Some time ago I was asked to review this book. After procrastinating for far too long I finally buckled down and read it. I was prompted to do so because I finally realized the editor of this newsletter was never going to let me off the hook and because I was working on a chapter for a book on Hawaiian Biogeography with Warren L. Wagner. Reading the book seemed an appropriate endeavor as we were trying to analyze the data from the various papers contained in the Hawaii volume. What Wagner and I needed was some quantitative method for dealing with 26 cladistic data sets of various endemic lineages.

When I began my task I checked the Table of Contents and the Preface. I found that the book was the result of a symposium held during the 1987 Botanical Congress even though it was not published until 1991. I was not encouraged. Further, I found that the book contained nine papers, all but one of which are 10–30 pages long. One paper is 90 pages long, a third of the entire volume. Because the long paper was co-authored by one of the editors I immediately imagined that the volume was an excuse to publish this paper. I almost put the book down, but I persevered; I could sense the eyes of the PSB editor. It was now or never.

“Artificial Intelligence and Expert Systems in Phytogeography” by T. J. Crovello. A discussion on AI and specifically on expert systems and their potential uses in phytogeography. The use of these systems seems to be linked to our ability to organize our knowledge in a sufficiently explicit manner so that it can be processed by a computer. After reading what is involved I realized that it would be a long time before data stored at the Smithsonian would ever be able to be used by an AI system.

“Some Quantitative Approaches to Problems of Comparative Floristics” by L. I. Malyshev. This is a discussion on the quantitative assessment of floristic richness and originality. Using equations the floristic richness incorporates two basic parameters: taxonomic abundance per unit area and floristic spatial diversity. The originality sums up the issue of autochthonous (speciation) and allochthonous (migration) trends.

Malyshev claims that quantitative phytogeography eliminates excessive subjectivity inherent in qualitative studies. However, several issues such as total range of the species involved and phylogenetic relationships are not included in the quantitative assessment so I was not convinced that the method would be helpful with conservation decisions as the author claimed.

“Ecological Phytogeography of the Southern Yukon Territory (Canada)” by D. Lausi and P. L.
Nimis. This paper is actually a monograph on communities along the Alaska Highway in southern Yukon. It seeks correlation between the distribution and ecology of plants species. The paper includes a classification of the vegetation into community types, their ecological characterization and a phytogeographic analysis. Multivariate methods of classification and ordination were used in the analysis. The study resulted in the classification of the species into seven main groups each with a geologic explanation.

"The Vascular Flora of Gros Morne National Park, Newfoundland: A Habitat Classification Approach Based on Floristic, Biogeographical and Life-form Data" by A. Bouchard, S. Hay, Y. Bergeron, and A. Leduc. Data from herbarium specimens, many collected for this study, were used to analyze the 35 habitats (previously identified) using a cluster analysis (twLNSPAN). Three dendrograms were produced. The first, from the floristic analysis, gives the species that characterized each split. The second, from the phytogeographical analysis, presents the structure of the 35 habitats. The final one presents the life-form structure of the 35 habitats.

"Floristic Databanks and the Phytogeographic Analysis of a Territory. An Example Concerning Northeastern Italy" by L. Poldini, F. Martini, P. Canis, and M. Vidali. A discussion on the structure of a floristic data-bank and an example of one used to analyze floristic diversity, produce interpretation of isoporic maps, phytogeographic subdivisions of the region, evaluate the contribution of various areas to the flora, evaluate the ecological behavior of species, assess man’s impact and the roll of migration into the area.

"The Use of Satellite Imagery in Quantitative Phytogeography: A Case Study of Patagonia (Argentina)" by J. M. Paruclo, M. R. Aguiar, R. J. C. Leon, R. A. Golluscio, and W. B. Batista. This paper starts off by giving an interesting discussion of the vegetation areas of Patagonia followed by a study using spectral data. The six images used were spread out through the growing season and they were analyzed using a grid system to evaluate the near
infrared spectral channels to determine the variation among the images. The data were analyzed using multivariate methods. Significant differences were found to exist between phytogeographic units.

"Distribution Patterns, Adaptive Strategies, and Morphological Changes of Mosses along Elevational and Latitudinal Gradients on South Pacific Islands" D. H. Vitt. The moss flora of four islands in the western South Pacific ranging in habitat from subtropical to subantarctic was analyzed using multivariate analysis. Total species richness is similar on all islands. The number of species increases with elevation in the sub-tropical and temperate islands, but the reverse is true in the subantarctic islands. Most of the species were rare on any given island. Taxonomic patterns are examined and each of the four higher groups show individual patterns. The analysis was accompanied by discussions on adaptation and morphological change.

"Phytogeography of Southern Hemisphere Lichens" D. J. Galloway. A non-numeric discussion of lichen distributions south of the Tropic of Capricorn. The species lists show many species in common between New Zealand and Australia, notable generic similarity between New Zealand-Australia-South America, and a small number of species shared by Australasia and South Africa. Also found are the expected bipolar taxa, affinities with tropical areas and cosmopolitan and endemic taxa. The paper includes a nice discussion of the land masses involved.

"Vicariance and Clinal Variation in Synanthropic Vegetation" by L. Mucina. This paper treats the distribution patterns and variability within synanthropic vegetation (vegetation that covers extensive areas of disturbed habitats) of Europe. The geographical analysis was pre-formed using cluster analysis to determine if the vegetation types were vicariants, if they have common life-history traits.

The volume was not edited so as to bring the papers into line with one another. They ranged from a short 10 page discussion with no data to a 90 page monograph. One was a traditional descriptive biogeography paper and others were heavily numerical. Also, each paper was organized differently, some had a methods section though others did not, some had a conclusion, others did not. I enjoyed reading some of the papers, they were well written and informative, others were poorly orginized and difficult to follow. A number of the papers had excellent reference lists and interesting discussions of the geology and the vegetation types. However, all in all it was a mixed bag. And as for assisting with the afore-mentioned Hawaiian biogeography paper we were working on, none provided assistance. This should not beheled against the authors, as I was looking for ways to analyze cladistic information biogeographicaly and obviously quantitative phytogcography is very different field of science. These studies simply were not asking the types of questions that are useful for biogeographic studies. They are aimed at understanding the complexities of community and ecosystem dynamics. They produce de-tailed ecological interpretations of distribution patterns. In many ways it is really a phenetic and descriptive means of evaluating plant communities, not a reference book for quantitative phytogeography.

There, dear editor, it's done.—Vicki A. Funk, Smithsonian Institution