

Reply to Boice and Aspey¹

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The most difficult kind of argument to perpetuate is one in which the discussants have no disagreement. From these writers' viewpoint such is the case here. Nonetheless, protocol prescribes the writing of this "Reply" to the "Comment on Eimer and Senter" offered by Boice & Aspey (1968).

The main points of the Boice and Aspey criticism of these writers' earlier publication (Eimer & Senter, 1968) seem to be: (1) that the comparison of the alcohol consumption pattern of domestic Norway rats (*Rattus norvegicus*) with that of wild pack rats (*Neotoma cinerea*) constitutes an inappropriate experimental arrangement because the comparison is across zoological genera and (2) that *N. cinerea* is an other than ideal animal to use to reexamine the conditions which Richter (1957) reported as producing alcohol "addiction" in wild *R. norvegicus*. Any reasonable scientist must concur. There is no scientific justification whatever for the choice of wild *N. cinerea* over wild *R. norvegicus*. The reason for this choice was much simpler, i.e., we had the wild *Neotoma*; we did not have the wild *Rattus*. After several weeks of attempting to trap a sufficient number of suitable wild Norway Ss the net result was tremendous expenditure of man hours but very few animals, many of which were obviously diseased and most of which died within a few days of capture. Attempts to purchase wild *R. norvegicus* from several vendors brought, at the time, only promises and delays. The choice, then, was either to try to follow one of the very few promising leads toward "alcohol addiction" in animals (Richter, 1957) with the available Ss possessing the vague but, according to Richter's observation, apparently salient variable "wildness," or to do nothing while waiting until "appropriate" Ss could be procured.

Even though all of the differences between *Rattus* and *Neotoma* indicated by Boice and Aspey (e.g., aggressiveness and fierceness) are unquestionably true, the potential for scientific advantage seemed considerably greater if we elected to collect data rather than to wait for some indeterminable period to begin a 6-month project. We saw no reason not to collect data from available Ss while pursuing new avenues of procuring what Boice and Aspey seem to regard as *the* only "appropriate" species. Regardless of whether the choice of Ss was strictly "appropriate" or not, evidence now exists to suggest that the technique which Richter (1957) reported as producing chronic, maladaptive, and ultimately fatal levels of voluntary alcohol consumption in the wild *R. norvegicus* doesn't produce that syndrome in *Neotoma cinerea*.

Whether this is worth knowing or not is strictly a matter of opinion.

Boice and Aspey's criticism of our speculation concerning adrenal functioning as a possible etiological factor accounting for the higher level of EtOH consumption observed in the *Neotoma* when faced with the EtOH-water choice is based on their report that the adrenals of the wild *N. floridana* are "... more similar in size per body weight to domestic than to wild Norway rats" (p. 000) also seems to be a matter of opinion, or at least a matter of interpretation. Examination of the supporting data offered by Boice and Aspey (Table 1, p. 000) will show that their statement of similarity of adrenal size per body weight is quite true, but is in no way inconsistent with Eimer and Senter's comment that "... wild rats, in contrast to domestic rats, have large adrenal glands." (p. 320). Their tabled chart clearly shows that their own samples of domestic *R. norvegicus* yielded an average of about 53 μ g of adrenal tissue/g body weight; *N. floridana* showed approximately 93 μ g of adrenal tissue/g body weight; and the wild *R. norvegicus* showed about 157 μ g of adrenal tissue/g body weight. There is no way to disagree with the fact that 93 is closer to 53 than it is to 157 (by 24 μ g); there is also no denying, however, that the *N. floridana* reported by Boice and Aspey had almost twice (about 9/5) as much adrenal tissue/g body weight as did their domestic *R. norvegicus*.

The evidence compiled by Boice and Aspey can lead to but one logical conclusion, i.e., "... Eimer and Senter's aim... would be better accomplished with wild Norway rats." (p. 000). Again the present writers can find no basis for disagreement and, hence, wholeheartedly concur.

In retrospect it would appear that the only really critical points upon which the present writers fail to agree with Boice and Aspey are: (1) our respective experience with regard to how long it takes, and what effort is required, to capture or otherwise procure wild *R. norvegicus*, and (2) what to do while waiting.

REFERENCES

- BOICE, R., & ASPEY, W. Comment on Eimer and Senter. *Psychon. Sci.*, 1968, 12, 113.
- EIMER, E. O., & SENTER, R. J. Alcohol consumption in domestic and wild rats. *Psychon. Sci.*, 1968, 10, 319-320.
- RICHTER, C. P. Decreased appetite for alcohol and alcoholic beverages produced in rats by thyroid treatment. In H. Hoagland (Ed.), *Hormones, brain function and behavior*. New York: Academic Press, 1957.

NOTE

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