Letters

Conservation

Thank you for your cover picture [*Science* **132** (9 Dec. 1960)] calling attention to the book, *This Is the American Earth*, one of the Sierra Club's most important achievements in 68 years of conservation. We are happy that your reviewer, ecologist Edward S. Deevey, author of one of the liveliest essays I have ever read ("The hare and the haruspex," in the *Yale Review*), liked the pictures [**132**, 1759 (1960)]. Other ecologists we have heard from liked the rest of the book as well.

Nancy Newhall chose a method of presentation that she hoped would jar readers out of the Conventional Response. The result may not be comfortable, but then it wasn't intended to be. As one who has watched the response to various kinds of conservation writing for more than 20 years, I think her choice, in its organic beauty, warrants the high praise that it has received elsewhere. Not Deevey's ridicule. He sticks labels on the conservation effort that will be much harder to scrape off than they were to put on.

Before undertaking a review that could severely impair the reception accorded a book by so important an audience as yours, I think a reviewer should read the book carefully, not just skim it. There is abundant evidence of skimming in the review, patent in the fact that a man as brilliant as Deevey missed the point of the book as no other reviewer has. In implying that Nancy Newhall's text is concerned only with scenic resources and not with broad conservation, he misses her thesis by a mile. The text is about the survival of man. It concerns the relation of man's spirit—the crucial resource—to his environment, on which he must live much more lightly than he has been doing. An ecologist, of all people, must know how totally inadequate the shallow definition of conservation ("wise use") is in the mid-20th century—even when qualified to read "ecologically sound use."

This Is the American Earth is not a book to be read in smug assurance that science has solved everything, or soon will have. It tells no one to relax and enjoy man's present course; it tries to change that course to one with good promise for our children. "Conservation is humanity fighting for the future," Nancy Newhall writes. It is not a methodological gathering of data indicating a need for further study about the rate of expenditure of resources.

Nor is conservation served by desiccating emotion out of its literature. One of the needs in conservation is the ability to express deep-felt opinion, to compress considerable scientific fact into poetic form, and especially to stir people into caring enough to act, and to act in time.

We wish your readers would check for themselves what Nancy Newhall, as an artist and writer lauded by artists and writers (if not by one ecologist) and as a conservationist and sciolist if not as a scientist, has been able to do. We think they will conclude it was worth doing. (I can't resist adding, about the text that Deevey didn't like, that Alfred Knopf, no mean connoisseur of the written word, has proposed publishing the text *without* the photographs!)

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I am glad, with David Brower, that many reviewers liked Nancy Newhall's text, but I would be more penitent about being caught in a minority position if I were sure that the reviewers are not confusing their own commitment to the cause of conservation with literary discernment. In my review, which certainly was ungracious, I tried to nail an attitude that is wholly natural to movements of social reform, but which seems to me to pose a grave internal danger: the tendency of partisans to talk only to each other, in a private language that is bound to be misconstrued when overheard. I think it is poor tactics to broadcast this language. I quite agree that conservation is "humanity fighting for the future," but I suspect that field commanders like Brower, to whom we must all be grateful as they conduct our battles for us, cannot see all sectors of the front at once; and I think the movement is strong enough to stand some frank discussion, intramurally and behind the firing lines, of its methodology and goals.

To deal first with tactics, let me make plain that I ridiculed neither the book nor the movement, nor do I oppose emotion or art in the service of policy. What I said was that effusive overstatement is a dangerous political weapon, since its users can be made to *look* ridiculous. We agree, *entre nous*, that the book is propaganda—*Paradise Lost* was propaganda too. Now emotion is the very stuff of art, but when art is used as propaganda one wants to be quite sure that the emotion not only is honest but *sounds* honest—otherwise the irreverent opposition labels it sentimentality, meretriciousness, or cant. And it takes very great literary skill to express honest emotion nobly enough to spike such charges; sincerity is necessary but insufficient. I do not question Nancy Newhall's sincerity. I do find

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that she is no Milton, which might seem irrelevant, except that I believe none but a great poet is qualified to deal, poetically, with the lofty themes she set herself. I will not try to discuss her imagery or style, but I must mention a thoroughly unpoetic trick, of throwing away her climaxes on resounding truisms like "The fecundity of life is to assure survival," or "To birth, death is a force reciprocal." One expects more of poetry than that, and when I say it lends itself to mockery I am not trying to be clever, I am thinking of its effect on the opposition.

As tactics, then, the poem can be described as a distinguished failure, but larger considerations are raised by asking why this failure was necessary—why did the work attempt so much? Its proximate occasion, of course, is the urgent need for preservation of wilderness. That is what the photographs plead for so eloquently, and when I wrote that the mood of the text is relentlessly epic rather than lyric I meant that it protests far too much to serve its obvious purpose. The preservation of wilderness *is* urgent, and it is a moral as well as a political issue, but who are its political opponents? Granted that some of them are short-sighted or mercenary exploiters who might be stirred into "caring enough to act, and to act in time," as Brower puts it, what is a reasonably foresighted developer to make of the call "to learn again to walk with Eden's angels"? More to the point, perhaps, I doubt that a psychiatrist or city planner will be impressed by the lines "How simple our basic needs—/a little food, sun, air, water, shelter, warmth, and sleep!" One can agree that "of all resources, the most crucial is Man's spirit," without necessarily supposing that passage of the Wilderness Bill will alleviate the problems of mental health and juvenile delinquency; in the arena where conflicting political demands can claim equal moral justification the apocalyptic tone of Nancy Newhall's text seems to me poor strategy. It preaches to the converted, and irritates potential allies.

I am sorry that so fine a book, and so nobly meant an effort, should have called forth these curmudgeonly reflections, but their intention is entirely friendly to the cause of conservation, if not to all its methods.

Perhaps I should add that any dispute Brower and I have about "ecologically sound use" of resources must be purely semantic, hinging on the word *ecology*. Otherwise I cannot guess why my definition is "totally inadequate." I include man's spiritual aspirations and his psychic need for solitude and beauty

(as well as for social companionship) within my definition, and I think I also know well the scientific or archival function that undisturbed areas must serve for future ecologists. Presumably Brower reads "multiple use" of wilderness preserves, a slogan of some of his opponents, and he knows, as I do, that by that self-contradictory philosophy Mount McKinley National Park will suffer the fate of Walden Pond. But as a historian of environments, I also know that *absolute* freedom from human disturbance has been unattainable since the Neolithic age began. I am just optimistic enough about human character to suspect that future generations will find their Waldens in places as tame as Thoreau's Walden must have seemed to John Muir. The melancholy fact is that most of them will have to.

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Imprinting

It is regrettable that the term *imprinting* appears headed for the same semantic limbo that *instinct, innate,* and similar, once useful, terms attained some years earlier. This trend toward confusion has certainly not been retarded by the two most recent publications dealing with the subject of imprinting (*1, 2*).

Imprinting has generally been regarded as a somewhat distinctive form of learning (*3*). Its primary characteristics appear to be a restriction of its occurrence to a fixed and relatively brief period in the life of an organism, the absence of overt reenforcement apart from that provided by the subject's response, and a relative stability of the preference that develops for the imprinted surrogate. Hess (*4*) has adumbrated some additional characteristics, though the significance of some of these (for example, differential effects of drugs) is questionable.

Now it should be made clear that all but possibly one of these characters is common to forms of learning that have not, in the past, been considered instances of imprinting. Latent learning characteristically may occur in the absence of overt reenforcement; single-trial conditioning is also not unknown (*5*), nor is the stability of the imprinted response as irreversible as was originally supposed by Lorenz (*6*). The only factor in regard to which one can still assert the uniqueness of imprinting is its temporal fixity: if exposure to a surrogate does not occur within a limited period during the development of the organism—the critical period—the preference for that surrogate does not