Letters

Boll Weevil Eradication

As an entomologist, I thoroughly enjoyed Luther J. Carter's balanced and lucid discussion of boll weevil eradication (News and Comment, 8 Feb., p. 494). The lack of bias in an article discussing Southern politics, in-hive entomological bickering, bureaucratic gamesmanship, and environmental pollution is especially commendable. However, despite the report's overall excellence, several points require elaboration. One of these is the extent to which organophosphate insecticides were used on cotton prior to the 1972 DDT ban. As early as 1964, 15 million pounds of organophosphates (predominantly ethyl and methyl parathion) were applied to 10 million acres of cotton (*1*). Thus, nearly a decade before the DDT ban, cotton was already under a heavy blanket of dangerous substitute insecticides.

The matter of insecticide impact on entomophagous insects also needs clarification. While it is true that DDT was less destructive to the natural enemies of cotton pests than certain of the organophosphates, it lost its advantage when combined with toxaphene in a potent mixture that was in vogue at the time of DDT's demise (*2*).

Finally, in an apparent ploy to gain political and administrative support for the program, the eradicators label it "integrated control." Here they play on the fact that the objective of eradication requires a variety of techniques to batter the weevil population down to levels which permit it to be overflooded with sterile males. But eradication remains the program's single objective and this is where the integrated control premise collapses.

The main suppressive tools to be used in the program are insecticides. This means that, until eradication is attained, vast acreages will be intensively sprayed. However, some of our best entomologists say that, with existing technology, eradication is impossible. In this they are supported by the record, for in all entomological history no broadly adapted insect, widely established over diverse terrain, has been eradicated through human effort. Insect populations that have been eliminated (for example, those of the khapra beetle, the Mediterranean fruitfly, the mosquito *Anopheles gambiae*, and the screwworm) all had readily exploitable weaknesses. The boll weevil does not. What its "eradication" promises, then, is immensely costly environmental pollution conducted under the guise of integrated control.

In entomology, the old political game of pork-barreling seems to have a new name—"boll weeviling."

ROBERT VAN DEN BOSCH
Division of Biological Control,
College of Agricultural Sciences,
University of California, Berkeley,
1050 San Pablo Avenue,
Albany 94706

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Cigarette Advertising

The strongly adverse relation between cigarette smoking and health led to the banning of cigarette advertising on television. Since television advertising of cigarettes was discontinued, sales have not been noticeably affected. With the awareness that the money previously spent on television advertising was seemingly wasted, it is not immediately obvious why the tobacco industry continues to advertise at all. Knowing the intensity of addiction experienced by most smokers, it is probably not necessary to convince them they should smoke. Indeed, most regular smokers find it very difficult not to smoke and certainly don't need encouragement to continue. Yet, the tobacco industry continues to advertise heavily.

If the money spent on television advertising was useless, why continue the same practice in the printed media? What is the tobacco industry getting in return for their investment? One return is the promotion of the notion that smoking cigarettes is a matter of user's choice and not an uncontrollable addiction. A more disquieting possibility is that this investment serves as hush money, softening the telling of how bad the story of smoking versus health really is.

WILLIAM H. OLDENDORF
Department of Neurology,
School of Medicine,
Center for the Health Sciences,
University of California,
Los Angeles 90024

Medical Research Funding

Investigators who have witnessed the progressive downgrading of funding of medical research and the trend toward replacement of scientists by politically appointed lay managers in policy-making roles during the Nixon Administration might take heart upon reading the following statement:

> Scientific activity cannot be turned on and off like a faucet. The withdrawal of support disperses highly trained research teams, closes vital facilities, loses spinoff benefits, and disrupts development momentum. The current [Johnson] administration has even struck at the lifeline of our future progress—science education. . . . Especially hard hit in the reductions is aid for postdoctoral students who serve as graduate student instructors. The decline of science education is the most damaging indictment of present administration policy; it threatens to cripple the national effort in science for years to come.

Ironically, however, these are not the words of a partisan for the research establishment, but those of Richard M. Nixon, spoken in October 1968 during his candidacy for the presidency. One can only understand this slip twixt cup and lip by recalling the advice given by ex-Attorney General John Mitchell to black leaders who were protesting the deterioration of civil rights programs under the Nixon Administration —"You would be better advised to watch what we do rather than what we say."

But a slip of an anonymous *New York Times* typesetter symbolizes even better the discrepancy between promise and performance during the present Administration. In the *Times* edition of 29 January 1973, a tiny box on page 1 announced a sweeping new federal science support program, details of which were to be found on an inside page. This just happened to be the obituary page. I wondered then whether this entertaining slip was Freudian or sibyllic.

In view of subsequent government steps, characterized recently by the Federated Societies of Experimental Biology as "preparing the funeral march of the National Institutes of Health," I should have been alarmed rather than amused.

GEORGE MARGOLIS
Department of Pathology,
Dartmouth Medical School,
Hanover, New Hampshire 03755

Birth Order, Family Size, and Intelligence

The relation of birth order and family size to intelligence reported in the article by Belmont and Marolla (14 Dec. 1973, p. 1096) is remarkably similar to my observations in a study of almost 800,000 National Merit scholarship participants (*1*). However, whereas Belmont and Marolla determined the relation by means of a nonverbal test (Raven Progressive Matrices), my own study indicated that the effects were probably verbal in origin. Since the data used by Belmont and Marolla also contain language scores, I hope that the relation of this variable to the nonverbal scores will also be studied.

Belmont and Marolla note that the mean score for only children does not follow a family size gradient. I have also observed this phenomenon (*2*), but I have found no adequate explanation for it. That is, if scores tend to decline with both birth order and family size, why doesn't an only child follow this same rule and thus have the highest mean score of all?

HUNTER M. BRELAND
Developmental Research Division,
Educational Testing Service,
Princeton, New Jersey 08540

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Occam's Razor and the Watergate Tapes

In his report "Watergate tapes: Critics question main conclusions of expert panel" (News and Comment, 22 Feb., p. 732), Nicholas Wade adds his contribution to the tape decoy that has been distracting our attention toward what constitutes consciously manipulable and easily distortable "evidence" ever since Alexander Butterfield accidentally (?) revealed the presence of the tapes last July. Wade apparently supports President Nixon's public relations and legal defense staffs in their allegation that the technical experts appointed by Judge Sirica and the White House (!) may have overlooked the possibility of technical failure in the Uher 5000 recorder.

But, if we accept this "explanation" of the 18½-minute silence on that tape, then we must formulate separate explanations for each of two already missing tapes, for any tapes or tape segments that turn out to be missing or rerecorded in the future, for missing dictaphone recordings, for portions excised from documents, for missing CIA records, and so forth.

As scientists who believe with William of Occam that "entities must not be multiplied without necessity," should we not seek a more direct and elegant explanation? There are two, both formulable in terms of "sinister forces." One posits mysterious spirit beings whose actions are beyond our understanding. The other points toward self-serving human beings whose actions would be defined as "cover-up to the third power" (a cover-up of a cover-up of a cover-up).

JAMES SILVERBERG
Department of Anthropology,
University of Wisconsin, Milwaukee

Conserving Renewable Resources

Colin W. Clark (17 Aug. 1973, p. 630) presents an elucidating and useful model of how a resource with a regenerative capacity may be overexploited. He uses the Antarctic blue whale population as an example.

Regrettably, a quick reader may get the impression that Clark presents a strong mathematical argument in favor of the view that only through socialism would the world be able to avoid catastrophic overexploitation of its natural resources. The postulate of Clark's