The categories treated are:
presented as a symposium in South Carolina.

The editors have recognized the classical
categories of the physico-chemical separation of
metallic elements, their concentration or
depletion by geochemical processes and the
modification of these cycles by organic
activity. Unfortunately the preface and
forward of the edition reviewed were
inextricably mixed up and the sequence and
topics of papers didn’t do much to relieve the
confusion.

The first section (Sampling, Design, and
Modelling) outlines the diverse sampling
methods possible, and cautions against using
linear models to study non-linear phenomena
(most natural phenomena are non-linear).
Release of trace metals during coal combustion
and their subsequent redistribution in soil and
plants, storage of nutrients in tundra
ecosystems, and the cycling of nitrogen in a
Douglas fir forest are all documented. There is
a mathematical model to describe cycling
processes and a model to simulate the
geochemical behaviour of mercury.

The section on Analytical Methods contains
case studies on arsenic and papers on methods
of chemical analysis in the field or laboratory.
Claims of detection of $10^{-15}$ to $10^{-18}$ gms for
microbeam techniques are totally unrealistic.
There are also papers on analytical techniques
for radionuclides.

The soils and sediments section contains
mostly case histories of accumulation and
movement of metals in soil/sediment systems
in tidal flats, swamps, lakes, estuaries and river
beds. There are some interesting “before and
after” studies which involve industrial
installations. One study indicates that so called
“safe” geothermal power may severely affect
water quality because of the very high
dissolved solids content of geothermal brines.
The presence of “natural” sources of
pollution (cesium in granitic rocks) is noted.
Most studies show that soils, especially soils
rich in clay minerals, have a tremendous
capacity to absorb metal pollutants.

The section on Plant and Animal Uptake is
concerned with the uptake, primarily by
plants, of metal pollutants. The effects on plant
growth of incorporation of fly ash in soils has
also been studied. An interesting study uses
the radioactive tracer technique to estimate the
amount of caribou consumed by wolves in
Alaska.

The final section deals with Terrestrial and
Aquatic ecosystems. Some of the papers
attempt to document the path of metal
pollutants through a specific ecosystem, others
deal with the rates of accumulation, decay, and
dispersal of organic matter. The last three
papers are experimental studies of oil spills,
radium pollutants, and mercury
pollution in aquatic environments.

While this volume contains some interesting
studies, many of the papers are case histories
which may not have broader significance. A
few more papers with some fundamentals of
both geochemistry and mathematical modelling
would give the volume more universal appeal,
allowing a researcher to design experiments
and sampling programs relevant to his
particular study area. The breadth of topics
covered is impressive, reflecting the
multidisciplinary approach of environmental
sciences, but the separation of papers within
the five topic areas seems somewhat arbitrary.
The book does represent a very useful source
volume for references up to 1976, but the
rapidity of change in this field would require
further searching for the latest information on a
particular topic.

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THE GANNET. By BRYAN NELSON: Buteo
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57069, U.S.A. (Original publisher, T. & A.D.
Poyser Ltd., 281 High St., Berkhamstead,
336 pp. 62 Figs., 32 plates, 32 tables. $25.00 U.S.

To many, the Atlantic Gannet is our most
magnificent northern sea bird. Its large size,
dramatic facial appearance, densely-packed
colonies and spectacular plunge dives stir the
blood like few other birds. Now the Gannet
has a fitting natural history to place it in proper
pre-eminence. Bryan Nelson’s book is a
splendid account of over seventeen years field
work on Gannets and their relatives. The book
treads the fine line between excessively
detailed presentation and unsupported