Letters to the Editor

• **Brief letters—one or two pages—are more likely to be printed than are long ones, which may be cut.**

SPARE WILDLIFE?

I would like to comment on the brief article "Nuts to Nature," by Jo Anne Mueller (*ABT* 36[5]:308). She cautions against man's aid to animals lest we "make them dependent on us or interfere with natural selection as we have in man." She ends, "I ask that we spare wildlife this disastrous degeneration."

I do not agree with this view and I am sure many other biologists do not either. All one must do is look at the list of dwindling and endangered species as published by the National Wildlife Association to know that nearly all kinds of mammals and birds are suffering reduction in numbers due to the activities of man and his apathy. We must make a renewed and dedicated effort to save and increase these precious animals, not "keep hands off" for some remote fear that we may theoretically be altering their genes or the processes of natural selection. I would rather risk these remote possibilities than see these unique and irreplaceable creatures march off into the twilight of extinction.

Dedicated efforts must be made by ecologists, conservationists, engineers, industrialists, land developers, and federal officials to maintain animal habitats and keep them free from pesticides, sewage, industrial chemicals, noise pollution, and a myriad of other ills. However, the real efforts must come from the individual. Only public concern can truly insure the survival of our remaining wildlife. What better way to nurture adult and student concern and appreciation for wildlife than through supplemental feeding of birds and other animals, habitat preservation and restoration, community clean-up drives, recycling stations, and other projects to preserve and clean-up the environment? Granted, such projects must be approached within a sound ecological framework, but to abandon them is to insure the annihilation of these animals long before Ms. Mueller's hypothetical "disastrous degeneration" could possibly have an effect.

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Jo Anne Mueller comments:

I wrote "Nuts to Nature" to challenge some commonly held views that, I feel, do a disservice to wildlife. The question is not "should we save the wildlife?" (for we agree that we should) but rather, "how can we save the wildlife?".

Considering the rapid rate of reproduction in most species, the fear of altering the gene pool is neither remote nor theoretic; rather, it is a possibility close at hand and based on solid data. Certainly, I would agree that dwindling species should be aided, but to aid species that can survive without our help is somewhat like tying a child's shoestrings each day until graduation and then watching him trip as he steps from the stage with his diploma.

Competition among animals enhances natural selection and maintains an adaptive gene pool while supplemental feeding of healthy species can only alter their selective mechanism. At issue here is the prevalent idea that we humans can improve upon nature. The supposed innocuous gesture of feeding wildlife has unrecognized repercussions since we are exerting an influence upon a system with a multitude of related but, for the most part, unrecognized interrelationships. Simply stated, we can never do just one thing in nature. The effect desired is worthy, but the unforeseen effects could be to the detriment of the long-term well being of the species and community.

The struggle to live has been reinforced through evolution and is a force that must be preserved for it holds the promise of a future.

INTEGRATING LITERATURE AND SCIENCE

I was pleased that Professors Silva and Schatz (*ABT* 36[4]:225) were interested in integrating literature and science but amazed at their vagueness about *how* this was to be achieved and virtually dumbfounded at their notion of the nature of literary studies. Of course, everyone will agree with their statement that "teachers should be persuaded that a science–literature program could improve the teaching of literature, just as it could improve the teaching of science," but I doubt if many serious students of literary studies will accept the methods which they vaguely point to. As far as I can determine, literature will become an enlarged *Bartlett's Dictionary of Familiar Quotations* to which scientists will have recourse when they want to find an expression better than any they can think of themselves. This may advance science—though I don't know how—but in its fragmentation of the literary text it will do very little for literary studies.

Another statement, that the "subject matter of both science and literature is concerned, on one level, with propositions and facts," is also perplexing. Setting aside the precise nature of that "one level," one might still question the presence of "facts" in literature. Where are the "facts" in Thomas Hardy's *Return of the Native*? The characters and events in which they participate are, like all characters and events in literature, simply illusions. Their relevance to our lives is certainly not at the level of facts. Further, of what specific significance is it that Samuel Johnson was interested in balloons? That we know Shelley was interested in scientific information, and that we understand the use of that information in a Shelley poem, does no more to inform a literary

student about the nature of science than a scientist using a quotation from Shakespeare informs him about the nature of literature, the structure of a Shakespeare play, or even the literary meaning of that particular quotation. Still further, the authors fail to even refer to the values of literature or its multiple structures and omit entirely any distinctions between types of literature: expository (essays), narrative (short stories, novels), dramatic (plays, dialogues).

As well-intentioned as they are, the authors produce only a pretense at integration. The ways in which to integrate literature and science are undoubtedly diverse; but it does not seem unreasonable to suggest that both literature and science be studied each for its own sake, its own values, its own methodologies before one imposes such levels of integration as extracted passages, the probing of literature as an accumulation of facts, the reduction of chapters and their complex conflicts to chemical properties.

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Dolores Silva comments:

I enthusiastically endorse Ryan's suggestion that literature and science each be studied for its own sake. Our article supports the teaching of propositional knowledge where the focus is on hypothesis formation as a means of advancing investigation into selected areas of study. However, if the "study of illusions," the "nature of literary studies," the "distinction between types of literature," a "dictionary of familiar quotations," and the "study of multiple structures of literary studies," are appropriate content for high schoolers, I am alarmed. I doubt that piecemeal analysis and linguistic clarifications are applauded by adolescents. Our orientation is problem-sensing, problem-posing, and problem-solving not taxonomies or methodologies based on the great unanswered question of schooling: the origin and ground of values.

"If," wrote Suzanne Langer, "we want to have new knowledge, we need a whole host of new questions." Ryan simply does not understand that the hardest part of research is finding the right questions to ask. In the broadest sense, Ryan's problem is an educational one—or, more precisely, one of re-education.

STUDENT ATTITUDES

In his editorial on the value of scientific inquiry entitled "Science→Disruption→Change" (*ABT* 36[4]: 194) outgoing editor Carter appropriately reminds us that as science teachers we have an opportunity to develop scientific attitudes in our students. The way we conduct our classes can contribute to the evolution of a society that is not afraid of change.

It occurs to me that science teachers are not alone in this regard. Teachers of other subjects are also able to stress the same ideas involving (i) an open minded approach; (ii) a desire to gather all relevant data; (iii) a readiness to consider another point of view; and (iv) a willingness to change one's mind. English teachers can find ample examples in literature to delve into human experiences; social studies teachers can analyze all sides of an issue, especially a controversial one; teachers who direct student activities can emphasize that the simple skill of communication includes not only talking but also listening and thinking about what someone else has said.

In short, a key objective of education is to think clearly. Science teaching—indeed all teaching—can and should contribute to the realization of these goals. However, while it is true that it can be caught [sic], I believe it must also be consciously taught.

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THE LACEY ACT

I was disturbed to see the speech of Nathaniel Reed (*ABT* 36[4]:212) in this journal. NABT has rightly opposed the ban on living animals in high-school biology, and yet Reed is a major spokesman for the groups that support such bans. Under the new laws he proposes, any teacher who has ever kept a boa in the classroom could never get another one. He proposes to use the Lacey Act, originally intended to protect the environment from certain undesirable species, as a weapon for the antizoo people to keep out practically all mammals, birds, reptiles, and amphibians from overseas.

Granted that there are abuses in handling animals in the pet trade, the importers are the first ones to welcome government aid that would truly counter such inhumane treatment. After all, an animal that is sick, dead, or dying on arrival is money out of the pocket of the importer. If Mr. Reed was truly interested in humane treatment of animals, he would work with the importers for specific regulations that would benefit all. Instead, Mr. Reed pursues a course of half-truths and falsehoods to support his total ban. The *ABT* introduction says he is an amateur ichthyologist. As a trained ichthyologist, I would have to say he is a rank amateur from the statements he makes about fish in his speech. (i) Moray eels of the 1–3 foot size imported to this country are not really dangerous to humans. They can bite, but their bite is no worse than that of the garter snake. Moreover, after a brief period in captivity they become quite tame and will take food from the owner's fingers, without biting the hand that feeds them! (ii) The lionfish imported here must always be handled with care, and all tropical fish dealers I know of warn customers that their dorsal spines can sting. Each spine can deliver a sting equal to that of a honey bee; but we do not ban observation hives or honey