The Nineteen-Sixties: A Not So Fond Farewell

Research in the late decade
Has had an ending retrograde;
In retrospect the budgets show
An early surge, a late plateau.
The balance sheet, though, does provide
Strong entries on the credit side.
Opus maximus, feat outstanding
Was, of course, the lunar landing.
A politico-technical display of ability
From Bay of Pigs to Sea of Tranquillity.
By grace of Hill, Fogarty and Shannon,
NIH prospered with science and mammon,
Though praises it garnered did not always count in
The books of the Hon. L. H. Fountain.

The top jobs went in many cases
To familiar names from familiar places,
Wartime alumni still were picked
From old Rad Lab and Manhattan District.
Kistiakowsky gave White House tutelage
Followed by Wiesner, Hornig, and DuBridge.
NSF's theme was "funds denied,"
While Waterman, Haworth, and McElroy tried.
At the Academy, designs grew grander,
As Bronk was succeeded by Seitz then Handler.

And as the Sixties went their way
They yielded harvests of cliché:
"Spinoff," "tradeoff," "paradigm,"
"Brain drain," and, perhaps supreme,
The phrase from friends across the sea
For gaps in their technology.

Engendered on the New Frontier,
Change was in the atmosphere;
With Berkeley, Watts, and Vietnam
Turbulence succeeded calm.
On the campus things grew hotter:
Up against the wall, O Alma Mater!
Teach-ins, sit-ins, power grabs
Penetrate the ivory labs.

Used to praise, scientists find instead
Their image now stood on its head.
No longer a priesthood or fifth estate,
They're regarded as pawns, not masters of fate,
And begetters of whatever may trouble you,
The Bomb, pollution, or CBW.

To sum up, as the decade ends
The future's dim but present trends
Which Congress seems intent upon
Mean less pure research for Pentagon,
A larger stake in work on genes,
A smaller one for big machines,
More slowdowns then, but no demise
For scientific enterprise.

And looking back, as on a graph,
The Sixties rate this epitaph:
For science, big and little both,
An end to exponential growth.

—JOHN WALSH

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vironment, a group made up largely of scientists from the University of Florida and other institutions, has had EDF sue the U.S. Army Corps of Engineers to stop construction of the $160-million Cross Florida Barge Canal, a project which already is far advanced and which will be hard to turn off. The Florida Defenders say that the project is a "crime against nature" that will destroy the Oklawaha River Valley as a wilderness area, turn much of the river into weed-choked or algae-laden impoundments, and alter drastically the flow of nearby Silver Springs (a major tourist attraction). If the case comes to trial, the Florida Defenders will provide a string of expert witnesses from fields such as limnology, plant ecology, and hydrology.

Ecology is not yet a mature science, and ecologists sometimes cannot predict with certainty the consequences of human intervention in an ecosystem. However, as the predictive capabilities of ecology are improved, this rapidly developing glamour science will become increasingly important to the resolution of environmental issues, in the courtroom as well as elsewhere.

David Gates, director of the Missouri Botanical Garden and leader of a new discipline dubbed "biophysical ecology" (wherein the relationship between an organism and its environment is analyzed as a function of energy, gas, and nutrient exchange), believes that eventually predictive models will be developed that will allow scientists to forecast the effect on the environment of various kinds of human activities, such as the clearing of forests from wide areas and the polluting of the atmosphere.

Of course, a court confronted with a lawsuit involving highly complicated environmental questions may doubt its competence to handle the matter. But courts can and sometimes do appoint technically trained special masters to hear cases believed to be beyond the ken of trial judges. The Wisconsin DDT hearings, a quasi-judicial proceeding, were conducted by an experienced examiner who had some background in chemistry and biology; no one doubted his grasp of the scientific issues raised.

Yet it is not uncommon for an ordinary trial judge to sort out and decide the issues successfully in an environmental law case. The judge in the New Jersey wildlife preserves case has confessed that, early in the proceedings, he went to the dictionary to look up "ecology," a word at that time unfamiliar to him. But, according to Joseph Sax of the University of Michigan Law School, who has made a study of the New Jersey case, the judge did a masterful job and rendered an opinion with which it is difficult to quarrel.

As Sax points out, there was never a question of the judge's substituting his judgment for that of the pipeline engineers on any matter in which these engineers were the acknowledged experts. Rather, his task was to hear the