.[illegible]	.083	.[illegible]	.[illegible]	.08[illegible]	.093	.[illegible]	.[illegible]	.116			
2	.[illegible]	.07[illegible]	.[illegible]	.[illegible]	.074	.091	.[illegible]	.100	.[illegible]	.[illegible]	.[illegible]			
1	.083	.074	.074	.074	.108	.074	.063	.093	.083	.116	.083	.083	.113	.083
2	.500	.166	.100	.182	.[illegible]	.058	.100	.063	.250	.083	.[illegible]	.091	.083	.055
1	.416	.216	.116	.116	.108	.133	.150	.100	.116	.250	.083	.166	.150	.183
2	.316	.200	.100	.116	.250	.083	.166	.083	.100	.166	.100	.100	.183	.183
8	.312	.144	.094	.107	.110	.089	.102	.083	.117	.161	.088	.107	.113	.113
4	.095	.134	.091	.093	.08[illegible]	.091	.080	.089	.097	.089	.[illegible]	.103	.074	.074
4	.328	.164	.097	132	.137	.087	.134	.087	.137	.153	.087	.110	.133	.133

	45	54	55	46	56	40	42	50	51	52	53	64	65	66
1	.166	.074	.083	.083	.124	.116	.110	.074	.074	.130	.090	.200	.200	.097
2	.100	.083	.083	.083	.116	.083	.083	.083	.083	.083	.116	.083	.071	.083
1	.083	.133	.083	.083	.083	.083	.083	.083	.074	.083	.083	.083	.083	.100
2	.083	.083	.250	.250	.150	.100	.133	.100	.166	.116	.116	.083	.083	.100
1	.366	.210	.250	.166	.124	.100	.174	.091	.108	.208	.233	.150	.116	.141
3	.100	.133	.083	.166	.091	.266	.083	.166	.234	.133	.083	.083	.100	.100
8	.749	.120	.135	.135	.114	.124	.112	.099	.121	.128	.120	.113	.095	.102
4	.133	.078	.074	.074	.120	.099	.099	.078	.078	.110	.103	.141	.095	.087
4	.158	.141	.166	.166	.112	.157	.110	.110	.145	.155	.128	.099	.095	.110

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.074	.083	.083	.091	.116	.074	.083	.083	.100	.133	.108	.083	.083	.100
2	.074	.083	.083	.100	.300	.066	.083	.091	.083	.083	.083	.083	.083	.183
1	.083	.083	.083	.083	.083	.100	.083							
2	.166	.116	.100	.116	.108	.183	.108							
1	.083	.166	.083	.083	.083	.074	.083	.116	.116	.083	.100	.117	.133	.134
2	.183	.083	.091	.083	.116	.083	.083	.083	.083	.074	.150	.150	.133	.083
8	.110	.102	.087	.092	.101	.096	.087	.093	.095	.093	.110	.108	.108	.097
4	.074	.083	.083	.095	.108	.070	.095	.087	.091	.108	.095	.083	.083	.091
4	.128	.111	.083	.091	.097	.110	.089	.099	.099	.078	.125	.133	.133	.103

	72	73	74	75	76	77	78	79	80	81	82	83	84
1	.091 .083	.100 .083	.100 .083	.100 .085	.116 .083	.083 .083	.083 .100	.091 .083					
1	.091 .083	.116 .083	.116 .083	.108 .083	.091 .074	.083 .083	.100 .074	.166 .100	.100 .116	.116 .083	.083 .083	.108 .100	.100 .100	.083 .100
5	.087	.095	.095	.093	.091	.083	.089	.110	.108	.099	.083	.104	.100	.091
4	.087	.091	.091	.091	.099	.083	.091	.087						
4	.087	.099	.099	.095	.082	.083	.087	.133	.108	.099	.083	.104	.100	.091

	95	96	97	98	99	90	97	98	99	94	95	96	97	98
1	.158	.071	.074	.166	.141	.085	.085	.093	.093	.100	.083	.071	.083	.100
2	.091	.083	.100	.083	.083	.083	.100	.083	.074	.074	.083	.083	.087	.083
8	.124	.079	.087	.124	.118	.083	.091	.083	.079	.087	.083	.078	.083	.091
4	.124	.078	.087	.124	.118	.083	.091	.083	.076	.087	.083	.079	.083	.091

Retention.

	22			1	2	3	4	5	6					
				.233 1.92 .441 .250	.191 .266 .116 .124	.255 .150 .108 .116	.116 .100 .083 [illegible]	.086 .083 .183 .091	.165 .083 .130 .100					
1 2	.085 .083			.275 1.11 .400 .185	.200 .316 .191 .166	.124 .100 .116 .100	.133 .109 .100 .116	.183 .216 .091 .083	.150 .100 .083 .083					
8	.083			.597	.192	.150	.109	.138	.115					
4				.713	.166	.151	.103	.110	.124					
4	.083			.481	.218	.110	.114	.143	.106					

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain MR_2O	Cord MR_2O	Body Length	Tail Length	Age
[illegible]	23	1.5506	.4259	120.5	76.84	72.56	176	140	160
69	23	1.4215	.3985	100.8	78.71	73.53	162	134	160
[illegible]	13	1.5564	.4150	106.	78.35	71.47	167	145	144
[illegible]	1	1.6160	.4584	[illegible].5	[illegible]	[illegible].13	17[illegible]	140	144
[illegible]	23	1.5378	.4102	96.2	78.40	72.39	160	127	144
87	19	1.4908	.3843	89.5	78.19	73.11	152	126	144
99	23	1.5340	.4257	93.	78.27	72.42	161	141	146
87	23	1.5701	.4131	81.8	78.30	[illegible].45	156	134	146
		1.5675	.4235	99.6	78.56	72.56	168	136	148
		1.5760	.4436	108.2	78.51	72.12	167	136	152
		1.5691	.4086	90.1	78.61	72.56	157	137	145

TABLE II-c MAZE FIVE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	5.50	1.4	1.16	1.06	1.00	.4[illegible]	.47	.443	.150	.10	.10	.166	.16[illegible]	.2[illegible]
	2	3.30	2.78	1.48	2.82	[illegible].6	.767	1.00	1.50	.737	.715	.30	.416	.675	.300
	1	8.51	3.69	4.56	1.45	4.85	1.38	1.03	1.00	5.93	2.95	.500	.500	.900	.866
	2	4.98	4.73	3.53	10.8	1.84	.700	.288	.350	.366	.616	.165	.816	.466	.166
Females	1	2.45	2.[illegible]2	5.03	.05	1.11	.750	.300	.700	.116	.250	.785	.166	.116	.370
	2	4.10	10.7	8.85	2.31	1.56	.916	5.97	7.35	6.33	1.[illegible]	.800	.550	.400	.250
	1	20.2	1.58	4.58	3.25	5.30	7.41	.558	.916	.633	1.66	.750	.506	.366	.550
	2	7.00	6.16	2.91	3.00	1.25	1.25	8.00	2.10	3.35	2.00	.250	.500	.165	.633
Averages	8	7.85	4.06	3.78	3.84	2.74	1.71	2.[illegible]	1.78	1.97	1.17	.498	.387	.355	.383
	4	5.52	2.99	2.56	3.[illegible]	3.17	.794	.769	.[illegible]20	1.38	1.11	.335	.3[illegible]	.445	.145
	4	10.3	5.13	5.19	2.[illegible]	2.[illegible]	2.[illegible]	3.39	2.74	2.07	1.[illegible]	.[illegible]82	.445	.[illegible]66	.320

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.416	.416	.250	.216	.116	.483	.100	.216	.150	.324	.283	.153	.083	.216
2	.216	.150	.200	.108	.153	.216	.083	.083	.074	.170	.083	.147	.116	.083
1	.853	1.28	.266	.366	.933	.933	.200	.483	.450	.516	.400	.100	.083	.174
2	.166	.150	.166	.116	.116	.100	.116	.933	.400	.183	.100	.050	.083	.133
1	.153	.116	.116	.250	.108	.116	.100	.116	.216	.116	.116	.100	.083	.116
2	.856	.583	.266	.166	.266	.233	.200	.166	.210	.250	.250	.153	.100	.116
1	.683	.216	.316	.416	.200	.600	.124	.216	.233	.133	.250	.108	.108	.108
2	.450	.174	.116	.250	.216	.116	.133	.116	.233	.166	.166	.124	.116	.116
8	.444	.360	.212	.236	.261	.349	.152	.284	.246	.229	.207	.111	.096	.152
4	.355	.499	.220	.201	.324	.433	.124	.416	.268	.293	.218	.106	.091	.139
4	.533	.222	.203	.270	.197	.266	.139	.153	.224	.166	.195	.116	.101	.126

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.074	.108	.116	.166	.091	.083	.083	.083	.153	.083	.083	.074	.074	.074
2	.116	.108	.083	.108	.091	.100	.100	.083	.083	.074	.083	.083	.083	.083
1	.100	.083	.116	.083	.083	.074	.074	.074	.083	.074	.083	.083	.074	.066
2	.116	.083	.083	.083	.083	.083	.083	.074	.074	.083	.100	.083	.083	.100
1	.083	.083	.100	.083	.083	.100	.083	.333	.416	.250	.166	.166	.116	.116
2	.100	.116	.100	.250	.200	.100	.083	.166	.200	.150	.133	.116	.100	.116
1	.200	.100	.150	.124	.133	.116	.166	.100	.116	.108	.166	.150	.166	.083
2	.133	.258	.166	.250	.200	.166	.100	.191	.166	.316	.316	.116	.100	.091
8	.115	.117	.114	.143	.120	.102	.096	.138	.158	.142	.140	.108	.099	.116
4	.101	.095	.099	.110	.097	.085	.085	.078	.093	.078	.085	.080	.078	.080
4	.129	.139	.129	.176	.154	.130	.108	.197	.224	.206	.195	.157	.120	.151

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1	.11	.074	.074	.09	.083	.083	.074	.074	.083	.086	.074	.083	.074	.083
2	.110	.074	.083	.083	.083	.100	.083	.074	.091	.083	.087	.107	.083	.116
1	.083	.116	.074	.100	.083	. 83	.100	.083	.074	.074	.074	.074	.074	.091
2	.116	.083	.100	.091	.116	.074	.091	.083	.074	.074	.100	.09	.083	.083
1	.133	.433	.233	.133	.433	.333	.133	.100	.108	.216	.087	.087	.100	.083
2	.100	.100	.200	.091	.083	.100	.083	.083	.083	.166	.100	.083	.083	.100
1	.100	.133	.108	.150	.091	.091	.133	.385	.166	.083	.166	.116	.100	.091
2	.091	.083	.150	.100	.166	.108	.134	.250	.108	.100	.116	.150	.100	.150
3	.106	.137	.137	.104	.148	.109	.102	.141	.098	.107	.100	.094	.083	.099
4	.107	.086	.082	.089	.091	.085	.087	.078	.080	.074	.084	.08	.082	.093
4	.106	.107	.173	.118	.193	.133	.111	.094	.116	.141	.116	.103	.097	.106

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.133	.1[illegible]	.[illegible]	.[illegible]	.[illegible]	.074	.[illegible]	.105	.083					
[illegible]	.091	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.074	.083					
1	.074	.[illegible]	.[illegible]	.083	.[illegible]	.083	.[illegible]	.083	.116					
[illegible]	.074	.074	.074	.074	.083	.083	.074	.083	.074					
1	.[illegible]	.170	.085	.085	.[illegible]	.085	.091	.[illegible]	.074	.[illegible]	.[illegible]	.[illegible]	.166	.[illegible]
[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]
1	.176	.[illegible]	.[illegible]	.085	.[illegible]	.116	.083	.[illegible]	.156	.[illegible]	.116	.[illegible]	.[illegible]	.[illegible]
[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.150	.150	.100	.100	.[illegible]	.[illegible]	.116	.[illegible]	.[illegible]	.[illegible]
8	.189	.099	.[illegible]	.[illegible]	.098	.094	.[illegible]	.[illegible]	.114	.107	.[illegible]	.[illegible]	.[illegible]	.[illegible]
[illegible]	.097	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]					
4	.166	.11[illegible]	.1[illegible]	.089	.101	.[illegible]	.[illegible]	.087	.139	.107	.105	.[illegible]	.[illegible]	.158

	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Z9	Z10	Z11	Z12	Z13	Z14
1	.141	.091	.082	.083	.083	.116	.350	.085	.08	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]
2	.[illegible]	.159	.166	.091	.08[illegible]	.091	.100	.074	.[illegible]	.106	.083	.[illegible]	.[illegible]	.085
1	.183	.200	.100	.083	.316	.133	.08[illegible]	.08[illegible]	.074	.083	.091	.091	.[illegible]	.116
2	.135	.216	.083	.166	.2[illegible]	.085	.08[illegible]	.111	.091	.150	.100	.184	.[illegible]	.136
3	.159	.164	.116	.150	.187	.106	.154	.089	.08[illegible]	.106	.091	.105	.157	.112
4	.139	.154	.10[illegible]	.150	.187	.106	.154	.089	.082	.106	.091	.105	.157	.112

	86	87	88	89	90	91	92	93	94	95	96	97	98
1	.250	.107	.074	.082	.083	.166	.083	.083	.166	.083	.250	.166	.185	.233
	.083	.091	.091	.091	.083	.091	.083	.083	.074	.083	.083	.103	.116	.300
1	.116	.087	.083	.083	.083	.083	.116	.083	.083	.085	.085	.100	.086	.066
3	.116	.087	.083	.116	.083	.083	.083	.116	.100	.116	.083	.087	.087	.091
8	.141	.095	.082	.093	.083	.104	.091	.091	.106	.091	.099	.120	.112	.172
4	.141	.095	.082	.093	.083	.104	.091	.091	.106	.091	.099	.120	.112	.172

	99	100	101	102	103	104	105	106	107	108	109	110	111	112
1	.200	.133	.083	.074	.074	.083	.083	.091	.091	.091	.083	.074	.100	.083
2	.116	.116	.166	.083	.083	.100	.083	.074	.083	.074	.074	.074	.083	.074
1	.083	.083	.083	.083	.074	.116	.083	.083	.116	.083	.083	.083	.108	.074
3	.083	.083	.083	.083	.074	.100	.100	.083	.166	.100	.133	.083	.074	.166
8	.120	.103	.103	.080	.076	.099	.087	.082	.114	.087	.093	.078	.091	.099
4	.120	.103	.103	.080	.076	.099	.087	.082	.114	.087	.093	.078	.091	.099

	113	114	115	116	117	118	119	120	121	122	123	124	125	126
1	.083	.074	.074	.083	.083	.074	.083	.083	.083	.083	.083	.074	.083	.141
2	.066	.083	.108	.083	.083	.074	.083	.083	.083	.074	.091	.066	.083	.083
1	.083	.083	.074	.116	.083	.074	.116	.083	.091	.108	.083	.083	.066	.083
2	.100	.074	.091	.083	.150	.083	.116	.083	.108	.108	.083	.150	.083	.116
8	.083	.078	.085	.091	.099	.076	.099	.083	.091	.093	.085	.093	.078	.105
4	.083	.078	.086	.091	.099	.076	.099	.083	.091	.095	.085	.093	.078	.105

	127	128	129	130	131	132	133	134	135	136	137	138	139	140
1	.083	.083	.108	.083	.100	.116	.091	.083	.083	.116	.083	.091	.100	.066
2	.116	.074	.116	.074	.083	.074	.083	.091	.100	.116	.083	.083	.074	.074
3	.074	.083	.083	.300	.083	.108	.083	.083	.074	.091	.074	.116	.083	.083
7	.184	.083	.083	.083	.083	.100	.083	.083	.083	.074	.091	.083	.083	.091
8	.099	.080	.097	.110	.087	.099	.085	.085	.085	.111	.082	.091	.085	.078
4	.099	.080	.097	.110	.087	.099	.085	.085	.085	.111	.082	.091	.085	.078

	141	142	143	144	145	146	147	148	149	150	151	152	153	154
1	.133	.133	.091	.083	.083	.083	.100	.083	.083	.083	.091	.091	.083	.083
	.074	.091	.083	.083	.074	.124	.108	.124	.083	.191	.124	.083	.083	.108
1	.083	.141	.124	.083	.083	.091	.100	.083	.083	.100	.100	.100	.100	.100
2	.083	.091	.083	.100	.083	.083	.100	.100	.083	.083	.074	.166	.083	.083
3	.093	.114	.095	.087	.080	.095	.102	.097	.083	.114	.097	.110	.087	.093
4	.093	.114	.095	.087	.080	.095	.102	.097	.083	.114	.097	.110	.087	.093

155	156	157	158	159	160	161	162	163	164	165	166	167	168	
.080	.129	.105	.095	.099	.116	.097	.095	.090	.087	.080	.105	.103	.09	4
.080	.119	.102	.095	.099	.116	.097	.095	.090	.087	.080	.105	.103	.09	8
.083	.128	.153	.085	.100	.216	.108	.116	.074	.100	.080	.154	.110	.100	1
.091	.122	.116	.100	.091	.083	.100	.083	.095	.100	.074	.154	.110	.100	1
.074	.125	.082	.100	.082	.082	.100	.083	.095	.080	.074	.154	.110	.100	2

	169	170	171	172	173	174	175							
1	.083	.083	.074	.083	.083	.083	.083							
2	.091	.091	.100	.100	.074	.100	.083							
1	.083	.083	.091	.083	.083	.091	.083							
2	.083	.083	.100	.100	.108	.083	.091							
8	.085	.085	.091	.091	.087	.089	.085							
4	.085	.085	.091	.091	.087	.089	.085							

Retention

1	2	3	4	5	6	7	8	9	10				
.100	.133	.100	.091	.141	.108	.091	.091	.091	.150				
.108	.108	.150	.108	.100	.100	.100	.108	.091	.116				
.124	.091	.091	.083	.274	.083	.083	.083	.083	.116				
.100	.091	.091	.083	.083	.083	.091	.091	.083	.108				
.200	.100	.183	.150	.091	.100	.150	.083	.091	.100				
.083	.100	.183	.083	.133	.083	.108	.083	.083	.216				
.124	.108	.116	.150	.083	.083	.100	.083	.083	.083				
.100	.116	.108	.116	.091	.091	.091	.091	.183	.100				
.117	.105	.127	.108	.134	.091	.101	.089	.098	.123				
.108	.105	.108	.091	.149	.093	.091	.093	.087	.122				
.126	.106	.147	.124	.099	.089	.112	.085	.085	.124				

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain H_2O	Cord H_2O	Body Length	Tail Length	Age
[illegible]	[illegible]	1.6 08	.4[illegible]	98.	[illegible].19	71.65	1[illegible]	1[illegible]	1[illegible]
[illegible]	10	1.4[illegible]1	.4025	96.5	[illegible].38	71.65	16[illegible]	1[illegible]	14[illegible]
[illegible]	11	1.[illegible]1[illegible]	.[illegible]05	86.[illegible]	[illegible].40	71.9[illegible]	160	128	141
[illegible]	11	1.[illegible]37	.[illegible]479	103.	78.17	77.39	167	153	144
170	10	1.4285	.4176	117.7	78.68	72.75	16[illegible]	140	130
173	11	1.8057	.4792	144.9	79.77	72.04	1[illegible]	15[illegible]	160
167	11	1.6834	.4150	111.8	78.79	72.58	168	138	160
175	11	1.[illegible]39	.4001	106.1	79.82	71.81	159	131	160
		1.6287	.4819	107.8	78.57	72.00	164	15[illegible]	152
		1.5765	.4164	95.5	78.55	71.70	165	137	144
		1.6710	.4274	120.1	78.61	72.30	166	135	160

TABLE III-a LATCH BOX WITH OTHER PROBLEMS ONE TRIAL

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	2.13	10.0	.683	1.25	.583	.366	.500	.500	.166	.066	.050	.050	.050	.066
	2	3.33	.583	2.00	.666	.250	.500	.124	.166	.100	.083	.100	.133	.066	.116
	3	4.45	1.06	.666	.966	1.25	.466	1.08	.500	.058	.050	.116	.100	.483	.091
	1	10.0	2.75	.666	.200	.866	.200	.016	.033	.024	.033	.016	.016	.024	.016
	2	.650	6.33	6.33	1.35	.300	1.76	.024	.333	.016	.016	.016	.016	.024	.083
	3	.316	3.25	.100	.766	.108	1.50	.366	1.25	.200	.041	.024	.033	.116	.100
	1	2.53	3.58	5.15	1.00	.250	.024	.024	.024	.020	.024	.016	.016	.016	.016
	2	8.00	2.50	2.16	.683	.666	.333	.074	.033	.016	.058	.016	.024	.016	.066
	3	4.00	2.09	2.00	.650	.833	.416	.433	.050	.108	.083	.058	.066	.141	.150
	1	7.62	1.70	.183	.750	.316	.408	.750	.050	.050	.091	.041	.016	.016	.024
	2	1.50	.366	.250	.933	.783	.300	.083	.033	.066	.016	.016	.066	.033	.016
Females	1	3.41	6.23	2.16	1.05	15.0	6.00	.650	1.21	5.93	5.55	1.50	1.13	.583	.683
	2	5.55	2.33	4.38	1.16	.450	.116	.066	.083	.024	.016	.016	.016	.016	.033
	1	10.0	2.48	.500	.058	3.91	.916	.466	1.40	.116	.366	.133	.366	.124	.166
	2	25.6	1.25	2.45	.266	3.91	.333	.024	.066	.066	.233	.083	.416	.800	.108
	1	2.23	1.25	.250	.066	.116	.083	.024	.033	.066	.016	.033	.058	.024	.016
	2	1.83	1.95	.083	.083	.166	.066	.024	.066	.050	.050	.058	.133	.058	.050
	3	1.08	1.16	.308	.083	.083	.083	.050	.033	.066	.050	.200	.066	.050	.050
Averages	18	5.24	2.83	1.68	.665	1.46	.770	.265	.325	.396	.396	.138	.151	.146	.102
	11	4.05	3.11	1.83	.837	.564	.570	.315	.270	.074	.051	.042	.048	.089	.067
	7	7.10	2.37	1.44	.395	2.87	1.08	.186	.413	.902	.940	.289	.512	.236	.158

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.041	.041	.050	.041	.191	.016	.116	.083	.050	.066	.041	.033	.050	.100
2	.108	.216	.066	.083	.016	.050	.050	.066	.074	.050	.041	.041	.150	.050
3	.324	.350	.066	.500	.150	.166	.333	.066	.166	.150	.050	.041	.074	.050
1	.016	.016	.016	.016	.033	.166	.016	.016	.016	.016	.008	.008	.016	.024
2	.024	.116	.333	.250	.250	.133	.250	.033	.150	.016	.024	.033	.041	.050
3	.074	.083	.066	.066	.183	.100	.116	.150	.100	.066	.050	.050	.066	050
1	.016	.083	.016	.016	.050	.016	.016	.016	.016	.008	.016	.008	.016	.016
2	.024	.016	.033	.016	.016	.016	.016	.016	.016	.016	.008	.008	.050	.016
3	.133	.016	.133	.250	.108	.100	.083	.050	.058	.033	.050	.050	.016	.033
1	.016	.016	.016	.150	.100	.033	.116	.133	.133	.050	.050	.050	.024	.024
2	.024	.033	.041	.033	.066	.024	.033	.016	.016	.050	.033	.083	.016	.008
1	.116	.116	.266	.116	.150	.316	.016	.766	.350	.750	.183	.041	.183	.024
2	.016	.016	.016	.016	.024	.066	.183	.024	.066	.074	.024	.024	.016	.016
1	.133	066	.016	.100	.600	.041	.016	.041	.066	.033	.033	.016	.016	.016
2	.066	.066	.066	.183	.016	.016	.016	.033	.083	.024	.016	.066	.116	.016
1	.383	.083	.500	.500	.516	.200	.083	.033	.050	.033	.066	.216	.166	.033
2	.074	.050	.100	.183	.050	.091	.041	.050	.066	.050	.016	.050	.166	.050
3	.058	.050	.066	.116	.066	.083	.041	.050	.033	.050	.033	.050	.050	.150
18	.091	.079	103	.146	.143	.082	.085	.091	.083	.085	.041	.048	.068	.040
11	.072	.089	.076	.129	.105	.060	.104	.058	.072	.047	.033	.036	.047	.038
7	.120	.063	.147	.173	.203	.116	.056	.142	.102	.144	.053	.066	.101	.043

	29	30	31	32	33	34	35	36	37	38	39	40	41	
1	.041	.033	.033	.024	.050	.033	.024	.024	.024					
2	.050	.033	.050	.033	.033	.033	.024	.024	.024					
3	.041	.066	.033	.016	.050	.016	.033	.033	.033					
1	.008	.016	.016	.016	.008	.016	.016	.016						
2	.016	.016	.024	.016	.008	.008	.008	.016						
3	.100	.083	.041	.133	.024	.033	.033	.033						
1	.016	.008	.016	.008	.016	.008	.008	.016	.008	.016	.016			
2	.016	.008	.008	.008	.033	.016	.008	.008	.008	.016	.016			
3	.024	.033	.033	.033	.016	.033	.016	.033	.016	.016	.016			
1	.033	.050	.024	.016	.016									
2	.016	.016	.016	.016	.016									
1	.250	.016	.016	.016	.016	.016	.024	.016	.016	.016	.016			
2	.150	.016	.058	.034	.050	.024	.016	.016	.016	.016	.016			
1	.016	.008	.033	.250	.033	.050	.016	.008	.024					
2	.066	.083	.033	.016	.016	.008	.008	.008	.016					
1	.216	.024	.050	.050	.033	.033	.033	.024	.041	.033	.016	.016	.016	
2	.050	.024	.116	.033	.008	.008	.016	.016	.016	.033	.041	.016	.008	
3	.016	.050	.050	.016	.033	.033	.033	.016	.050	.033	.016	.016	.016	
10	.062	.032	.036	.040	.025	.023	.017	.019	.016	.022	.019	.016	.013	
11	.032	.053	.026	.029	.034	.021	.019	.022	.021	.016	.016			
7	.109	.021	.050	.057	.027	.024	.011	.014	.025	.026	.021	.016	.013	

Retention

1	2												
.050	.041												
.070	.033												
.066	.023												
.066	.050												
.117	.013												
.233	.063												
.017	.003												
.016	.003												
.233	.063												
.024	.010												
.250	.016												
.066	.033												
.133	.008												
.500	.016												
.016	.008												
.100	.050												
.018	.016												
.116	.033												
.103	.034												
.093	.031												
.118	.023												

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain % H_2O	Cord % H_2O	Body Length	Tail Length	Age
37	37	1.6521	.4138	105.1	78.827	72.643	161	133	145
37	37	1.6159	.4088	117.5	78.760	72.502	167	140	145
37	37	1.6251	.4158	106.5	78.[illegible]	72.909	162	137	145
16	16	1.6654	.4507	122.8	78.461	71.999	169	145	145
11	11	1.7052	.4[illegible]	156.2	78.518	71.943	176	145	145
36	36	1.6686	.4705	140.2	78.576	78.142	175	145	145
13	13	1.7307	.4550	129.5	78.242	71.656	175	149	144
30	30	1.6418	.4450	128.2	78.511	71.797	170	146	144
39	39	1.7017	.4613	137.2	78.402	71.970	179	146	144
17	17	1.6945	.4586	148.9	78.547	71.849	180	153	144
29	29	1.6603	.4765	144.0	78.254	71.752	177	146	144
32	32	1.6458	.4084	105.1	78.695	72.257	163	142	157
17	17	1.5785	.3826	100.0	78.550	72.157	155	134	157
28	28	1.6240	.4276	117.0	7 .534	71.702	164	151	140
21	21	1.6725	.4349	124.0	78.694	71.878	165	146	140
41	41	1.6182	.3818	89.0	78.407	71.765	150	126	144
35	35	1.6446	.4251	115.4	78.299	71.888	167	150	144
41	41	1.7095	.4126	103.1	78.758	72.322	160	143	144
28	28	1.6692	.4309	120.2	78.537	72.067	167	143	145
26	26	1.6881	.4440	128.2	78.581	72.114	171	144	144
30	30	1.6395	.4104	107.5	78.563	71.992	160	141	146

TABLE III-b LATIN BOX THREE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	.041	.366	.250	30.0	1.58	.766	.750	.533	.033	.024	.016	.016	.766	.016
	2	1.58	.333	.300	.616	.183	.100	.750	.166	.158	.100	.016	.166	.100	.016
	3	2.66	2.95	1.20	1.83	.333	.166	1.35	.233	.083	.158	.024	.091	.066	.085
	1	1.51	.783	1.11	.116	.033	.083	.966	.083	.083	.041	.041	.016	.041	.024
	1	1.16	1.41	1.83	1.78	2.75	.316	1.43	.050	.033	.266	.116	.250	.250	.050
	2	4.00	1.00	.250	1.20	.116	.500	.066	.083	.050	.500	.166	.066	.050	.083
	3	14.1	30.0	.750	1.33	.666	.500	.533	.274	.050	.150	.074	.933	.116	.116
	1	.183	.233		3.38	1.08	.841	.616	.266	.050	.024	.024	.033	.033	.066
	2	3.50	21.5	.216	.308	.666	.124	.150	.183	.050	.200	.041	.050	.233	.066
	1	5.00	.350	.416	1.91	.183	.183	.033	.116	.024	.100	.050	.133	.033	.050
	2	10.0	4.41	.466	.433	.083	.100	.083	.033	.016	.016	.016	.416	.116	.024
Females	1	.316	.100	2.33	.216	.333	.183	.116	.266	.033	.066	.083	.050	.024	.033
	2	35.0	1.11	.416	.091	.233	.185	.100	.033	.083	.783	.033	.500	.133	.216
	1	4.33	1.36	.583	1.56	.566	1.40	.883	.050	.316	.616	.033	.024	.033	.033
	2	.283	3.21	.656	.333	.066	.100	.116	.050	.016	.100	.016	.016	.141	.066
	1	4.03	5.41	2.33	.166	.350	.983	.091	.566	.300	.050	.116	.041	.108	.033
	2	1.41	.683	1.91	.566	.058	.516	.200	.016	.016	.100	.050	.024	.500	.033
	1	1.50	.166	.083	4.20	.425	.400	.183	.024	.033	.066	.133	.033	.033	.033
Averages	18	5.04	4.18	.888	2.77	.539	.415	.468	.168	.079	.186	.058	.158	.154	.057
	11	3.95	5.75	.678	3.90	.695	.334	.611	.183	.057	.143	.053	.195	.154	.054
	7	6.69	1.71	1.18	1.02	.291	.538	.241	.143	.114	.254	.066	.098	.138	.064

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.016	.016	.083	.033	.183	.016	.016	.016	.016	.016	.024	.008	.008	.024
2	.033	.016	.016	.016	.083	.041	.016	.058	.050	.050	.041	.024	.033	.050
3	.016	.083	.016	.066	.041	.016	.016	.016	.033	.016	.016	.008	.008	.141
1	.066	.016	.166	.016	.066	.008	.016	.200	.058	.016	.066	.016	.016	.050
1	.041	.050	.050	.024	.116	.033	.416	.333	.074	.250	.050	.033	.066	.166
2	.091	.041	.033	.074	.216	.083	.166	.074	.016	.066	.166	.050	.100	.024
3	.116	.383	.016	.016	.066	.058	.016	.100	.050	.016	.050	.116	.033	.066
1	.116	.033	.041	.016	.008	.008	.024	.008	.008	.016	.016	.016	.016	.033
2	.066	.250	.050	.050	.066	.033	.033	.066	.166	.050	.050	.033	.033	.050
1	.024	.016	.016	.016	.016	.016	.008	.016	.008	.016	.016	.016	.016	.083
2	.016	.066	.016	.083	.050	.016	.100	.100	.033	.016	.083	.033	.016	.016
1	.166	.083	.024	.024	.041	.016	.266	.024	.033	.016	.024	.008	.008	.024
2	.133	.033	.050	.116	.066	.066	.016	.033	.016	.016	.008	.050	.008	.016
1	.016	.083	.024	.024	.100	.033	.033	.016	.116	.016	.100	.150	.150	.074
2	.050	.016	.016	.016	.033	.024	.050	.116	.150	.100	.016	.066	.033	.016
1	.024	.050	.033	.066	.066	.050	.066	.066	.066	.050	.033	.150	.200	.058
2	.083	.066	.133	.033	.016	.033	.024	.083	.066	.050	.016	.200	.100	.016
1	.050	.066	.041	.050	.066	.050	.008	.024	.050	.058	.016	.033	.066	.083
18	.052	.075	.045	.041	.072	.037	.071	.075	.056	.046	.043	.056	.050	.055
11	.054	.088	.045	.037	.082	.029	.075	.089	.046	.048	.052	.032	.031	.063
7	.074	.056	.045	.047	.055	.038	.066	.051	.071	.043	.030	.093	.080	.041

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.008	.008	.024	.008	.008	.016	.016	.016	.016	.024	.100	.008	.016	.016
2	.074	.016	.066	.050	.050	.050	.041	.033	.033	.216	.150	.033	.016	.016
3	.024	.008	.008	.008	.008	.016	.016	.016	.016	.066	.058	.008	.008	.008
1	.033	.016	.033	.024	.024	.016	.016	.033	.024	.024	.024	.050	.016	.016
1	.024	.024	.016	.016	.024	.050	.033	.016	.024	.016	.016	.016	.016	.016
2	.024	.016	.024	.083	.124	.033	.033	.016	.050	.116	.016	.016	.016	.024
3	.016	.016	.024	.016	.016	.024	.016	.016	.016	.033	.024	.016	.083	.016
1	.016	.016	.008	.008	.008	.016	.016	.016	.008	.008	.008	.008	.008	.008
2	.033	.033	.024	.024	.041	.033	.016	.083	.016	.024	.016	.024	.024	.033
1	.350	.066	.016	.016	.033	.016	.008	.008	.016	.008	.008	.008	.008	.016
2	.141	.016	.050	.041	.033	.024	.016	.016	.016	.016	.016	.008	.008	.033
1	.066	.024	.050	.033	.016	.016	.016	.016	.083	.033	.033	.016	.116	.083
2	.016	.016	.008	.008	.008	.008	.016	.016	.016	.024	.008	.016	.016	.250
1	.066	.033	.050	.024	.024	.100	.016	.016	.033	.083	.050	.016	.024	.024
2	.066	.033	.016	.016	.016	.008	.016	.033	.016	.024	.016	.008	.008	.033
1	.083	.066	.050	.033	.033	.050	.100	.100	.083	.050	.041	.041	.041	.024
2	.016	.016	.033	.016	.016	.016	.116	.033	.016	.024	.066	.033	.016	.016
1	.083	.150	.050	.050	.033	.033	.016	.008	.016	.016	.016	.024	.016	.016
18	.063	.031	.030	.026	.028	.029	.029	.027	.027	.044	.033	.019	.025	.036
11	.067	.021	.026	.026	.033	.026	.020	.024	.021	.050	.039	.017	.019	.018
7	.056	.048	.036	.022	.020	.033	.042	.031	.037	.036	.032	.022	.033	.063

1	.008	.016	.016	.008	.033	.008	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
2	.016	.008	.016	.033	.033	.050	.100	.016	.016	.050	.016	.016	.016	.016	.016	.016	.016	.016
3	.024	.016	.006	.008	.008	.008	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
1	.066	.016	.091	.016	.050	.066	.033	.016	.016	.024	.016	.016	.024	.016	.024	.033	.024	.024
1	.016	.016	.008	.033	.016	.050	.016	.016	.024	.024	.016	.024	.016	.024	.016	.066	.033	.024
2	.033	.024	.100	.066	.033	.066	.033	.016	.016	.016	.016	.016	.016	.016	.066	.033	.024	.024
3	.057	.033	.033	.016	.033	.033	.016	.016	.016	.016	.016	.016	.016	.033	.024	.024	.024	.024
1	.008	.008	.008															
2	.024	.024	.016															
1	.008	.008	.008	.008	.008	.008	.016	.016	.016	.016	.016	.016	.016	.033	.008	.008	.008	.008
2	.016	.016	.016	.024	.016	.033	.016	.024	.008	.016	.016	.016	.016	.050	.033	.016	.016	.016
1	.050	.024	.024	.033	.050	.016	.050	.033	.024	.016	.016	.016	.016	.016	.033	.024	.024	.024
2	.050	.033	.024	.016	.008	.008	.008	.008	.008	.008	.008	.008	.008	.050	.016	.016	.016	.016
1	.024	.024	.033	.016	.016	.016	.066	.033	.033	.008	.008	.074	.050	.016	.016	.016	.016	.016
2	.016	.050	.016	.016	.016	.050	.008	.008	.008	.008	.008	.016	.051	.008	.008	.008	.008	.008
1	.053	.033	.033	.024	.024	.016	.050	.033	.041	.041	.100	.050	.041	.050	.050	.041	.050	.050
2	.016	.016	.016	.050	.016	.016	.037	.024	.024	.041	.083	.016	.016	.016	.016	.016	.016	.016
1	.024	.066	.016	.024	.016	.016	.016	.016	.016	.083	.050	.016	.016	.016	.016	.016	.016	.016
18	.028	.025	.026	.024	.033	.024	.025	.019	.018	.025	.056	.029	.022	.023				
11	.027	.010	.029	.023	.025	.028	.026	.016	.016	.021	.010	.024	.024	.025				
7	.030	.035	.023	.025	.020	.019	.035	.022	.022	.029	.049	.035	.022	.020				

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.016	.016	.008	.008	.016	.016	.016	.016	.008	.008	.008	.016	.016	.008
2	.016	.016	.050	.050	.041	.033	.041	.016	.024	.024	.033	.033	.033	.033
3	.016	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
1	.033	.016	.016	.016	.024	.024	.016	.016	.050	.016	.016	.016	.016	.016
1	.133	.033	.050	.066	.033	.033	.016	.008	.008	.016	.008	.016	.016	
2	.033	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	
3	.033	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	
1	.033	.008	.008	.008	.008	.008	.008	.016	.016	.016	.008	.016	.016	
2	.016	.016	.016	.033	.008	.016	.016	.016	.033	.016	.016	.016	.016	
1	.016	.033	.024	.016	.050	.041	.050	.016	.016	.016	.016	.016	.016	.008
2	.016	.008	.016	.016	.008	.008	.024	.016	.016	.016	.016	.016	.016	.008
1	.016	.008	.008	.016	.016	.016	.016							
2	.008	.008	.008	.008	.016	.008	.008							
1	.041	.041	.058	.050	.024	.016	.041	.033	.033	.066	.024	.050	.033	.016
2	.050	.016	.150	.016	.016	.008	.016	.016	.016	.024	.008	.008	.008	.016
1	.016	.016	.033	.016	.016	.016	.016	.008	.008	.008	.016	.016	.016	
18	.030	.017	.030	.022	.019	.017	.020	.015	.019	.019	.014	.018	.017	.014
11	.036	.016	.020	.024	.018	.016	.017	.014	.019	.015	.014	.017	.017	.016
7	.023	.021	.042	.019	.020	.016	.024	.017	.017	.026	.016	.021	.017	.012

									Retention					
	71	72	73	74	75	76	77	78	1	2	3	4	5	6
1	.008	.008							.005	.008	.008	.008	.008	.008
2	.016	.016							.016	.008	.008	.008	.008	.008
3	.008	.008							.008	.166	.333	.016	.016	.016
1	.016	.016	.008	.016	.024	.016	.016	.016	.016	.008	.008	.008	.008	.008
									.183	.016	.016	.070	.116	.083
									.816	.016	.008	.033	.016	.033
									.750	.166	.100	.016	.033	.033
									.016	.016	.016	.008	.016	.016
									.016	.050	.033	.008	.008	.008
1	.024	.016	.024	.016	.016				.024	.008	.033	.016	.033	.016
2	.016	.016	.008	.008	.016				.024	.050	.033	.016	.016	.008
									.016	.016	.016	.050	.016	.016
									.016	.008	.008	.016	.016	.016
									.050	.041	.033	.016	.083	.008
									.033	.008	.008	.016	.050	.050
1	.024	.016												
2	.016	.008							.250	.008	.016	.316	.033	.033
18	.016	.013	.013	.013	.018	.016	.016	.016	.140	.027	.042	.027	.028	.023
11	.012	.012	.008	.016	.024	.016	.016	.016	.203	.050	.056	.017	.033	.023
7	.020	.014	.016	.012	.016				.059	.019	.021	.063	.038	.022

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain Al_2O_3	Cord Al_2O_3	Body Length	Tail Length	Age
[illegible]	10	1.6707	.4388	100.9	78.482	72.966	170	145	140
72	24	1.6876	.4475	116.2	78.612	71.559	172	146	140
[illegible]	16	1.8095	.4902	131.3	78.735	72.113	178	152	140
72	[illegible]	1.6716	.4419	105.9	78.454	72.267	168	145	149
[illegible]	15	1.7482	.4715	120.5	78.619	72.498	177	150	149
[illegible]	[illegible]								
73	11	1.7948	.4790	127.5	78.394	72.482	178	149	142
47	15	1.7540	.4366	109.4	78.685	72.603	166	158	142
84	8	1.7814	.4408	128.5	78.651	72.481	173	142	149
[illegible]	15	1.7015	.4054	106.4	78.551	72.545	164	137	149
72	24	1.7545	.4275	100.4	78.602	72.701	165	122	140
[illegible]	12	1.6846	.4121	110.7	78.617	72.482	164	140	140
[illegible]	21	1.6590	.3837	100.9	78.571	71.722	156	141	142
[illegible]	[illegible]	1.6659	.4059	101.2	78.711	72.617	158	139	142
[illegible]	24	1.6846	.3935	95.9	78.614	72.774	153	137	142
69	23	1.4451	.3354	72.4	78.956	72.775	145	122	142
69	27	1.6129	.4044	98.1	78.572	72.630	158	137	149
55		1.6897	.4356	108.7	78.624	72.509	161	140	145
[illegible]		1.7265	.4513	117.6	78.571	72.274	170	144	144
63		1.6423	.3950	97.2	78.691	72.811	156	134	142

TABLE III-c LATCH BOX FIVE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	.883	.133	.250	.166	.050	.016	.016	.033	.016	.050	.066	.016	.033	.016
	2	2.41	.700	1.11	.283	.250	.283	.216	.050	.066	.350	.050	.016	.033	.016
	3	.666	.416	.666	1.01	1.11	.933	1.56	.150	.500	.283	.066	.166	.066	.133
	4	.833	.500	.416	.333	.083	.266	.050	.500	.416	.516	.183	.016	.016	.016
	1	.516	.050	.566	.500	.416	.550	.416	.150	.024	.085	.483	.033	.150	.566
	2	10.4	.283	.416	.333	.566	.200	.166	.066	.074	.050	.183	.116	.041	.133
	3	.500	1.25	.266	.516	.366	.200	.200	.166	.033	.083	.033	.033	.166	.041
	4	1.16	4.75	.250	1.00	.253	.050	.200	.083	.200	.041	.083	.133	.016	.041
	1	17.0	.233	.133	.116	.566	.183	.133	.283	.050	.316	.266	.016	.050	.016
	2	1.76	1.11	.058	.033	.041	.091	.024	.074	.024	.033	.216	.016	.016	.050
	1	.163	.333	.250	.350	2.16	.066	.083	.050	.033	.033	.058	.083	.016	.150
Females	1	1.50	.583	.133	.500	1.16	.333	.150	.116	.100	.250	.116	.066	.116	.050
	2	.500	1.75	2.50	.533	.916	.083	.333	.066	.150	.083	.183	.016	.016	.016
	1	7.33	.516	.466	.800	.083	.216	.316	.100	.024	.050	.100	.066	.066	.100
	1	.083	.050	.433	.750	.366	.250	.016	.124	.008	.016	.041	.166	.116	.075
	2	3.16	.500	.450	2.21	.133	1.08	.033	.150	.041	.024	.133	.183	.083	.116
	1	5.75	.750	.083	.416	.250	.008	.233	.233	.100	.450	.300	.050	.016	.050
	2	2.50	1.75	.500	.083	.500	.616	.110	.041	.083	.033	.066	.075	.083	.133
Averages	1	2.71	.858	.498	.540	.505	.306	.219	.136	.108	.1[illegible]	.137	.075	.064	.087
	2	2.97	.867	.398	.392	.517	.269	.250	.144	.1[illegible]	.1[illegible]	.148	.058	.075	.107
	3	2.29	.814	.056	.772	.394	.412	.171	.124	.074	.072	.119	.075	.070	.056

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.016	.016	.033	.033	.033	.050	.016	.016	.016	.016	.016	.016	.016	.024
2	.016	.200	.041	.033	.033	.066	.166	.033	.041	.050	.024	.050	.024	.016
3	.016	.016	.050	.024	.041	.058	.033	.016	.016	.050	.085	.166	.050	.016
4	.016	.116	.016	.016	.016	.033	.233	.050	.016	.058	.024	.024	.016	.024
1	.100	.133	.033	.050	.050	.066	.233	.033	.083	.024	.050	.100	.050	.024
2	.033	.141	.066	.058	.024	.016	.116	.016	.116	.016	.050	.100	.033	.016
1	.041	.066	.066	.016	.074	.033	.083	.066	.116	.033	.033	.166	.083	.024
2	.233	.050	.050	.033	.033	.033	.050	.024	.050	.016	.033	.016	.033	.033
1	.016	.116	.050	.033	.033	.033	.050	.033	.024	.033	.016	.016	.016	.033
2	.024	.050	.050	.016	.024	.066	.066	.016	.016	.016	.016	.016	.016	.033
1	.116	.216	.066	.066	.016	.083	.033	.024	.016	.016	.016	.083	.100	.050
1	.083	.066	.050	.050	.041	.033	.166	.050	.050	.033	.033	.083	.033	.050
2	.083	.024	.100	.016	.016	.016	.024	.016	.024	.016	.016	.016	.016	.016
1	.133	.083	.116	.033	.050	.066	.083	.050	.016	.133	.100	.050	.024	.083
1	.041	.033	.016	.016	.016	.016	.016	.033	.008	.008	.008	.050	.041	.008
2	.016	.024	.016	.100	.016	.016	.066	.033	.050	.033	.133	.041	.041	.016
1	.016	.074	.100	.016	.016	.016	.016	.050	.074	.033	.041	.016	.016	.050
2	.200	.083	.033	.024	.033	.033	.016	.016	.133	.050	.033	.074	.108	.133
18	.085	.088	.056	.053	.051	.039	.081	.081	.050	.065	.040	.060	.039	.033
11	.087	.100	.051	.035	.034	.046	.098	.029	.045	.029	.052	.060	.039	.026
7	.081	.049	.054	.036	.070	.028	.055	.035	.057	.045	.052	.047	.038	.050

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.024	.033	.050	.016	.033	.016	.033	.016	.008	.008	.016	.016	.033	.008
2	.016	.016	.033	.050	.050	.050	.024	.074	.016	.066	.016	.016	.016	.033
3	.100	.016	.166	.050	.116	.074	.083	.016	.050	.016	.016	.016	.033	.016
4	.016	.016	.116	.050	.016	.016	.266	.041	.050	.016	.033	.033	.024	.083
1	.033	.016	.066	.116	.033	.033	.083	.100	.183	.050	.033	.216	.116	.016
2	.016	.016	.100	.083	.033	.033	.033	.116	.016	.016	.041	.066	.083	.016
1	.016	.016	.133	.116	.033	.050	.066	.083	.024	.016	.016	.016	.016	.016
2	.021	.024	.050	.133	.050	.016	.016	.033	.016	.016	.008	.008	.008	.008
1	.033	.016	.016	.016	.016	.016	.033	.008	.016	.033	.008	.008	.024	.008
2	.008	.016	.008	.008	.008	.008	.008	.016	.016	.008	.008	.008	.008	.008
1	.066	.250	.416	.016	.016	.033	.050	.083	.016	.016	.016	.016	.033	.008
1	.066	.083	.116	.183	.133	.066	.016	.024	.050	.024	.050	.024	.024	.016
2	.016	.016	.050	.083	.016	.016	.016	.066	.016	.016	.016	.016	.016	.016
1	.033	.016	.024	.016	.066	.024	.016	.008	.016	.016	.016	.016	.033	.016
1	.008	.008	.016	.016	.016	.008	.008	.024	.024	.016	.016	.016	.016	.024
2	.050	.016	.033	.033	.033	.033	.033	.033	.016	.033	.033	.033	.033	.024
1	.050	.033	.016	.033	.024	.033	.016	.033	.016	.050	.016	.016	.016	.050
2	.050	.041	.033	.066	.025	.033	.033	.050	.033	.016	.016	.016	.016	.016
18	.044	.036	.095	.058	.044	.031	.046	.040	.051	.028	.020	.030	.030	.021
11	.038	.039	.132	.057	.039	.031	.063	.053	.037	.023	.019	.038	.035	.020
7	.053	.030	.037	.061	.053	.050	.019	.019	.022	.023	.023	.019	.022	.023

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1	.008	.008	.033	.008	.008	.016	.016	.016	.008	.016	.016	.016	.016	.016
2	.036	.050	.016	.016	.016	.016	.033	.016	.008	.016	.016	.008	.008	.016
3	.016	.016	.016	.016	.016	.016	.033	.016	.016	.016	.016	.016	.033	.050
4	.150	.016	.016	.033	.016	.034	.033	.050	.016	.041	.016	.016	.016	.016
1	.050	.041	.016	.116	.100	.050	.083	.016	.200	.083	.083	.016	.083	.133
2	.016	.016	.033	.116	.058	.050	.183	.083	.066	.074	.024	.083	.041	.166
1	.016	.016	.016	.016	.016	.016	.016	.016	.033	.016	.016	.016	.016	.024
2	.008	.008	.016	.033	.016	.008	.008	.008	.016	.016	.016	.008	.050	.016
1	.016	.008	.008	.024	.016	.016	.016	.016						
2	.008	.041	.041	.033	.008	.008	.008	.008						
1	.036	.036	.016	.016	.016	.016	.016	.016	.008	.008	.008	.008	.008	
1	.016	.016	.016	.050	.033	.016	.016	.016	.033	.024	.033	.016	.016	.016
2	.016	.016	.016	.016	.008	.024	.033	.016	.016	.016	.016	.016	.016	.033
1	.016	.016	.016	.016	.016	.016	.016	.041	.024	.024	.016	.033	.016	.033
1	.016	.016	.033	.016	.016	.008	.008	.008						
2	.033	.016	.016	.008	.008	.016	.016	.024						
1	.016	.016	.016	.016	.016	.016	.033	.016	.016	.008	.008	.008	.016	.116
2	.050	.016	.050	.050	.033	.033	.016	.033	.050	.033	.033	.033	.033	.016
18	.029	.018	.021	.032	.023	.020	.030	.020	.036	.024	.019	.022	.020	.050
11	.033	.028	.020	.037	.026	.021	.045	.019	.041	.026	.017	.025	.023	.054
7	.023	.016	.023	.024	.018	.018	.029	.029	.027	.021	.021	.021	.019	.042

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.[illegible]4	.[illegible]00	.[illegible]00	.[illegible]00										
[illegible]	.[illegible]16	.016	.016	.[illegible]33										
[illegible]	.[illegible]04	.[illegible]7	.016	.[illegible]13										
[illegible]	.008	.[illegible]33	.[illegible]08	.[illegible]09										
1	.053	.[illegible]50	.024	.[illegible]33	.016	.011	.[illegible]06	.016	.011	.016	.[illegible]24	.0[illegible]8	.016	.008
2	.033	.[illegible]50	.033	.050	.050	.024	.016	.[illegible]24	.024	.033	.050	.033	.031	.024
1	.041	.016	.016	.050	.016	.016	.016	.016	.033	.016	.016	.016	.041	.041
2	.033	.033	.033	.[illegible]16	.016	.[illegible]50	.008	.008	.[illegible]08	.016	.[illegible]16	.[illegible]16	.016	.016
1	.016	.024	.024	.016	.024	.024	.024	.033	.016	.024	.024	.024	.016	.016
[illegible]	.008	.008	.033	.008	.008	.[illegible]08	.008	.024	.[illegible]16	.008	.008	.008	.008	.016
1	.033	.[illegible]16	.016	.016	.016	.008	.008	.008	.008	.033	.016	.050	.033	.016
1	.[illegible]16	.008	.008	.008	.[illegible]16	.[illegible]08	.008	.[illegible]16	.[illegible]08	.008	.016	.[illegible]16	.[illegible]08	.008
[illegible]	.033	.033	.[illegible]16	.066	.[illegible]33	.[illegible]33	.[illegible]07	.[illegible]33	.[illegible]33	.[illegible]50	.033	.033	.033	.[illegible]16
10	.[illegible]20	.022	.020	.031	.019	.021	.01[illegible]	.017	.018	.022	.022	.020	.020	.017
11	.026	.[illegible]25	.025	.037	.024	.032	.012	.016	.[illegible]20	.028	.030	.018	.024	.022
7	.021	.017	.019	.022	.016	.018	.012	.019	.012	.024	.019	.024	.019	.014

	71	72	73	74	75	76	77	78	79	80	81	82	83	84
1 [illegible] 7 [illegible]	.017 .055 [illegible] .036	.053 .055 .01[illegible] .076	.008 .016 [illegible] [illegible]	.008 .076 .008 .008	.00[illegible] .050 .024 .008	.016 .050 [illegible] [illegible]	.016 .058 [illegible] [illegible]	.050 .037 .008 [illegible]	.10[illegible] .033 .008 .008	.01[illegible] [illegible] [illegible] [illegible]	[illegible] .050 .016 .008	.008 .0[illegible]4 .008 [illegible]	.01[illegible] .041 [illegible] [illegible]	[illegible] .100 .008 [illegible]
-	.050	.050	.066	.024	.033	.033	.166	[illegible]	.050	.016	.016	.016	.008	.024
1 [illegible]	.0[illegible] .01[illegible]	.016 .016	.016 .01[illegible]	.016 .016	.016 .016									
18	.033	.025	.020	.015	.022	.024	.047	.036	.049	.017	.022	.012	.016	.032
11	.037	.024	.01[illegible]	.010	.022	.022	.1[illegible]	.024	.037	.018	.024	.012	.018	.035
7	.027	.027	[illegible]	.01[illegible]	.021	.033	.166	.085	.050	.016	.016	.016	.008	.024

	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	.116	.050	.052	.064	.050	.035	.041	.037	.035	.035	.016	.008	.016	.024
2	.050	.050	.044	.066	.050	.035	.041	.037	.035	.035	.016	.008	.016	.024
3	.006													
1	.016	.005	.008	.008	.008	.008	.016	.016	.016	.008	.008			
1	.028	.007	.011	.032	.024	.019	.024	.021	.019	.019	.013	.011	.016	.016
11	.024	.037	.028	.043	.032	.024	.028	.024	.024	.024	.016	.019	.016	.016
5	.016	.008	.008	.008	.008	.008	.016	.016	.008	.008	.008			

	99	100	101	102	103	104	105	106	107	108	109	110	111	112
1	.008	.016	.016	.008	.008	.016	.008	.016	.016	.033	.016	.016	.016	.016
	.016	.024	.024	.024	.016	.016	.016	.008	.016	.016	.008	.033	.016	.008
10	.012	.016	.020	.016	.012	.016	.012	.012	.016	.024	.012	.016	.016	.016
11	.012	.016	.020	.016	.012	.016	.012	.012	.016	.024	.012	.016	.012	.012

	113	114	115	116	117	118	119	120	121	122	123	124	125	
1 2	.008 .024	[illegible] .016	.008 .016	.016 .008	.016 .024	.016 .008	.016 .016	.016 .016	.016 .016	.016 .016	.016 .016	.016 .008	.016 .016	
10	.016	.012	.012	.012	.020	.012	.016	.016	.016	.016	.016	.012	.016	
11	.016	.012	.012	.012	.020	.012	.016	.016	.016	.016	.016	.012	.016	

Retention.

	1	2	3	4	5	6	7	8	9	10				
1	.200	.016	.016	.050	.050	.050	.016	.016	.008	.016				
2	.016	.016	.016	.050	.016	.016	.016	.016	.016	.016				
3	.016	.016	.016	.016	.016	.116	.016	.016	.016	.016				
4	.233	.016	.016	.016	.016	.016	.016	.016	.016	.016				
1	.400	.033	.050	.033	.066	.133	.050	.033	.033	.050				
2	.016	.033	.016	.016	.016	.033	.016	.016	.016	.033				
1	.116	.016	.016	.016	.016	.083	.033	.033	.033	.033				
2	.066	.116	.033	.016	.016	.016	.016	.016	.016	.016				
1	.150	.016	.016	.016	.016	.166	.016	.033	.033	.050				
2	.150	.016	.016	.016	.016	.016	.016	.016	.016	.016				
1	.285	.016	.016	.416	.900	.083	.016	.016	.016	.016				
1	.216	.066	.033	.033	.083	.033	.016	.016	.016	.008				
2	.116	.016	.050	.008	.016	.016	.033	.008	.016	.008				
1	.100	.050	.033	.050	.016	.033	.016	.050	.033	.016				
1	.233	.033	.016	.166	.050	.166	.016	.050	.050	.050				
2	.283	.050	.033	.083	.033	.016	.033	.016	.033	.016				
1	.050	.008	.008	.008	.008	.008	.008	.008	.008	.008				
2	.476	.166	.033	.083	.250	.050	.016	.166	.500	.333				
18	.169	.052	.026	.057	.088	.058	.020	.030	.048	.039				
11	.149	.063	.020	.030	.104	.066	.020	.020	.019	.025				
7	.200	.098	.036	.054	.065	.046	.019	.044	.093	.062				

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain $\%H_2O$	Cord $\%H_2O$	Body Length	Tail Length	Age
60	12	1.7104	.4458	125.5	78.205	72.135	171	139	150
7	12	1.8161	.4409	124.4	78.624	72.399	166	145	150
00	12	1.7773	.4749	121.9	78.480	72.668	166	139	150
60	12	1.8900	.4885	139.5	78.576	72.773	175	154	150
105	21	1.6564	.4145	127.7	78.483	72.242	168	142	149
110	22	1.7654	.5103	169.2	76.854	75.094	186	167	149
85	17	1.7208	.4460	115.4	78.537	72.008	169	142	149
80	16	1.5782	.3982	91.9	78.279	72.225	153	131	149
45	9								
40	8								
55	11	1.7086	.4599	121.4	78.262	71.711	170	145	149
70	14	1.5744	.3984	102.8	78.404	72.038	161	135	150
65	13	1.8175	.4766	137.8	78.591	72.555	175	153	150
95	19	1.5420	.3800	87.8	78.592	72.657	148	131	153
40	8	1.7150	.4613	116.7	78.540	72.967	170	149	144
50	10								
60	12	1.6506	.4174	111.9	78.632	**71.921**	162	140	150
75	15	1.5167	.4009	91.4	78.090	72.511	153	122	150
		1.6958	.4413	119.5	78.481	72.393	166	142	149
		1.7359	.4539	**127.2**	78.486	72.361	169	144	149
		1.6357	.4224	108.0	78.474	72.441	161	138	150

TABLE IV-a MAZE WITH OTHER PROBLEMS ONE TRIAL

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	5.70	1.76	2.05	1.66	1.76	.450	1.78	1.41	.316	.166	.366	.133	.133	.374
	2	12.2	3.36	4.08	1.33	1.16	.883	1.51	.583	.200	.250	.416	.116	.166	.150
	3	15.9	2.31	.666	1.41	1.78	.583	.833	.600	.483	.283	.166	.216	.291	.116
	1	35.1	1.50	2.00	3.19	.958	1.21	.316	.983	.450	.250	.266	.166	.250	.416
	2	1.80	3.83	1.50	.800	.666	.333	.316	.116	.216	.266	.100	.150	.116	.283
	3	7.00	2.16	.750	.750	1.03	1.88	1.75	9.25	1.00	.550	.500	.766	.333	.750
	1	5.08	5.15	.783	1.44	.833	.150	.233	.200	.166	.133	.100	.100	.108	.183
	2	1.60	6.12	1.00	3.71	2.58	.183	.466	.933	.124	.124	.174	.116	.133	.200
	3	5.83	1.66	4.58	.250	1.00	.350	.966	.400	.116	.500	.200	.416	.074	.433
	1	6.00	2.28	1.25	.650	.916	.250	.333	.150	.100	.116	.500	.133	.141	.116
	2	12.1	.100	.616	.750	.650	.350	2.04	.166	.150	.283	.250	.150	.141	.166
Females	1	12.3	6.58	1.70	1.83	1.70	3.85	.833	.733	.166	.258	.233	.150	.233	.100
	2	54.4	1.75	.916	.874	.500	3.58	.608	2.25	.416	.750	.500	.116	.116	.100
	1	6.25	1.76	2.05	.266	.416	.750	.266	.766	.283	.233	.150	.583	.258	.416
	2	14.8	4.40	.516	.266	.174	.133	.150	.133	.141	.100	.100	.333	.500	.266
	1	20.6	1.00	.916	.166	2.50	.250	.250	.316	.183	.750	.283	.316	.500	.250
	2	14.2	.750	1.03	6.00	1.01	1.06	.983	.200	.433	.283	.166	.500	.316	.183
	3	25.6	2.91	.816	.774	.366	1.40	.833	.983	.333	.233	.283	.333	.283	.150
Averages	18	14.2	2.71	1.51	1.45	1.11	.980	.803	1.12	.293	.307	.264	.266	.227	.258
	11	9.85	2.70	1.75	1.44	1.21	.602	.958	1.34	.301	.265	.276	.223	.171	.289
	7	21.1	2.73	1.13	1.45	.952	1.57	.560	.768	.279	.372	.245	.333	.315	.209

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.183	.616	.233	.141	.150	.200	.233	.150	.124	.116	.133	.116	.150	.108
2	.250	.283	.500	.116	.116	.100	.100	.150	.100	.166	.100	.083	.091	.100
3	.141	.416	.150	.100	.216	.200	.166	.166	.116	.133	.108	.108	.100	.091
1	.333	.116	.133	.150	.100	.116	.124	.216	.183	.116	.133	.100	.100	.091
2	.091	.100	.083	.116	.100	.108	.150	.100	.100	.100	.108	.141	.116	.091
3	.516	.383	.350	.316	.266	.183	.233	.300	.316	.124	.183	.116	.166	.116
1	.108	.100	.100	.116	.116	.100	.083	.074	.100	.083	.116	.074	.083	.083
2	.116	.100	.091	.116	.100	.133	.100	.100	.100	.108	.108	.083	.116	.083
3	.416	.366	.333	.366	.316	.300	.250	.250	.300	.116	.383	.341	.100	.133
1	.083	.100	.108	.091	.100	.150	.200	.083	.108	.100	.083	.083	.083	.083
2	.133	.233	.150	.166	.166	.133	.100	.150	.133	.100	.116	.100	.083	.083
1	.133	.650	.133	.116	.116	.166	.100	.300	.116	.100	.100	.116	.108	.091
2	.133	.666	.200	.100	.233	.250	.166	.116	.100	.100	.124	.116	.116	.116
1	.116	.208	.100	.333	.166	.091	.133	.100	.150	.100	.133	.100	.116	.083
2	.166	.174	.366	.200	.183	.108	.124	.100	.150	.150	.116	.150	.091	.091
1	.250	.133	.216	.133	.133	.116	.091	.100	.083	.100	.141	.133	.083	.133
2	.300	.266	.233	.224	.100	.133	.116	.100	.100	.100	.100	.116	.100	.083
3	.100	.166	.333	.108	.116	.100	.100	.091	.091	.083	.116	.116	.100	.100
18	.198	.282	.206	.168	.155	.149	.142	.147	.137	.110	.133	.121	.105	.097
11	.215	.255	.202	.163	.158	.156	.158	.158	.152	.114	.142	.122	.108	.096
7	.171	.323	.211	.173	.149	.137	.118	.129	.112	.104	.118	.121	.102	.099

	29	30	31	32	33	34	35	36	37	38	39	40	41	
1	.100	.083	.108	.083	.116	.116	.083	.083	.083					
2	.108	.091	.091	.083	.091	.100	.083	.074	.083					
3	.091	.108	.100	.083	.083	.100	.083	.091	.083					
1	.100	.100	.083	.091	.083	.091	.083	.083						
2	.083	.100	.091	.091	.083	.083	.083	.083						
3	.116	.116	.083	.383	.100	.083	.083	.091						
1	.083	.074	.083	.074	.083	.066	.066	.091	.074	.066	.074			
2	.083	.083	.083	.074	.066	.066	.066	.074	.074	.083	.083			
3	.116	.116	.183	.083	.216	.250	.150	.166	.133	.216	.166			
1	.133	.083	.083	.074	.066									
2	.100	.083	.083	.083	.083									
1	.083	.150	.166	.116	.091	.116	.083	.091	.083	.074	.083			
2	.116	.100	.150	.116	.083	.150	.083	.083	.091	.066	.066			
1	.083	.116	.100	.116	.116	.100	.083	.083	.083					
2	.091	.083	.116	.091	.100	.116	.074	.083	.083					
1	.074	.100	.083	.083	.074	.074	.083	.083	.083	.074	.083	.083	.083	
2	.116	.116	.083	.066	.074	.074	.083	.083	.091	.083	.074	.083	.074	
3	.100	.116	.108	.074	.066	.083	.083	.116	.083	.100	.083	.083	.083	
18	.098	.101	.104	.103	.093	.104	.084	.091	.086	.095	.089	.083	.080	
11	.101	.094	.097	.109	.097	.106	.086	.092	.088	.121	.107			
7	.094	.111	.115	.094	.086	.101	.081	.088	.085	.079	.077	.083	.080	

Retention														
1	2													
.234	.109													
.566	.366													
.141	.200													
.68	.108													
.850	.183													
.733	.174													
.285	.133													
.266	.150													
.597	.350													
.191	.116													
.950	.116													
.400	.166													
.566	.091													
1.50	.116													
.516	.091													
.333	.116													
.666	.133													
.216	.100													
.434	.156													
.470	.182													
.378	.116													

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain ÷ 20	Cord ÷ 20	Body Length	Tail Length	Age
[illegible]	37	1.[illegible]	.4[illegible]	105.1	78.[illegible]	72.645	161	150	146
[illegible]	[illegible]	1.6159	.4068	117.5	7[illegible].[illegible]	72.[illegible]	167	14[illegible]	11[illegible]
37	37	1.[illegible]51	.[illegible]46	106.5	7[illegible].885	72.909	15[illegible]	1[illegible]7	145
[illegible]	[illegible]	1.6861	.4547	1[illegible].8	78.401	71.[illegible]	1[illegible]	1[illegible]	145
[illegible]	[illegible]	1.[illegible]5[illegible]	.4[illegible]2[illegible]	1[illegible].[illegible]	7[illegible].[illegible]1	71.943	176	145	1[illegible]
[illegible]	[illegible]	1.6[illegible]8[illegible]	.4805	1[illegible].[illegible]	78.[illegible]	7[illegible].14[illegible]	175	1[illegible]5	1[illegible]5
[illegible]	[illegible]	1.7[illegible]67	.[illegible]30	129.5	78.242	71.655	1[illegible]6	149	144
[illegible]	[illegible]	1.[illegible]118	.[illegible]9[illegible]0	1[illegible].[illegible]	78.[illegible]1	7[illegible].[illegible]7	1[illegible]0	1[illegible]	1[illegible]1
[illegible]	[illegible]	1.7017	.[illegible]617	137.[illegible]	78.[illegible]02	71.970	179	1[illegible]5	144
[illegible]	[illegible]	1.6945	.[illegible]8[illegible]4	148.9	78.347	71.[illegible]99	180	1[illegible]5	144
[illegible]	[illegible]	1.6[illegible]05	.4765	144.0	78.[illegible]34	71.7[illegible]2	177	148	1[illegible]4
[illegible]	[illegible]	1.6[illegible]58	.[illegible]084	105.1	78.[illegible]95	7[illegible].257	1[illegible]2	14[illegible]	157
39	[illegible]	1.5725	.3826	100.0	78.[illegible]50	7[illegible].137	1[illegible]5	1[illegible]4	157
[illegible]	[illegible]	1.[illegible]840	.4876	117.0	78.[illegible]34	71.702	161	151	140
[illegible]	[illegible]	1.6733	.4349	1[illegible]4.0	7[illegible].604	7[illegible].878	1[illegible]5	1[illegible]6	140
[illegible]	[illegible]	1.[illegible]7[illegible]4	.[illegible]8[illegible]6	[illegible]9.0	78.[illegible]7	71.[illegible]5	150	1[illegible]6	144
[illegible]	[illegible]	1.[illegible]5[illegible]0	.[illegible]4[illegible]71	11[illegible].4	78.[illegible]89	7[illegible].[illegible]98	1[illegible]7	150	144
[illegible]	[illegible]	1.7092	.[illegible]1[illegible]	102.1	7[illegible].762	72.[illegible]72	1[illegible]0	14[illegible]	144
34	34	1.6692	.4309	120.2	78.537	72.067	167	145	145
34	34	1.6[illegible]81	.4440	128.2	78.[illegible]81	7[illegible].114	171	144	144
35	35	1.6895	.4104	107.5	78.565	71.992	160	141	146

TABLE IV-b PAGE THREE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	3.41	7.33	2.66	18.3	5.00	1.75	.450	1.35	.683	1.83	.350	.666	.233	.416
	2	2.83	6.16	3.16	1.75	1.50	1.16	.950	.333	.183	.166	.166	.150	.208	.116
	3	6.00	1.75	14.5	2.25	2.41	6.41	.833	.166	.183	.366	.116	.100	.116	.116
	1	3.33	.750	.566	.533	.983	.483	.550	.808	.516	.800	.171	.174	.633	.200
	1	8.33	1.00	2.61	2.41	1.25	.750	2.16	.416	1.25	1.66	.616	1.26	.200	.141
	2	30.0	1.16	.500	2.83	.500	.750	.533	.516	.333	.166	.450	.316	.333	.166
	3	1.33	7.35	1.50	1.50	2.16	1.91	.533	.683	.366	.833	.516	.350	.750	1.06
	1	6.16	1.25	2.53	.683	.291	.241	.583	.124	.141	.158	.166	.116	.183	.150
	2	6.41	2.91	2.08	.608	1.05	1.05	.116	.183	.250	.141	.133	.224	.083	.100
	1	4.16	1.00	.683	1.13	.500	.416	.150	.233	.150	.100	.100	.333	.100	.083
	2	15.7	5.50	1.75	1.10	.300	.400	1.08	.500	.533	.583	.983	.466	.333	.166
Females	1	4.00	10.5	5.00	4.00	3.50	2.25	.350	.500	.466	.833	.750	.650	.116	.134
	2	2.50	1.18	2.00	8.50	6.91	3.00	.600	.233	.466	.333	.916		.616	.416
	1	27.9	4.50	1.58	3.25	1.64	1.26	.358	2.83	2.93	1.25	.583	.266	.116	.166
	2	8.01	3.41	1.16	.366	.500	1.40	.166	.483	.358	.133	.116	.124	.150	.116
	1	9.25	2.85	2.51	.916	1.38	.974	.350	.516	.783	.183	.183	.150	.166	.200
	2	8.58	9.75	1.50	1.23	1.56	1.25	.416	.183	.750	.250	.133	.133	.200	.166
	1	1.16	5.00	3.75	1.48	1.58	1.96	4.00	.333	.258	.958	.200	.133	.150	.100
Averages	18	8.28	4.07	2.77	2.93	1.83	1.52	.787	.577	.588	.596	.369	.330	.260	.222
	11	7.96	3.28	2.95	3.00	1.44	1.39	.721	.482	.417	.618	.342	.377	.288	.246
	7	8.77	5.31	2.50	2.82	2.43	1.72	.891	.725	.858	.562	.411	.243	.216	.184

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.250	.141	.266	.200	.200	.350	.200	.108	.108	.108	.083	.100	.133	.083
2	.108	.083	.100	.124	.100	.350	.116	.091	.091	.116	.116	.116	.083	.100
3	.100	.100	.116	.100	.133	.150	.091	.133	.100	.083	.083	.100	.083	.124
1	.200	.250	.116	.100	.150	.100	.100	.183	.224	.166	.133	.083	.083	.166
1	.550	.500	.150	.166	.133	.250	.116	.166	.216	.124	.116	.100	.116	.150
2	.750	.450	.250	.200	1.80	.500	.300	.166	.116	.100	.083	.100	.133	.166
3	.800	.116	.133	.333	.216	.116	.116	.133	.100	.108	.133	.100	.100	.116
1	.133	.100	.100	.083	.083	.083	.100	.108	.108	.108	.083	.100	.083	.133
2	.100	.116	.100	.200	.100	.108	.116	.133	.116	.100	.074	.083	.083	.083
1	.900	.074	.124	.074	.083	.083	.083	.083	.083	.066	.083	.083	.083	.074
2	.150	.124	.124	.108	.100	.100	.108	.166	.116	.333	.083	.091	.100	.083
1	.133	.116	.116	.083	.116	.083	.083	.100	.083	.083	.083	.091	.116	.083
2	.316	.316	2.25	.800	.450	.683	.250	1.24	.500	.350	.133	.166	.283	.116
1	.133	.083	.183	.183	.100	**.100**	.100	.116	.100	.100	**.133**	.166	.133	.083
2	.166	.083	.083	.116	**.100**	.133	.116	.100	.083	.100	.116	.150	.116	.083
1	.124	.116	.083	.483	.100	.108	.200	.100	.100	.233	.166	.233	.116	.133
2	.133	.166	.150	.116	.083	.100	.133	.183	.116	.100	.100	.116	.116	.083
1	.108	.100	.100	.100	.083	.083	.100	.108	.158	.100	.083	.083	.100	.083
18	.286	.168	.252	.198	.266	.185	.134	.189	.139	.137	.104	.114	.114	.107
11	.367	.186	.143	.153	.281	.199	.131	.133	.125	.128	.097	.096	.098	.116
7	.159	.140	.423	.268	.147	.184	.140	.278	.162	.152	.116	.143	.140	.094

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.083	.083	.100	.091	.116	.083	.100	.116	.100	.083	.100	.083	.083	.083
2	.083	.100	.100	.091	.266	.100	.116	.116	.100	.100	.083	.083	.083	.083
3	.124	.141	.108	.083	.083	.083	.083	.083	.166	.083	.133	.100	.083	.083
1	.108	.100	.116	.100	.083	.083	.083	.083	.100	.116	.100	.150	.116	.116
1	.100	.100	.116	.200	.100	.100	.108	.100	.116	.100	.100	.083	.083	.083
2	.116	.100	.100	.083	.083	.083	.074	.074	.083	.083	.091	.100	.083	.083
3	.200	.091	.124	.116	.150	.083	.124	.108	.083	.083	.116	.083	.083	.083
1	.083	.074	.066	.066	.074	.083	.116	.083	.074	.074	.066	.074	.074	.074
2	.083	.083	.100	.083	.100	.116	.083	.083	.116	.116	.100	.116	.100	.083
1	.083	.083	.100	.100	.083	.066	.074	.074	.083	.074	.083	.083	.074	.066
2	.083	.083	.091	.100	.116	.100	.091	.083	.083	.116	.066	.066	.091	.116
1	.083	.100	.074	.083	.091	.083	.083	.083	.083	.083	.083	.091	.083	.083
2	.141	.108	.083	.200	.100	.083	.100	.083	.083	.083	.083	.066	.100	.083
1	.100	.116	.083	.083	.116	.100	.100	.083	.083	.083	.091	.083	.066	.083
2	.108	.100	.083	.083	.100	.083	.108	.083	.083	.116	.083	.083	.074	.074
1	.150	.216	.133	.100	.100	.091	.133	.216	.083	.083	.100	.083	.074	.074
2	.100	.083	.083	.083	.116	.083	.083	.074	.100	.083	.124	.083	.100	.083
1	.083	.100	.116	.083	.100	.083	.083	.083	.083	.083	.083	.083	.083	.083
18	.106	.107	.099	.102	.109	.088	.096	.094	.094	.091	.093	.088	.085	.084
11	.104	.094	.102	.101	.114	.089	.095	.091	.100	.093	.094	.092	.086	.086
7	.109	.128	.093	.103	.103	.086	.098	.100	.085	.087	.092	.081	.082	.080

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1	.083	.083	.083	.091	.091	.091	.083	.083	.100	.083	.066	.083	.083	.083
2	.100	.100	.083	.083	.083	.083	.166	.100	.166	.100	.083	.100	.091	.091
3	.074	.074	.083	.083	.083	.085	.083	.083	.083	.074	.074	.074	.066	.074
1	.116	.083	.083	.083	.083	.083	.100	.083	.083	.083	.100	.083	.100	.100
1	.083	.083	.083	.083	.100	.083	.100	.083	.083	.083	.083	.083	.083	.083
2	.083	.091	.083	.074	.074	.074	.116	.083	.083	.083	.083	.091	.083	.100
3	.083	.100	.083	.083	.091	.074	.083	.083	.083	.074	.074	.085	.093	.133
1	.074	.074	.074											
2	.116	.108	.091											
1	.083	.133	.100	.083	.283	.066	.133	.066	.133	.074	.083	.083	.083	.083
2	.150	.100	.083	.100	.166	.233	.083	.074	.116	.133	.083	.091	.074	.074
1	.100	.100	.100	.083	.091	.100	.083	.083	.083	.083	.083	.083	.083	.083
2	.066	.116	.100	.083	.091	.083	.100	.083	.066	.083	.083	.116	.083	.083
1	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.091	.091	.083	.083
2	.074	.083	.083	.083	.074	.083	.074	.083	.083	.083	.166	.100	.074	.074
1	.083	.074	.083	.083	.083	.100	.083	.074	.083	.083	.083	.100	.083	.100
2	.083	.083	.083	.083	.083	.083	.083	.074	.091	.083	.100	.083	. 83	.083
1	.083	.083	.074	.083	.083	.083	.074	.074	.133	.083	.083	.074	.083	.083
18	.089	.091	.085	.084	.102	.092	.095	.080	.097	.085	.088	.088	.082	.088
11	.095	.093	.084	.084	.117	.096	.105	.082	.103	.087	.081	.085	.082	.091
7	.081	.088	.086	.083	.084	.087	.082	.079	.088	.083	.098	.092	.081	.084

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.083	.074	.083	.074	.066	.116	.116	.083	.083	.083	.083	.100	.083	.091
2	.083	.100	.083	.083	.074	.074	.074	.083	.083	.083	.083	.083	.083	.083
3	.074	.074	.074	.100	.066	.083	.066	.083	.100	.066	.074	.074	.074	.083
1	.083	.083	.083	.083	.083	.100	.083	.083	.100	.100	.100	.083	.100	.083
1	.083	.083	.083	.100	.083	.083	.100	.083	.083	.083	.074	.083	.083	
2	.083	.083	.083	.083	.074	.083	.083	.083	.083	.083	.083	.083	.074	
3	.100	.083	.100	.083	.083	.100	.083	.083	.100	.100	.100	.083	.083	
1	.083	.083	.133	.083	.066	.074	.074	.074	.074	.074	.074	.074	.074	
2	.074	.083	.133	.100	.074	.066	.083	.083	.083	.074	.083	.074	.074	
1	.083	.074	.083	.083	.100	.100	.083	.074	.074	.116	.074	.083	.083	.083
2	.083	.083	.083	.083	.083	.083	.083	.074	.083	.074	.066	.083	.083	.074
1	.100	.083	.100	.083	.083	.091	.083							
2	.074	.083	.083	.091	.074	.074	.074							
1	.100	.083	.083	.091	.100	.108	.100	.083	.083	.091	.116	.100	.100	.083
2	.133	.091	.124	.100	.074	.100	.083	.091	.083	.100	.083	.116	.100	.083
1	.083	.083	.083	.074	.100	.083	.083	.083	.083	.083	.083	.083	.083	
18	.087	.082	.093	.087	.080	.087	.084	.081	.084	.085	.082	.085	.084	.082
11	.082	.082	.095	.087	.074	.084	.084	.082	.086	.081	.081	.081	.080	.085
7	.093	.082	.091	.086	.087	.091	.084	.081	.081	.092	.084	.093	.089	.080

									Retention.					
	71	72	73	74	75	76	77	78	1	2	3	4	5	6
1	.100	.083							.300	.150	.166	.116	.100	.083
2	.083	.083							.133	.116	.100	.116	.100	.083
3	.083	.074							.250	.184	.250	.100	.100	.100
1	.083	.083	.083	.083	.083	.083	.083	.083	.350	.166	.116	.166	.100	.100
									.116	.116	.116	.116	.083	.116
									.500	.250	.250	.083	.100	.083
									1.13	1.08	.166	.250	.150	.116
									.750	.300	.150	.183	.083	.066
									.150	.150	.141	.083	.083	.033
1	.083	.083	.066	.083	.083				.183	.100	.200	.100	.083	.100
2	.074	.074	.083	.074	.083				.250	.133	.108	.083	.083	.166
									.300	.208	.166	.083	.083	.083
									.250	.133	.116	.283	.100	.083
1	.091	.100							.133	.108	.116	.100	.083	.083
2	.083	.083							.166	.116	.233	.083	.083	.150
									.250	.183	.116	.083	.083	.083
18	.085	.082	.077	.080	.083	.083	.083	.083	.32	.219	.155	.120	.093	.098
11	.087	.080	.083	.083	.083	.083	.083	.083	.412	.279	.161	.134	.099	.092
7	.082	.085	.074	.078	.083				.210	.140	.146	.116	.085	.106

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain $\%H_2O$	Cord $\%H_2O$	Body Length	Tail Length	Age
56	22	1.6707	.4388	102.9	78.482	71.958	170	145	140
53	21	1.6876	.4476	110.2	78.512	71.559	172	146	140
66	22	1.8095	.4902	101.3	78.736	72.117	170	152	140
43	15	1.6716	.4319	105.9	78.244	71.262	162	145	149
52	19	1.7182	.4715	120.5	78.613	72.492	177	148	149
45	15	1.7948	.4790	157.5	78.694	71.441	175	149	138
45	15	1.7340	.4506	109.4	78.685	72.006	166	158	142
61	17	1.7214	.4408	102.5	78.651	72.461	173	142	149
59	20	1.7013	.4254	100.4	78.551	72.543	164	157	149
57	19	1.7215	.4375	100.4	78.601	72.701	166	122	140
60	20	1.6846	.4121	110.7	78.617	72.482	164	146	140
64	21	1.6590	.3887	100.9	78.571	71.732	165	143	142
62	20	1.6659	.4059	101.2	78.711	72.617	159	159	142
70	24	1.6646	.3985	95.9	78.514	72.734	158	137	142
68	24	1.6451	.3949	93.4	78.956	74.776	145	122	142
63	19	1.6129	.4044	98.1	78.572	72.650	158	137	149
50		1.6897	.4286	108.7	78.624	72.509	161	140	143
55		1.7265	.4513	117.6	78.571	72.274	170	144	144
60		1.6425	.3950	97.2	79.691	72.611	156	134	142

TABLE IV-c MAZE FIVE TRIALS

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	10.0	2.88	2.90	4.75	2.66	1.75	1.41	.500	.913	.583	.683	.250	.250	.550
	2	4.75	4.11	5.75	2.58	1.66	1.07	.383	.150	.270	.500	.266	.116	.100	.174
	3	29.1	1.41	1.33	1.16	.583	1.33	.750	1.08	1.50	2.25	1.01	.183	.250	.266
	4	8.75	11.0	1.33	9.25	.750	2.41	1.5	.716	1.91	2.16	1.35	.535	.408	.333
	1	1.25	7.58	.650	1.07	12.5	.333	.358	.400	.400	.200	.316	.233	.166	.250
	2	9.15	.916	.950	4.83	.850	.533	.466	.416	1.18	.583	.066	.166	.366	.400
	1	2.75	1.08	.933	.400	.750	.333	.433	1.18	.266	.133	.166	.200	.216	.233
	2	4.91	1.20	.616	.650	.166	.247	1.01	.183	.166	.183	.133	.316	.366	.183
	1	4.90	.100	1.16	1.06	4.80	.841	.200	.183	.150	.033	.100	.116	.166	.100
	2	9.08	2.51	7.83	3.16	1.08	.416	.583	.141	.150	.141	.500	.583	.583	.350
	1	14.4	50.3	15.4	2.36	3.36	4.36	.666	2.50	1.65	1.98	.283	.166	.250	.166
Females	1	17.8	6.88	8.16	15.3	1.50	.500	1.66	.750	1.50	.385	.383	.583	1.15	.666
	2	3.50	2.73	.250	.166	.100	.383	.583	.166	.150	.216	.750	.366	.166	.166
	1	10.5	14.4	1.53	.516	1.08	.333	.250	.100	.066	.166	.500	.333	.283	.333
	1	12.5	4.91	4.16	1.50	2.40	.150	.100	.250	.100	.316	.116	.183	.166	.100
	2	10.5	.203	1.45	2.16	1.75	.316	.133	.266	.366	.650	.333	.116	.350	.883
	1	5.16	14.7	1.00	1.05	2.58	.333	.250	.283	.116	.108	.150	.183	.116	.100
	2	2.50	.550	19.6	4.50	2.75	.466	.550	.374	.816	.324	.141	.224	.166	.166
Averages	18	8.96	8.75	5.74	3.18	2.28	.789	.620	.535	.647	.506	.402	.259	.303	.301
	11	8.95	7.00	2.85	2.65	2.63	1.06	.694	.677	.776	.795	.443	.260	.278	.282
	7	8.96	6.55	5.16	4.02	1.73	.370	.50	.512	.444	.569	.339	.284	.216	.330

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.483	.333	.833	.191	.266	.174	.133	.116	.100	.100	.133	.100	.091	.083
2	.100	.233	.566	.150	.383	.224	.116	.100	.091	.091	.091	.083	.100	.100
3	.216	.066	.200	.150	.116	.116	.150	.100	.100	.100	.100	.150	.116	.200
4	.166	.333	.133	.100	.100	.116	.166	.100	.083	.083	.091	.091	.100	.091
1	.416	.108	.183	.333	.166	.183	.100	.150	.150	.233	.100	.091	.074	.083
2	.250	.166	.200	.200	.133	.116	.233	.166	.083	.183	.133	.133	.133	.083
1	.150	.116	.108	.083	.183	.166	.133	.083	.100	.116	.216	.083	.108	.166
2	.566	.150	.116	.100	.133	.100	.083	.133	.083	.100	.083	.074	.074	.074
1	.100	.100	.183	.283	.116	.100	.083	.083	.083	.083	.083	.083	.074	.074
2	.300	.216	.166	.400	.150	.616	.083	.283	.116	.083	.166	.083	.083	.083
1	.141	.124	.450	.500	.400	.750	.166	.166	.150	.116	.100	.100	.091	.116
1	.666	.333	.183	.300	.216	.200	.166	.116	.116	.116	.108	.166	.100	.083
2	.183	.166	.150	.083	.100	.083	.100	.133	.083	.200	.091	.074	.074	.124
1	.300	.083	.100	.166	.100	.083	.166	.133	.083	.100	.166	.200	.150	.250
1	.100	.100	.091	.150	.216	.133	.074	.074	.074	.074	.083	.074	.124	.074
2	.258	.200	.450	.400	.233	.208	.133	.108	.150	.183	.250	.083	.083	.100
1	.224	.091	.091	.100	.083	.100	.083	.100	.100	.100	.091	.116	.133	.283
2	.183	.074	.083	.133	.116	.124	.108	.100	.134	.116	.166	.191	.100	.091
18	.283	.156	.238	.229	.178	.199	.126	.124	.103	.120	.125	.109	.097	.119
11	.289	.176	.285	.253	.195	.241	.131	.134	.103	.117	.117	.097	.090	104
7	.273	.149	.164	.190	.152	.133	.118	.109	.104	.127	.136	.129	.109	.143

1	.083	.100	.108	.141	.108	.141	.300	.100	.108	.108	.100	.100	.085	.100	.085	.100
2	.100	.100	.091	.100	.116	.091	.091	.091	.091	.085	.091	.166	.085	.083	.085	.083
3	.150	.416	.300	.183	.191	.166	.150	.091	.093	.100	.100	.100	.085	.085	.085	.085
4	.085	.085	.108	.100	.108	.116	.100	.083	.100	.091	.083	.100	.083	.083	.083	.083
1	.091	.083	.100	.100	.100	.100	.083	.100	.082	.083	.083	.100	.100	.100	.100	.100
2	.085	.085	.166	.116	.116	.091	.116	.116	.108	.083	.116	.091	.085	.083	.083	.083
3	.123	.122	.083	.116	.100	.100	.100	.133	.100	.100	.166	.133	.091	.091	.091	.100
4	.083	.074	.083	.085	.083	.083	.116	.083	.091	.083	.083	.083	.083	.074	.074	.074
1	.085	.083	.085	.083	.074	.085	.074	.074	.074	.083	.083	.074	.074	.091	.091	.100
2	.083	.116	.085	.083	.085	.085	.085	.085	.100	.083	.085	.085	.085	.085	.085	.083
1	.091	.083	.150	.433	.116	.250	.166	.083	.200	.100	.085	.185	.085	.100		
1	.083	.083	.085	.100	.100	.100	.100	.150	.116	.108	.116	.100	.085	.083		
2	.083	.150	.093	.083	.083	.150	.083	.085	.083	.074	.100	.200	.083	.083		
1	.233	.133	.150	.124	.183	.183	.133	.100	.100	.116	.100	.100	.085	.083		
1	.074	.083	.083	.083	.083	.083	.100	.074	.074	.074	.074	.074	.085	.100		
2	.083	.083	.083	.085	.083	.083	.083	.074	.083	.110	.074	.083	.085	.083		
1	.166	.200	.083	.100	.083	.085	.150	.083	.100	.083	.100	.083	.085	.083		
2	.108	.108	.100	.167	.133	.100	.085	.093	.085	.085	.100	.085	.085	.100		
18	.105	.121	.111	.167	.105	.116	.116	.093	.097	.091	.096	.107	.084	.089		
11	.096	.122	.121	.139	.109	.117	.125	.094	.105	.089	.097	.110	.085	.089		
7	.118	.120	.095	.108	.099	.114	.104	.092	.088	.095	.094	.106	.085	.087		

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1	.083	.083	.083	.091	.091	.100	.116	.100	.091	.091	.100	.083	.091	.083
2	.100	.083	.083	.074	.083	.116	.083	.083	.083	.083	.083	.083	.083	.083
3	.083	.116	.083	.074	.083	.083	.074	.083	.100	.083	.083	.100	.100	.083
4	.091	.083	.083	.100	.074	.074	.074	.083	.083	.083	.083	.083	.083	.083
1	.083	.083	.083	.083	.083	.083	.133	.083	.074	.074	.074	.066	.066	.083
2	.083	.083	.083	.083	.091	.083	.083	.083	.083	.083	.083	.083	.083	.116
1	.116	.083	.116	.083	.083	.083	.100	.100	.083	.083	.133	.074	.100	.116	.083
2	.074	.083	.074	.083	.074	.074	.083	.083	.083	.074	.074	.074	.116	.083
1	.083	.083	.091	.083	.083	.083	.083	.083						
2	.083	.083	.116	.083	.091	.083	.083	.083						
1	.083	.116	.116	.083	.083	.083	.100	.116	.074	.074	.074	.083	.083	
1	.083	.083	.091	.100	.083	.083	.083	.083	.083	.100	.091	.108	.100	.100
2	.091	.083	.083	.083	.116	.074	.083	.083	.066	.066	.083	.083	.100	.074
1	.116	.116	.108	.083	.083	.083	.083	.116	.083	.116	.100	.100	.116	.083
1	.083	.083	.083	.083	.083	.083	.083	.083						
2	.083	.083	.083	.100	.083	.083	.083	.116						
1	.100	.083	.083	.083	.100	.083	.083	.091	.083	.083	.083	.100	.100	.083
2	.083	.100	.083	.083	.100	.083	.083	.083	.116	.100	.100	.100	.100	.100
18	.088	.087	.090	.085	.087	.084	.088	.090	.085	.088	.084	.089	.095	.087
11	.087	.089	.091	.083	.083	.085	.092	.090	.083	.086	.080	.083	.091	.087
7	.091	.090	.087	.087	.092	.081	.083	.093	.086	.093	.091	.098	.103	.088

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.083	.100	.083	.083										
2	.083	.100	.083	.083										
3	.083	.116	.100	.083										
4	.083	.083	.083	.100										
1	.083	.083	.083	.083	.074	.083	.083	.074	.074	.074	.083	.074	.083	.083
2	.116	.083	.200	.074	.083	.100	.100	.100	.083	.100	.083	.083	.083	.116
1	.100	.116	.133	.183	.100	.100	.083	.083	.100	.083	.083	.116	.100	.083
2	.100	.100	.083	.083	.074	.074	.066	.116	.083	.083	.083	.100	.100	.083
1	.083	.083	.083	.083	.100	.083	.083	.083	.100	.091	.091	.091	.100	.083
2	.083	.083	.083	.083	.083	.074	.083	.074	.100	.083	.083	.074	.083	.083
1	.133	.083	.091	.091	.100	.100	.100	.166	.100	.100	.083	.100	.100	.100
1	.100	.116	.100	.150	.083	.100	.083	.095	.083	.083	.083	.091	.083	.116
2	.100	.116	.233	.116	.083	.091	.091	.083	.083	.083	.083	.083	.083	.083
18	.094	.097	.110	.096	.086	.089	.085	.095	.089	.086	.083	.090	.090	.092
11	.091	.097	.106	.096	.082	.089	.083	.093	.085	.085	.083	.093	.091	.091
7	.099	.096	.118	.104	.089	.089	.088	.097	.093	.088	.084	.087	.089	.096

	71	72	73	74	75	76	77	78	79	80	81	82	83	84
1	.108	.083	.083	.083	.083	.166	.083	.083	.083	.083	.133	.083	.074	.074
2	.100	.083	.087	.116	.110	.166	.083	.074	.074	.133	.116	.085	.074	.074
1	.091	.116	.083	.083	.083	.074	.100	.091	.083	.083	.083	.083	.091	.083
2	.074	.100	.074	.091	.091	.083	.083	.100	.083	.083	.074	.074	.074	.083
1	.083	.091	.133	.083	.083	.083	.083	.116	.100	.083	.091	.083	.083	.083
1	.100	.100	.091	.100	.100									
2	.083	.083	.083	.083	.083									
18	.091	.093	.090	.091	.089	.114	.086	.092	.084	.093	.099	.081	.079	.079
11	.093	.095	.090	.093	.089	.122	.087	.087	.080	.097	.101	.080	.078	.078
7	.088	.091	.103	.088	.088	.083	.085	.116	.100	.083	.091	.083	.083	.083

	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1 2	.083 .074 .083 .074	.083 .083	.083 .074	.074 .100	.074 .091	.100 .091	.083 .083	.083 .100	.083 .091	.100 .083	.083 .083	.083 .100	.074 .066	.083 .074
1	.083	.083	.083	.100	.100	.100	.083	.100	.083	.083	.091			
18	.079	.083	.080	.091	.088	.097	.083	.094	.085	.088	.085	.091	.070	.078
11	.078	.083	.076	.087	.082	.095	.083	.091	.087	.091	.083	.091	.070	.078
7	.083	.083	.083	.100	.100	.100	.083	.100	.083	.083	.091			

	99	100	101	102	103	104	105	106	107	108	109	110	111	112
1 2	.083 .074	.066 .074	.083 .066	.091 .066	.074 .066	.074 .083	.074 .074	.083 .083	.083 .083	.083 .083	.100 .083	.083 .083	.074 .083	.083 .091
18	.078	.070	.074	.078	.070	.078	.074	.083	.083	.083	.091	.083	.078	.087
11	.078	.070	.074	.078	.070	.078	.074	.083	.083	.083	.091	.083	.078	.087

	113	114	115	116	117	118	119	120	121	122	123	124	125
1	.085	.085	.100	.083	.085	.083	.091	.083	.086	.085	.085	.091	.083
2	.091	.091	.087	.083	.085	.083	.085	.083	.083	.083	.085	.078	.083
18	.067	.087	.091	.083	.083	.083	.087	.083	.095	.083	.083	.062	.087
11	.087	.097	.091	.083	.083	.083	.087	.083	.083	.083	.085	.082	.083

Retention

	1	2	3	4	5	6	7	8	9	10				
1	.150	.100	.100	.100	.100	.083	.100	.100	.116	.083				
2	.216	.116	.116	.116	.116	.083	.083	.083	.083	.083				
3	1.36	.170	.116	.116	.100	.150	.166	.124	.124	.124				
4	2.30	.250	.133	.166	.150	.116	.100	.083	.100	.100				
1	.916	.166	.091	.100	.150	.083	.083	.116	.100	.124				
2	.083	.083	.100	.083	.083	.100	.091	.091	.091	.100				
1	.166	.100	.100	.108	.108	.100	.100	.100	.100	.100				
2	.166	.166	.116	.100	.100	.083	.083	.083	.083	.083				
1	.308	.250	.250	.150	.116	.116	.108	.083	.116	.100				
2	.150	.083	.150	.116	.133	.083	.100	.116	.083	.083				
1	.450	.083	.166	.250	.200	.083	.116	.133	.353	.116				
1	.300	.216	.116	.133	.366	.100	.166	.150	.100	.100				
2	.150	.100	.100	.083	.074	.083	.100	.074	.083	.100				
1	.100	.091	.116	.100	.100	.091	.091	.133	.083	.083				
1	.216	.166	.133	.124	.141	.166	.116	.116	.124	.108				
2	1.41	.166	.083	.450	.416	.533	.283	.200	.266	.133				
1	.166	.500	.166	.150	.116	.091	.091	.091	.100	.091				
2	.453	.250	.116	.116	.100	.116	.166	.133	.083	.074				
16	.495	.191	.126	.142	.148	.142	.119	.111	.120	.099				
11	.554	.161	.130	.127	.133	.125	.102	.101	.120	.099				
7	.396	.212	.118	.165	.187	.168	.144	.128	.119	.098				

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain H_2O	Cord H_2O	Body Length	Tail Length	Age
[illegible]	[illegible]	1.7704	.4435	130.5	78.285	72.145	173	139	150
60	15	1.6161	.4439	124.4	78.684	72.899	166	145	150
60	[illegible]	1.7779	.4749	131.9	78.480	72.668	166	150	150
[illegible]		1.6966	.4685	130.5	78.476	72.777	175	154	150
[illegible]	16	1.6564	.4145	127.7	78.483	72.242	168	142	149
75	15	1.7654	.5104	130.2	78.854	73.034	166	147	149
[illegible]	[illegible]	1.7202	.4401	125.4	78.537	72.309	149	142	149
55	17	1.5796	.4007	91.5	79.279	72.225	157	141	149
[illegible]	16								
[illegible]	10								
[illegible]	11	1.7086	.4389	131.4	78.262	72.711	170	145	149
55	11	1.5744	.3984	102.8	78.404	72.058	161	135	150
62	11	1.6175	.4760	137.8	78.591	72.555	175	153	150
[illegible]	19	1.5480	.3800	87.0	78.592	72.657	146	131	153
[illegible]	10	1.7150	.4413	130.7	78.540	72.967	170	142	149
[illegible]	10								
[illegible]	11	1.6506	.4174	111.9	78.632	72.921	162	140	150
70	14	1.5107	.4009	91.4	79.090	72.511	155	132	150
		1.6958	.4413	119.5	78.481	72.[illegible]	166	142	149
		1.7159	.4539	127.2	78.486	72.581	169	144	149
		1.6357	.4024	108.0	78.474	72.441	161	138	150

TABLE V-a INCLINED PLANE BOX WITH OTHER PROBLEMS ONE TRIAL.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	10.7	3.66	1.36	2.75	4.00	.833	.066	1.33	1.25	.433	.024	.116	.066	.066
	2	.300	1.03	.600	.500	4.00	.185	.083	1.06	3.98	.883	.100	.185	.183	.066
	3	.666	.583	3.50	9.61	1.00	.100	1.12	1.50	3.00	.108	.216	.216	.200	.333
	1	6.16	8.83	3.36	.466	1.21	1.71	.433	3.00	.733	1.38	3.05	3.18	2.91	1.28
	2	1.08	11.0	1.91	.291	.500	.166	.233	.033	.233	1.03	.383	.283	1.50	1.50
	3	1.58	6.00	3.00	.333	1.66	.250	.416	3.86	1.01	1.16	.700	.750	.500	.583
	1	19.4	1.06	.416	1.00	1.75	.500	.333	.391	.850	.983	.700	4.00	.250	.300
	2	4.91	1.50	3.16	1.08	.333	1.13	1.16	.400	.750	.333	.224	.166	.066	.066
	3	3.66	.550	1.16	.316	.500	.600	1.50	.283	.150	.850	.108	.250	.133	.558
	1	.500	2.28	.566	.416	.441	.716	.700	.600	1.38	.391	.091	.383	.291	.050
	2	.916	.950	.533	2.23	1.31	.350	.833	1.41	.566	.650	.150	1.38	.274	.208
Females	1	.333	.350	5.50	1.31	.816	.066	.166	.666	.633	1.39	.666	.300	.700	.983
	2	5.21	4.40	4.33	5.33	1.58	1.33	.683	1.00	.433	10.7	.183	.200	.250	.500
	1	.833	23.0	13.2	.116	.350	.333	2.60	1.25	.183	1.73	.250	.283	.333	.341
	2	4.16	2.32	2.83	1.11	.383	1.25	1.50	2.41	.316	1.01	.150	.100	.150	.116
	1	1.50	2.75	.250	2.15	1.28	.350	2.25	1.30	.133	.950	1.29	.333	.600	.250
	2	13.2	.333	.400	.216	.583	.316	.766	1.73	.166	.116	1.58	2.33	.124	.200
	3	2.00	3. 0	.333	3.27	.500	.200	.300	.766	.266	.100	1.66	1.16	.183	.166
Averages	18	3.89	4.08	2.57	1.80	1.23	.576	.841	1.27	.890	1.34	.640	.867	.484	.420
	11	3.89	3.40	1.77	1.72	1.51	.594	.625	1.26	1.26	.745	.522	.991	.579	.455
	7	3.89	5.16	3.83	1.92	.784	.549	1.18	1.30	.304	2.28	.825	.672	.334	.365

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	.350	.116	.366	.266	.150	.116	.083	.033	.033	.016	.024	.016	.083	.016
2	.250	.416	.083	.383	.300	.033	.050	.083	.116	.024	.058	.050	.016	.024
3	.133	.100	.100	.133	.166	.133	.033	.116	.133	.083	.024	.033	.083	.083
1	1.38	.400	.233	.066	.066	.050	.333	.033	.033	.083	.250	.066	.083	.066
2	.516	.283	.083	.300	.300	.200	.050	.291	.016	.024	.100	.116	.066	.016
3	.283	.583	.066	.066	.050	.050	.233	.166	.233	.050	.083	.024	.033	.183
1	.350	.200	.150	.066	.050	.016	.016	.016	.033	.016	.016	.016	.016	.016
2	.233	.116	.033	.083	.083	.033	.016	.016	.016	.066	.016	.083	.024	.016
3	.383	.150	.283	.083	.074	.024	.033	.150	.024	.150	.050	.058	.033	.050
1	.166	.083	.166	.083	.600	.033	.066	.016	.400	.016	.166	.150	.024	.016
2	.058	.500	.200	.250	.516	.116	.074	.200	.416	.200	.033	.033	.016	.100
1	.183	.166	.066	.133	.133	.033	.150	.116	.100	.083	.166	.016	.016	.083
2	.074	.083	.050	.383	.433	.416	.050	.050	.066	.041	.050	.041	.024	.183
1	.666	.183	.750	.024	.166	.150	.033	.066	.033	.050	.024	.024	.016	.016
2	.333	.083	.116	.233	.116	.166	.150	.016	.083	.024	.050	.041	.050	.058
1	.150	.266	.133	.066	.083	.016	.050	.083	.833	.066	.016	.016	.041	.024
2	1.75	.166	.116	.091	.333	.316	.033	.016	.100	.083	.250	.050	.083	.050
3	.133	.150	.250	.150	.583	.033	.016	.050	.366	.016	.016	.074	.024	.083
18	.410	.218	.180	.158	.233	.107	.081	.080	.168	.060	.077	.050	.040	.060
11	.372	.249	.160	.161	.214	.073	.089	.095	.132	.066	.074	.058	.043	.053
7	.469	.156	.211	.154	.263	.161	.068	.056	.225	.051	.081	.037	.036	.071

	29	30	31	32	33	34	35	36	37	38	39	40	41	
1	.016	.050	.024	.066	.024	.024	.024	.024	.033					
2	.024	.016	.016	.016	.016	.016	.016	.016	.024					
3	.016	.050	.024	.016	.016	.016	.024	.033	.033					
1	.033	.033	.041	.016	.033	.016	.016	.024						
2	.083	.024	.100	.033	.016	.033	.016	.033						
3	.024	.016	.150	.050	.050	.024	.033	.033						
1	.083	.033	.050	.016	.016	.016	.016	.033	.033	.033	.024			
2	.066	.033	.033	.016	.016	.024	.016	.066	.033	.050	.016			
3	.016	.033	.050	.033	.016	.016	.266	.216	.033	.024	.024			
1	.024	.033	.033	.033	.066									
2	.033	.050	.033	.016	.033									
1	.016	.066	.033	.024	.083	.116	.033	.041	.016	024	.016			
2	.024	.033	.033	.024	.024	.016	.033	.024	.016	.016	.033			
1	.050	.116	.033	.166	.033	.016	.033	.033	.016					
2	.033	.016	.016	.016	.016	.016	.016	.033	.033					
1	.283	.016	.016	.016	.016	.083	.016	.016	.024	.016	.016	.016	.050	
2	.250	.250	.150	.183	.016	.050	.050	016	.066	.083	.024	.016	.016	
3	.016	.016	.116	.016	.016	.016	.050	.016	.033	.033	.024	.016	.016	
18	.060	.049	.052	.042	.028	.031	.041	.041	.030	.034	.022	.016	.027	
11	.038	.033	.050	.028	.027	.020	.047	.053	.031	.035	.021			
7	.096	.073	.056	.063	.029	.044	.033	.025	.029	.034	.022	.016	.027	

1	2												
.100	.050												
.066	.074												
.033	.083												
.116	.133												
.100	.058												
.033	.033												
.233	.033												
.124	.166												
.430	.066												
.066	.033												
.150	.050												
050	.033												
.066	.083												
.100	.050												
.016	.016												
.050	.050												
.033	.033												
.500	.150												
.127	.066												
.133	.070												
.116	.059												

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain H_2O	Cord H_2O	Body Length	Tail Length	Age
25	25	1.6521	.4136	105.1	78.827	72.343	161	135	145
29	29	1.6189	.4088	117.5	78.760	72.602	167	142	146
31	31	1.6251	.4138	106.5	78.825	72.909	168	157	145
34	34	1.6654	.4507	128.8	78.461	71.999	169	145	145
35	35	1.7032	.4553	136.2	78.512	71.945	176	145	145
40	40	1.6566	.4507	140.2	78.516	72.145	175	145	145
30	30	1.7387	.4530	139.5	78.342	71.655	175	149	144
26	26	1.6418	.4456	128.5	78.511	71.797	170	148	144
28	28	1.7017	.4615	137.2	78.492	71.976	179	146	144
24	28	1.6945	.4566	148.9	78.347	71.849	180	153	144
28	28	1.8603	.4765	144.0	78.234	71.752	177	148	144
29	29	1.6358	.4084	105.1	78.695	72.257	161	142	157
31	31	1.5725	.3826	100.0	78.550	72.127	155	156	157
27	27	1.6420	.4276	117.0	78.584	71.702	164	151	140
31	31	1.6723	.4049	114.0	78.694	71.378	165	146	140
27	27	1.6186	.3818	89.0	78.407	71.765	150	136	144
41	41	1.6446	.4251	115.4	78.299	71.888	167	150	144
29	29	1.7092	.4186	102.1	78.762	72.521	160	143	144
30	30	1.6692	.4309	120.2	78.537	72.067	169	141	145
28	28	1.6881	.4440	134.2	78.581	72.114	171	144	144
32	32	1.6395	.4104	107.5	78.563	71.992	160	141	145

TABLE V-b INCLINED PLANE BOX THREE TRIALS

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males	1	3.80	.108	1.40	1.68	1.63	.166	.166	.200	.233	.666			1.61	4.16
	2	.250	.333	.583	.466	1.63	.433	.333	.800	.500	.400	.324	.166	.566	.424
	3	.166	.166	1.00	.166	.500	1.15	.416	1.26	.333	.283	.183	1.33	.816	.250
	1	.983	.583	1.10	.600	.300	.316	.108	.716	.150	.300	.250	.116	.183	.041
	1	.283	.450	.283	1.68	2.30	3.88	.966	1.68	2.66	.350	.666	.833	.166	.133
	2	.866	.450	.441	.333	1.01	1.10	.466	.550	.166	.600	.083	.058	.650	.383
	3	.850	1.20	1.48	.350	.683	1.41	.666	.166	.283	.233	.450	.100	.566	.100
	1	.050	.358	.500	2.40	2.71	2.75	.650	.266	.116	.350	.116	.108	.108	.266
	2	.150	.250	.383	.833	1.16	.808	.066	.250	.250	.950	.383	.166	.316	.024
	1	.283	.416	.366	.366	.333	.450	.066	.166	.333	.941	3.70	.716	.941	.300
	2	1.16	.200	1.06	1.06	.983	.833	.100	.516	1.17	.300	.450	.550	.300	.124
Females	1	.500	.916	1.50	.916	.950	.200	.750	.883	.233	.666	.150	.316	.500	.041
	2	.416	.750	1.00	.083	.450	.283	.400	.250	.250	.183	.200	.516	.916	
	1	3.16	.783	.916	1.10	3.41	.616	2.33	1.17	4.00	.100	.400	.050	.983	.066
	2	3.41	.883	.150	1.01	.708	.333	.500	.333	1.40	.416	.500	.074	.116	.033
	1	.123	1.11	2.26	.500	.916	1.18	.016	.533	.183	.500	.116	.124	.133	.033
	2	1.28	.916	1.16	.791	.683	.200	.166	4.02	.883	1.05	5.83	.024	.316	.166
	1	.600	.216	2.20	.350	.366	.516	.133	.166	.750	.066	.183	.150	.066	.283
Averages	18	1.07	.560	.987	.815	1.15	.992	.461	.770	.771	.464	.822	.317	.514	.404
	11	.803	.410	.781	.903	1.20	1.20	.363	.597	.563	.488	.660	.414	.565	.564
	7	1.51	.796	1.31	.678	1.06	.475	.613	1.05	1.09	.425	1.05	.179	.432	.103

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	1.43	.166	1.28	.366	.400	.116	.083	.166	.133	.024	.183	.174	1.00	.083
2	.458	.066	.116	.200	.383	.250	.483	.500	.150	.033	.116	.300	.100	.083
3	.933	2.36	.183	.033	.350	.133	.116	.066	.166	.200	1.50	.500	.350	.200
1	.083	.116	.141	.083	.208	.083	.100	.074	.074	.083	.200	.083	.116	.050
1	.216	.066	.133	.566	.150	.074	.033	.050	.100	.016	.033	.033	.033	.116
2	.533	.216	.166	.233	.183	.183	.800	.033	.050	.250	.016	.050	.033	.383
3	.233	.166	.766	.133	.183	.233	.216	.224	.133	.066	.116	.033	.183	.166
1	.166	.116	.083	.500	.366	.066	.333	.400	.133	.183	.050	.050	.066	.016
2	.166	.750	.333	.416	.316	.050	.250	.166	.100	.116	.091	.033	.050	.116
1	.174	.166	.566	.266	.166	.166	.041	.116	.316	.133	.016	.183	.183	.266
2	.233	.391	.124	.150	.016	.133	.074	.100	.016	.066	.016	.016	.016	.016
1	.483	.350	.216	.200	.116	.166	.141	.183	.116	.174	.066	.150	.083	.116
2		.433	.150	.250	.116	.583	.166	.050	.116	.716	.083	.024	.100	.050
1	.233	.850	.050	.016	.233	.033	.033	.483	.233	.283	.433	.233	.166	.833
2	.024	.033	.033	.033	.016	.066	.033	.750	.033	.016	.083	.166	.033	.016
1	.833	.083	.166	.100	.116	.016	.116	.150	.016	.016	.333	.233	.283	.483
2	.133	.100	.183	.200	.183	.133	.133	.050	.066	.050	.033	.050	.033	.083
1	.083	.250	.200	.016	.033	.024	.183	.191	.091	.100	.024	.024	.100	.166
18	.377	.371	.271	.208	.196	.139	.188	.208	.113	.140	.188	.129	.162	.180
11	.420	.416	.353	.267	.247	.135	.234	.172	.124	.106	.212	.132	.193	.135
7	.298	.299	.142	.116	.116	.145	.115	.265	.095	.193	.150	.125	.114	.249

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.050	.766	.116	.016	.233	.024	.024	.033	.033	.016	.016	.016	.033	.024
2	.024	.016	.083	**.041**	.066	.024	.024	.200	.083	.016	.016	.033	.016	.016
3	.141	.050	.150	.500	.474	.024	.024	.250	.166	.050	.133	.016	.033	.033
1	.033	.033	.833	.350	1.16	.050	.166	.166	.033	.050	.066	.116	.183	.216
1	.133	.133	.083	.033	.016	.083	.033	.166	.016	.033	.016	.383	.233	.166
2	.416	.066	.800	.216	.133	.583	.033	.283	.016	.016	.033	.166	.033	.033
3	.041	.033	.083	.100	.016	.083	.116	.116	.150	.033	.333	.083	.100	.083
1	.016	.033	.016	.024	.050	.016	.033	.050	.016	.016	.016	.016	.016	.033
2	.133	.166	.016	.050	.083	.033	.033	.033	.083	.033	.024	.016	.033	.016
1	.133	.100	.150	.050	.066	.033	.116	.100	.416	.200	.166	.050	.016	.033
2	.066	.083	.216	.033	.183	.033	.066	.083	.050	.033	.016	.166	.016	.016
1	.100	.083	.058	.083	.050	.024	.024	.016	.083	.100	.066	.183	.100	.066
2	**.091**	.083	.100	.016	.066	.016	.066	.033	.066	.074	.016	.050	.066	.083
1	.283	**.041**	.066	.050	.033	.066	.100	.050	.333	.166	.033	.033	.033	.033
2	.033	**.016**	.050	.050	.083	.050	.016	.016	.166	.016	.050	.083	.016	.016
1	.066	.033	.033	.050	.050	.016	.016	.050	.166	.100	.233	.133	.083	.066
2	.100	.050	.033	.016	.016	.083	.116	.050	.100	.050	.033	.033	.050	.050
1	.316	.408	.116	.250	.283	.050	.058	.016	.050	.016	.016	.066	.016	.016
18	.120	.121	.166	.107	.170	.071	.059	.095	.112	.056	.071	.091	.059	.055
11	.107	.134	.231	.128	.225	.089	.060	.134	.096	.045	.075	.096	.064	.060
7	.141	.102	.065	.073	.083	.043	.056	.033	.137	.074	.063	.083	.052	.047

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1	.233	.050	.150	.033	.050	.033	.150	.116	.016	.016	.033	.016	.333	.033
2	.233	.116	.066	.066	.016	.083	.416	.083	.016	.066	.016	.083	.666	.050
3	.033	.033	.050	.183	.083	.183	.083	.116	.083	.050	.016	.016	.233	.024
1	.250	.500	.083	.500	.033	.216	.500	.566	.016	.166	.050	.150	.050	.083
1	.200	.083	.100	.033	.033	.033	.033	.033	.083	.133	.050	.033	.016	.016
2	.250	.150	.083	.183	.016	.133	.016	.083	.033	.250	.116	.100	.116	.133
3	.333	.500	.583	.250	.083	.250	.083	.033	.033	.200	.333	.033	.033	.050
1	.016	.016	.016											
2	.033	.016	.016											
1	.250	.033	.050	.083	.033	.166	.150	.066	.016	.166	.016	.250	.016	.050
2	.166	.033	.033	.100	.166	.033	.033	.033	.016	.200	.034	.050	.033	.024
1	.033	.083	.016	.050	.083	.050	.033	.016	.016	.033	.033	.083	.250	.016
2	.150	.116	.066	.100	.016	.016	.116	.016	.066	.033	.033	.050	.500	.500
1	.016	.033	.033	.016	.033	.016	.050	.033	.033	.083	.066	.050	.033	.050
2	.033	.033	.016	.050	.016	.016	.050	.033	.016	.024	.100	.050	.058	.016
1	.050	.016	.016	.016	.083	.016	.050	.024	.050	.083	.033	.100	.100	.050
2	.016	.016	.033	.016	.033	.016	.024	.024	.024	.083	.033	.033	.033	.033
1	.100	.250	.033	.283	.166	.250	.183	.083	.016	.166	.083	.083	.200	.100
18	.133	.115	.080	.122	.058	.094	.120	.084	.033	.109	.064	.073	.166	.076
11	.181	.139	.111	.159	.057	.125	.162	.125	.034	.138	.072	.081	.166	.051
7	.056	.078	.030	.075	.061	.054	.065	.032	.031	.072	.054	.064	.167	.109

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.200	.033	.033	.050	.166	.050	.216	.016	.024	.016	.016	.033	.016	.066
2	.066	.166	.150	.133	.366	.083	.016	.050	.016	.033	.033	.016	.016	.016
3	.133	.033	.033	.066	.166	.016	.033	.024	.024	.033	.050	.033	.016	.033
1	.016	.016	.024	.033	.024	.016	.016	.041	.033	.024	.033	.033	.033	.033
1	.116	.033	.016	.050	.016	.024	.016	.016	.016	.033	.016	.016	.033	
2	.183	.016	.016	.016	.066	.016	.033	.016	.016	.016	.016	.016	.016	
3	.033	.033	.016	.016	.033	.050	.033	.024	.024	.016	.024	.024	.016	
1	.050	.083	.066	.166	.166	.333	.033	.033	.016	.016	.066	.033	.016	
2	.033	.083	.016	.050	.200	.066	.033	.016	.016	.016	.050	.016	.016	
1	.058	.083	.166	.066	.166	.016	.033	.016	.033	.016	.033	.016	.050	.050
2	.316	.166	.033	.033	.400	.016	.016	.066	.016	.016	.016	.016	.016	.016
1	.016	.016	.050	.050	.016	.050	.016							
2	.016	.016	.033	.033	.033	.016	.016							
1	.016	.083	.166	.050	.050	.016	.016	.050	.050	.033	.050	.033	.016	.016
2	.033	.083	.050	.016	.016	.016	.066	.016	.016	.016	.050	.016	.016	.016
1	.066	.133	.033	.050	.050	.033	.033	.050	.016	.016	.033	.033	.033	
18	.084	.064	.056	.054	.120	.051	.039	.031	.022	.021	.034	.023	.022	.030
11	.092	.055	.041	.064	.133	.072	.047	.026	.020	.022	.033	.024	.019	.037
7	.074	.075	.075	.042	.104	.023	.028	.039	.026	.019	.036	.022	.026	.024

									Retention.					
	71	72	73	74	75	76	77	78	1	2	3	4	5	6
1	.033	.033							.066	.066	.033	.033	.16	.033
2	.033	.016							.050	.033	.166	.033	.050	.033
3	.024	.024							.033	.033	.016	.016	.033	.033
1	.033	.033	.033	.033	.033	.033	.033	.033	.083	.166	.016	.016	.050	.016
									.166	.083	.033	.083	.033	.033
									.058	.100	.166	.033	.050	.050
									.100	.166	.033	.033	.033	.050
									.066	.166	.083	.166	.016	.016
									.016	.033	.016	.016	.033	.016
1	.041	.016	.016	.016	.016				.050	.033	.100	.050	.033	.033
2	.016	.016	.016	.016	.016				.166	.233	.183	.066	.050	.100
									.100	.033	.066	.033	.033	.050
									1.50	.133	.150	.050	.066	.050
1	.024	.033							.300	.166	.150	.050	.033	.033
2	.033	.033							.050	.083	.050	.033	.050	.033
									.050	.033	.033	.050	.033	.033
18	.029	.025	.021	.021	.021	.033	.033	.033	.178	.097	.080	.047	.038	.035
11	.030	.026	.033	.033	.033	.033	.033	.033	.070	.094	.062	.047	.034	.031
7	.028	.024	.016	.016	.016				.316	.102	.104	.047	.042	.047

Trials	Days	Brain Weight	Cord Weight	Body Weight	Brain $\%H_2O$	Cord $\%H_2O$	Body Length	Tail Length	Age
69	25	1.6707	.4588	108.9	79.482	71.968	170	143	140
58	23	1.6876	.4476	116.2	78.312	71.559	172	146	140
59	13	1.8095	.4902	151.3	78.723	72.113	178	152	140
65	21	1.6716	.4519	105.9	78.434	72.262	162	145	149
63	21	1.7102	.4715	130.5	78.614	72.492	177	148	149
[illegible]	21								
53	20								
33	11	1.7948	.4700	137.5	78.694	72.442	175	149	142
42	14	1.7740	.4466	109.4	78.585	72.606	166	138	142
69	25	1.7814	.4408	122.5	78.651	72.461	173	142	149
49	23	1.7015	.4254	106.4	78.551	72.543	164	137	140
72	24	1.7845	.4275	100.4	78.502	72.701	165	142	140
69	23	1.6646	.4121	110.7	78.617	72.483	164	140	140
40	16	1.6590	.3857	100.9	78.571	71.722	155	141	142
45	15	1.6859	.4039	101.2	78.711	72.617	159	139	142
48	17	1.6846	.3985	95.8	78.814	71.773	155	137	142
59	17	1.6451	.4354	93.1	78.956	71.776	145	132	142
66	22	1.6129	.4044	98.3	78.572	72.650	158	137	149
50		1.6697	.4266	108.7	78.624	72.509	161	140	143
56		1.7255	.4513	117.6	78.571	72.274	170	144	144
59		1.6423	.3950	97.2	78.631	72.811	156	134	142

TABLE V-c INCLINED PLANE BOX FIVE TRIALS.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Males.	1	.550	1.33	.466	.783	.766	.750	1.71	.266	2.88	.433	.250	.500	.291	.516
	2	.283	.366	3.38	2.98	3.60	.300	1.25	.350	.133	.350	.133	.050	.074	.050
	3	.033	.416	.250	1.75	1.41	.033	.200	.150	.500	.416	.166	.250	.050	.033
	4	.916	1.00	.750	.333	.866	1.10	1.10	1.88	.291	.333	.583	.133	.166	.116
	1	.716	.783	.400	.350	.250	.066	.250	.833	1.00	.100	.333	.250	.333	.500
	2	1.40	6.41	3.41	2.50	1.53	1.51	6.58	.566	1.18	1.40	.233	.166	.166	.183
	3	1.20	.233	.383	.666	1.05	.216	.783	.316	.916	.316	.350	.316	.016	.083
	4	.116	.066	.166	.166	1.01	.074	.116	.383	.333	.258	.500	.166	.216	.100
	1	.066	.333	2.46	.033	1.03	.100	.624	.633	.100	.666	.500	.533	.616	.950
	2	.016	.250	.166	.383	.750	1.90	.150	.283	.450	.833	.216	.083	.100	.100
	1	.300	1.16	.383	.966	.441	.483	.500	2.98	.750	2.40	.200	.374	.374	.708
Females	1	.666	.916	.333	.750	1.33	3.51	.500	1.93	.750	2.65	.450	.150	.083	.583
	2	1.33	1.25	.500	1.33	1.33	1.70	.483	1.25	.783	1.56	.300	.366	.766	.183
	1	.316	.166	.083	.100	.841	.633	.433	.150	.166	1.03	.283	.166	.116	.133
	1	.500	2.50	.400	.333	.166	.300	2.20	.950	.600	1.55	.083	.850	.783	.516
	2	1.40	1.36	.150	.166	.050	.533	.400	.174	.100	.374	.233	.183	.083	.116
	1	.683	.383	.600	.116	.050	.116	.166	.816	.166	.150	.466	.033	.316	.083
	2	.750	.441	.316	.558	.500	.266	.116	.533	1.33	.966	.050	.600	.100	.200
Averages	18	.624	1.07	.827	.792	.937	.763	.975	.819	.657	.904	.312	.276	.258	.264
	11	.508	1.12	1.13	.991	1.13	.651	1.20	.812	.751	.727	.345	.238	.218	.285
	7	.800	1.00	.540	.479	.609	.986	.614	.829	.556	1.18	.266	.335	.321	.330

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	1.00	1.20	.466	.183	.200	.150	.083	.116	.016	.016	.050	.041	.066	.041
2	.016	.050	.208	.124	.050	.083	.166	.033	.041	.100	.050	.066	.024	.016
3	.100	.700	.500	.008	.183	.083	.016	.150	.183	.333	.250	.233	.050	.033
4	.066	1.08	.500	.750	.500	.583	.066	.750	.100	.250	.183	.416	.016	.316
1	.050	.033	.066	.250	.166	.150	.136	.166	.100	1.11	.133	.024	.100	.116
2	.050	.166	.100	.333	.066	.116	.183	.016	.166	.100	.500	.750	.066	.166
1	.183	.050	.066	.166	.058	.083	.600	.133	.533	.916	1.58	.800	.266	.150
2	1.01	.033	.066	.033	.033	.016	.300	.116	.233	.116	.183	.166	.050	.700
1	.333	1.06	.066	.383	.500	.200	.616	.466	.650	.916	.283	.083	.033	.033
2	.050	.100	.616	.166	.416	.116	.116	.016	.033	.033	.166	.050	.100	.016
1	1.11	.050	.100	.116	.066	1.15	.100	.050	.083	.066	3.16	.250	.050	.033
1	.916	.450	.291	.166	.100	.100	.166	.133	.024	.016	.024	.050	.033	.033
2	.400	.166	.100	.066	.116	.058	.058	.333	.100	.033	.124	.033	.016	.016
1	.066	.450	.300	.350	.333	.383	.083	.500	.483	.233	.083	.183	.300	.533
1	1.40	.133	.150	.916	.166	.083	.133	.033	.033	.100	.033	.033	.016	.016
2	.583	.133	.583	.116	.016	.033	.100	.233	.150	.683	.050	.250	.166	.166
1	.016	.033	.016	.250	.016	.333	.250	.416	.400	.350	.250	.116	.133	.150
2	.466	.083	.183	.100	.133	.166	.066	.033	.050	.166	.200	.750	.333	.350
10	.471	.331	.232	.248	.175	.215	.181	.205	.187	.307	.372	.238	.101	.163
11	.356	.411	.250	.228	.203	.246	.219	.182	.194	.359	.495	.261	.074	.147
7	.549	.206	.203	.280	.125	.165	.122	.240	.177	.225	.109	.202	.142	.187

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	.166	.416	.200	.016	.033	.166	.024	.116	.033	.033	.500	.050	.133	.116
2	.066	.033	.416	.066	.166	.266	.016	.024	.016	.016	.050	.166	.050	.083
3	.016	.083	.166	.333	.083	.250	.166	.166	.083	.050	.066	.050	.033	.033
4	.533	.183	.050	.083	.333	.416	.366	.216	.033	.033	.166	.250	.033	.033
1	.033	.024	.016	.083	.066	.050	.116	.016	.083	.166	.050	.183	.033	.033
2	.033	.033	.283	.033	.016	.066	.016	.033	.033	.250	.050	.033	.066	.250
1	.750	.116	.400	.300	.283	.583	.666	.050	.033	.033	.024	.016	.016	.016
2	.133	.050	.233	.133	.116	.100	.050	.083	.033	.033	.016	.033	.016	.016
1	.066	.166	.333	.250	.166	.166	.050	.033	.050	.016	.016	.016	.041	.033
2	.066	.016	.050	.066	.050	.016	.016	.050	.016	.016	.033	.066	.050	.016
1	.041	.033	.316	.041	.033	.050	.083	.033	.033	.016	.016	.016	.016	.016
1	.033	.166	.033	.233	.050	.050	.200	.308	.100	.033	.091	.233	.033	.033
2	.016	.033	1.33	.133	.233	1.75	.300	.350	.216	.400	.333	.133	.200	.200
1	.033	.416	.716	.383	.250	.166	.083	.083	.166	.200	.050	.166	.083	.033
1	.050	.016	.100	.016	.033	.016	.033	.024	.050	.016	.033	.041	.050	.016
2	.033	.033	.283	.050	.016	.016	.033	.016	.024	.016	.016	.033	.016	.066
1	.100	.050	.016	.024	.016	.033	.283	.033	.133	.233	.033	.200	.433	.016
2	.116	.166	.783	.058	.150	.283	.366	.050	.116	.483	.200	.166	.216	.016
18	.129	.118	.318	.127	.116	.246	.160	.093	.069	.115	.096	.102	.084	.073
11	.173	.104	.223	.127	.122	.193	.208	.074	.040	.060	.089	.079	.044	.085
7	.061	.155	.465	.158	.106	.330	.178	.123	.115	.197	.108	.138	.147	.054

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1	.100	.166	.116	.050	.033	.033	.033	.033	.016	.016	.016	.016	.016	.016
2	.033	.033	.033	.016	.016	.016	.016	.024	.016	.016	.016	.016	.033	.050
3	.024	.050	.083	.016	.033	.016	.016	.016	.033	.050	.050	.033	.033	.016
4	.083	.033	.083	.100	.033	.033	.050	.033	.066	.033	.024	.024	.016	.066
1	.150	.033	.033	.166	.333	.250	.100	.066	.050	.033	.033	.033	.033	.066
2	.083	.083	.133	.050	.083	.083	.033	.033	.050	.033	.033	.033	.016	.033
1	.016	.033	.016	.016	.016	.016	.058	.050	.050	.050	.024	.083	.033	.050
2	.050	.016	.033	.050	.066	.016	.016	.016	.016	.066	.050	.116	.116	.033
1	.033	.016	.033	.033	.016	.016	.016	.050						
2	.016	.016	.050	.050	.016	.016	.033	.033						
1	.016	.033	.016	.033	.033	.066	.016	.016	.066	.033	.033	.016	.016	
1	.033	.100	.050	.050	.050	.050	.166	.066	.033	.083	.024	.016	.033	.016
2	.033	.083	.016	.016	.033	.033	.066	.033	.016	.033	.050	.050	.083	.050
1	.033	.033	.033	.033	.016	.033	.016	.033	.016	.016	.016	.050	.016	.033
1	.050	.033	.016	.050	.016	.016	.016	.016						
2	.016	.016	.050	.041	.041	.016	.041	.016						
1	.133	.016	.233	.016	.033	.050	.016	.050	.033	.016	.050	.033	.016	.050
2	.083	.016	.333	.266	.083	.166	.116	.133	.033	.016	.050	.033	.016	.050
18	.054	.044	.075	.058	.052	.049	.045	.039	.030	.035	.033	.039	.034	.038
11	.054	.046	.057	.052	.061	.048	.035	.033	.033	.036	.051	.041	.034	.037
7	.054	.042	.104	.067	.038	.052	.062	.041	.026	.032	.038	.036	.022	.039

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
1	.033	.016	.016	.016										
2	.033	.016	.016	.016										
3	.033	.050	.033	.016										
4	.033	.033	.033	.033										
1	.016	.066	.033	.050	.033	.016	.033	.016	.033	.050	.033	.016	.016	.016
2	.050	.066	.016	.016	.033	.016	.016	.016	.016	.016	.016	.016	.016	.016
1	.100	.100	.050	.016	.033	.033	.016	.016	.033	.016	.016	.016	.016	.083
2	.050	.050	.033	.033	.016	.033	.016	.050	.066	.016	.016	.033	.016	.016
1	.016	.041	.016	.016	.016	.016	.016	.033	.033	.033	.050	.016	.016	.016
2	.033	.016	.016	.050	.016	.016	.016	.066	.016	.050	.033	.016	.016	.016
1	.033	.033	.024	.033	.016	.033	.016	.016	.016	.016	.050	.033	.016	.016
1	.033	.033	.033	.033	.016	.016	.016	.016	.016	.050	.016	.016	.016	.016
2	.050	.066	.033	.100	.083	.033	.050	.116	.033	.116	.083	.250	.083	.283
18	.039	.052	.030	.029	.029	.023	.021	.038	.029	.040	.034	.045	.023	.053
11	.043	.049	.035	.024	.028	.024	.020	.024	.037	.024	.030	.030	.016	.032
7	.033	.037	.024	.037	.029	.022	.022	.049	.022	.053	.046	.066	.029	.039

	71	72	73	74	75	76	77	78	79	80	81	82	83	84
1 2 3 4	.016 .050 .16 .16	.033 .066 .033 .16	.016 .016 .16 .16	.016 .016 .016 .016	.083 .016 .016 .016	.016 .050 .016 .16	.016 .083 .033 .016	.050 .033 .016 .083	.024 .041 .016 .016	.016 .066 .16 .083	.083 .033 .016 .016	.050 .016 .16 .016	.033 .017 .016 .033	.033 .050 .016 .016
1	.050	.016	.016	.050	.033	.033	.024	.016	.016	.016	.016	.050	.041	.033
1 2	.016 .033	.033 .050	.033 .166	.033 .083	016 .166									
18	.035	.034	.044	.032	.044	.026	.034	.039	.022	.039	.032	.029	.027	.029
11	.024	.054	.024	.016	.032	.024	.037	.045	.054	.045	.037	. 24	.034	.028
7	.049	.033	.071	.055	.060	.033	.024	.016	.016	.016	.016	.050	.041	.033

	85	86	87	88	89	90	91	92	93	94	95	96	97	98
1	.016	.033	.050	.050	.033	.016	.041	.024	.050	.050	.050	.050	.050	.013
2	.083	.016	.050	.050	.016	.033	.033	.033	.016	.050	.033	.033	.050	.024
1	.016													
2	.016													
1	.033	.033	.033	.033	.016	.016	.016	.033	.016	.033	.016			
18	.032	.027	.044	.044	.021	.021	.030	.030	.027	.044	.033	.041	.050	.020
11	.032	.024	.050	.050	.024	.024	.037	.028	.033	.050	.041	.041	.050	.020
7	.033	.033	.033	.033	.016	.016	.016	.033	.016	.033	.016			

	99	100	101	102	103	104	105	106	107	108	109	110	111	112
1	.016	.016	.050	.033	.033	.033	.033	.033	.033	.016	.033	.033	.016	.016
2	.016	.033	.033	.016	.016	.050	.016	.016	.033	.041	.016	.050	.016	.033
18	.016	.033	.016	.024	.024	.041	.024	.016	.033	.033	.024	.041	.016	.024
11	.016	.033	.041	.024	.024	.041	.024	.016	.033	.033	.024	.041	.016	.024

	113	114	115	116	117	118	119	120	121	122	123	124	125	
1	.016	.016	.016	.050	.033	.033	.033	.016	.016	.033	.050	.016	.033	
2	.033	.033	.050	.033	.033	.033	.033	.033	.033	.033	.050	.016	.033	
18	.024	.024	.033	.041	.033	.033	.033	.024	.024	.033	.050	.016	.033	
11	.024	.024	.033	.041	.033	.033	.033	.024	.024	.033	.050	.016	.033	

Retention

	1	2	3	4	5	6	7	8	9	10				
1	.033	.033	.033	.050	.016	.016	.033	.016	.033	.016				
2	.216	.033	.016	.050	.050	.033	.016	.016	.033	.033				
3	.050	.033	.066	.066	.033	.033	.050	.033	.016	.016				
4	.050	.033	.033	.050	.066	.166	.066	.050	.016	.016				
1	.150	.033	.033	.033	.041	.091	.050	.033	.033	.033				
2	.033	.024	.024	.033	.016	.050	.024	.033	.033	.024				
1	.166	.050	.050	.033	.033	.033	.033	.033	.033	.050				
2	.250	.166	.033	.050	.166	.016	.033	.033	.016	.016				
1	.166	.116	.083	.116	.083	.033	.050	.033	.016	.033				
2	.166	.034	.016	.016	.016	.016	.033	.024	.041	.016				
1	.450	.166	.416	.233	.116	.016	.050	.033	.033	.033				
1	.100	.166	.133	.150	.066	.033	.066	.033	.033	.033				
2	.050	.050	.050	.050	.016	.033	.016	.016	.016	.033				
1	.050	.016	.016	.050	.033	.024	.050	.033	.033	.033				
1	.666	.033	.033	.033	.016	.300	.050	.050	.024	.024				
2	.733	.300	.200	.166	.166	.016	.033	.033	.016	.016				
1	.033	.024	.024	.024	.024	.116	.033	.033	.033	.033				
2	.983	1.33	.166	.250	.033	.416	.083	.416	.483	.500				
18	.241	.140	.080	.064	.055	.089	.042	.087	.058	.052				
11	.157	.064	.074	.064	.057	.060	.039	.030	.027	.026				
7	.375	.274	.088	.060	.050	.134	.047	.087	.091	.096				

Trials	Dam	Brain Weight	Cord Weight	Body Weight	Brain O_2	Cord O_2	Body Length	Tail Length	Age
[illegible]	12	1.7104	.4405	123.5	78.285	72.135	171	139	150
[illegible]	12	1.8161	.4489	134.4	78.624	72.599	166	145	150
[illegible]	12	1.7779	.4749	131.9	78.480	72.668	166	139	150
[illegible]	12	1.6900	.4685	129.5	78.576	72.773	175	154	150
100	20	1.6564	.4143	127.7	78.485	72.242	168	142	149
110	21	1.7454	.5103	109.2	78.854	73.094	166	167	149
[illegible]	13	1.7802	.4480	133.4	78.537	72.806	169	145	149
75	15	1.5782	.3962	91.9	78.279	72.225	155	131	149
80	10								
80	10								
55	11	1.7050	.4599	131.4	78.262	71.711	170	145	149
70	14	1.5744	.3984	102.8	78.404	72.038	161	135	150
70	14	1.8175	.4766	137.8	78.591	72.556	175	153	150
60	12	1.5420	.3800	87.8	78.592	72.057	148	131	153
50	10	1.7130	.4613	116.7	78.540	72.967	170	149	149
50	10								
65	13	1.7508	.4174	117.9	78.338	71.921	162	140	150
65	13	1.5167	.4009	91.4	78.090	72.811	153	122	150
		1.6950	.4413	119.5	78.481	72.398	166	142	149
		1.7359	.4589	127.2	78.486	72.361	169	144	149
		1.6357	.4224	106.0	78.474	72.441	161	138	150

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VITA

John Linck Ulrich was born at Menlo Park, California, December 12, 1877. He received his primary and secondary education in Monterey and Berkeley, California; Chicago, Illinois; and Brooklyn, New York. He entered the Brooklyn College of Pharmacy in 1898, completed one year of work there, and entered Indiana University in 1899, completing there two trimester's work in Biology. He was a special student in Biology in Harvard University during the years 1900-1901 and 1902-1903, spending the intervening year in surveying. Up to 1907 his training was designed to fit him for forestry or landscape architecture, the profession of his father, with whom he worked during the immediately preceding years. In 1907 he entered the University of Pennsylvania and graduated therefrom in 1908 with the degree of B.S. In the fall of the latter year he reentered the University of Pennsylvania on a Scholarship in Botany, and received the degree of M.S. in 1909. He taught Biology during the year 1909-1910 in the Baltimore City College, and entered The Johns Hopkins University in 1910.

Mr. Ulrich has worked in The Johns Hopkins University with Dr. Watson and Dr. Dunlap in Psychology, with Dr. Jennings in Biology, and with Dr. Mall in Neurology.