7. We attempted to minimize light scatter by having the light beams pass through as little neural tissue as possible. This was accomplished by orienting the nerve in the chamber so that the photoreceptors lay along the side of the nerve rather than the top.
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9. We believe that quantitative comparisons of the effects of Ca^{2+} injection and local light adaptation are premature in view of differences in the geometry of the two types of experiments. A local spot stimulates a columnar volume of the cell, whereas Ca^{2+} is injected from a point source.
10. The photoreceptors were light-adapted with repetitive flashes (40 msec) given once every 10 seconds. Thresholds were measured 1 to 2 seconds after an adapting stimulus by determining the relative energy of a 20-msec flash which elicited a criterion photoresponse. The results were independent of the particular criterion chosen in the range of 2 to 6 mv. These experiments were done on cells which did not exhibit the large regenerative responses sometimes observed in *Limulus* photoreceptors.
11. The rate-limiting step in the recovery from Ca^{2+} injection might be dissociation of Ca^{2+} from a regulatory site rather than reduction of Ca_i^{2+}. If so, the amplitude change during the recovery period would no longer serve as a measure of the instantaneous value of Ca_i^{2+}.
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Predation and Aversive Conditioning in Coyotes

The control of coyote predation is a problem of interest to behavioral biologists, students of wildlife management, and ranchers alike. Indeed, the report by Gustavson *et al.* (*1*) that suggests that coyote predation may be controlled by aversive conditioning involving bait laced with lithium chloride (LiCl) does contain some interesting ideas. Unfortunately, their data and behavioral criteria do not support adequately their hypothesis that scattering baits "that smell like sheep, taste like sheep, and contain a nonlethal emetic toxin" will control coyote predation. Consequently, further reference to this report (*1*) in a subsequent article by Garcia *et al.* (*2*, p. 830) is unjustified.

Briefly, the data of Gustavson *et al.* for their first test with lamb bait laced with LiCl involved only three of their subjects, and two of the three immediately killed a lamb *after* receiving aversive conditioning. The fact that both of these animals showed an increased latency to feed and decreased feeding rate is quite meaningless, since a dead lamb is a dead lamb! The fact is, prey was killed. When these two "killers" were subjected to a second session of aversive conditioning, *the methodology was changed.* However, this fact was not taken into account in the hypothesis offered in either of the reports by this research group (*1, 2*). The methodological alteration consisted of giving an intraperitoneal injection of LiCl after the animals had been unsuccessfully conditioned by mere exposure to LiCl-laced bait. Therefore, the appropriate conclusion should be that two trials with LiCl-laced bait *and* one injection of LiCl were necessary to stop attack by two of three animals. The fact that an injection was also given is of paramount importance when considering the hypothesis that is proposed by these authors (*1*, p. 583; *2*, p. 830), and this is not evident in table 1 of Gustavson *et al.* (*1*).

The hypothesis that coyote predation may be controlled by some type of aversive conditioning is interesting but, as yet, unsupported. The apparent requirement for LiCl *injection* makes the proposed method of control impractical because of the obvious difficulties involved in performing this operation in the field.

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Gustavson *et al.* (*1*) tested these hypotheses: "(i) Can . . . aversions be . . . readily established in a feral carnivore which preys principally on animals? (ii) Will gustatory aversions inhibit attack behavior . . . [on] . . . living prey? (iii) Can the inhibitory effect be limited to a specific prey . . . ?" Thus injections were entirely appropriate. The data were affirmative, so it was suggested post hoc that field trials with toxic emetic baits and lithium-perfused sheep carcasses were now in order. Research is under way on these methods without injections.

Our progress was recently reported to the Coyote Research Workshop, Denver, Colorado, 14 to 17 November. Films demonstrated that consumption of a single sheep flesh bait treated with lithium chloride (LiCl) was sufficient to block a subsequent attack upon a sheep by a pair of hungry sheep-killing wolves. Coyote research, carried out on rabbits, since small lambs were not yet available, indicated that oral consumption of either baits or carcasses treated with LiCl blocked predatory attacks in one or two trials. Furthermore, a single meal of deer meat treated with LiCl caused a hungry cougar to have an aversion to deer meat but left its appetite for cow and horse meat intact. More research is needed, but the results so far are very promising.

Bekoff presents an alternative post hoc suggestion that the injection of LiCl was of "paramount importance." We disagree. He presents no data, but Garcia *et al.* (*2*) reviewed the related research. Potent variables for food aversions are (i) flavor strength, (ii) illness intensity, and (iii) time between consumption and illness. Route of toxin administration is a relatively trivial variable. Food aversions have been obtained in a wide variety of species in many laboratories with oral administration of LiCl. Perhaps Bekoff thinks the jab of a needle will deter the coyote, but research indicates that peripheral pain is not very effective for establishing food aversions. Illness is required. We would welcome Bekoff's research on his hypothesis.

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