Introduction

High school, each desk with a tray on it and a frog, exalting ether, spread and pinned flat as a doily and slit open, the organs explored and clipped out, the detached heart still gulping slowly like an Adam’s apple, no martyr’s letters on it, the intestines’ messy string. Pickled cat pumped full of plastic, red for the arteries, blue for the veins, at the hospital, the undertaker’s. Find the brain of the worm, donate your body to science. Anything we could do to the animals we could do to each other: we practiced on them first.

—Margaret Atwood
Surfacing, 1972

1.1 Scope of This Monograph

The aim of this monograph is to present a comprehensive examination of the issue of animal use in education from an ethical and humane perspective. The monograph seeks to challenge existing notions pertaining to animals in education by drawing widely from the published literature. It covers animal use in middle and high school, in college and graduate education, and in advanced training in medical and veterinary school. The emphasis, however, is on those grades in which animal use is greatest: the secondary and undergraduate levels.

The uses of animals in education range from benign observation of creatures in their natural habitats, to dissection of dead animals, to highly invasive procedures carried out on living animals. The focus of this monograph will be on those methods that incur significant harm or “cost” to the animal, such as loss of life, the infliction of bodily damage, or exposure to physically painful and/or psychologically stressful conditions. These uses all bear moral weight (Rollin 1981), which underlies the intensifying controversy surrounding animal use in education (HSUS 1996).
At the outset it is important to distinguish the use of animals in education from their use in research or testing arenas. For the purposes of this monograph, the use of animals in education refers to the transfer of existing knowledge from one (the teacher or instructor) to another (the student). It is assumed that existing knowledge is not being advanced through this use, although it is acknowledged that what we learn can better enable us to expand human knowledge in the future. This distinction has implications for the importance society may attach to animal use in education.

1.2 Historical Use of Animals in Education

This very brief section mentions significant events leading to the present status of animal use in American schools.

Animals have been used for centuries to train students either through demonstration or through direct practice by the students themselves (Morton 1987). It is not clear when animal dissection first became a regular part of the American high school biology curriculum. Orlans (1993) reports that this occurred in the 1920s, but there are reports of animal dissections being common in U.S. colleges in the late 1800s (Le Duc 1946; Fleming 1952).

Until the 1960s most, if not all, of the contact the average student had with animals in education involved the dissection of dead organisms. Many biology students never saw a living animal (Russell 1996). In the sixties the new Biological Sciences Curriculum Study (BSCS) was introduced by a team of research scientists, science educators, and secondary school teachers under the oversight of the National Science Foundation (National Research Council 1990). BSCS resolved to replace—or at least supplement—the look-disseet-draw-label-memorize approach, with an emphasis on the “hands-on” study of animals.

The positive impact of BSCS was that it encouraged students to actually conduct exercises in scientific inquiry and to think more about scientific and biological concepts. The problem was that it asked students to study life by first destroying it (Russell 1996). Frog pithing,¹ for example, was a major component of BSCS. As lessons involving the destruction of animals in the classroom increased, so did public concern for these practices. This concern, further stoked by some notorious examples of highly invasive science fair experiments, prompted the National Science Teachers Association (NSTA) and the National Association of Biology Teachers (NABT) in 1981 to adopt a “Code of Practice” for precollege biology. The provisions were clear: “No experimental procedure shall be attempted in mammals, birds, reptiles, amphibians, or fish that shall cause the animal pain or discomfort or that interferes with its health. As a rule of thumb, a student shall only undertake those procedures on vertebrate animals that would be done on humans without pain or hazard to health” (NABT 1981).

Several states, including Massachusetts, New Hampshire, and California, enacted laws embodying the spirit of the NSTA guidelines, and it is ironic that both the NSTA and the NABT have since somewhat weakened their restrictions. For exam-
ple, in 1985 the NSTA revised its wording to discourage procedures causing "unnecessary pain or discomfort" (emphasis added). This gives considerable leeway to permit painful experiments, because what constitutes “necessary” animal use is highly subjective. Many teachers, for instance, believe that invasive experiments on animals are necessary for the preparation of future scientists or medical practitioners (Russell 1996).

In 1987 a California high school student named Jenifer Graham sued her high school for insisting that dissection was the only method it recognized for learning frog anatomy (Lockwood 1989). The case drew substantial, nationwide media attention and set the stage for growing numbers of students to object openly to animal dissection exercises. In the decade since, several states have passed “choice-in-dissection” laws, which affirm a student’s right to use alternatives to dissection without penalty.

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1Pithing is usually performed by inserting a sharp probe into the living animal’s brain case, often via the nape of the neck, and wiggling the probe vigorously to destroy the brain.