

repetitious, as are those on lava fountains, and on Hawaiian and Strombolian eruptions. This redundancy could have been avoided by consolidating some of the articles, particularly those dealing with the various types of phreatomagmatic eruptions.

The articles on extraterrestrial volcanism in Part V are especially valuable. Until now, there have been few places where one could find good comprehensive summaries of the vast amount of material we have acquired in recent years.

Part VI is devoted mainly to geothermal phenomena. A chapter on volcanic gases duplicates much of the earlier one on volatiles in magmas and a later one on geothermal systems. But a thorough, well-written chapter on the surface manifestations of geothermal systems is an excellent summary of a wide variety of phenomena in diverse tectonic settings.

Volcanic hazards are fully discussed in Part VII. Twelve excellent chapters deal with the effects of various types of volcanic eruptions. Also included are chapters on the hazards that ash poses for aircraft, as well as climatic and biological effects, and the question of mass extinctions. Eight chapters, making up Part VIII, are devoted to monitoring, crisis management, and mitigation. The only important topic I missed here was that of estimating probabilities and risk, but this is touched on briefly in some of the other chapters.

The extensive treatment of volcanic hazards is balanced by a final section (Part IX) dealing with economic and cultural aspects of volcanism. These include geothermal energy, mineral deposits, and volcanic soils, as well as archeology, tourism, and art. The closing chapter reviews the place of volcanoes in novels, movies, and even cartoons. I was surprised to find that the section dealing with films includes a discussion of *Donald Duck in Volcano Valley* but makes no mention of the magnificent films of Maurice Kraft and Haroun Tazieff that have inspired thousands of viewers. Five of Tazieff's films, including the internationally distributed *Rendez-vous with the Devil*, won prizes for their outstanding artistic and educational qualities. Their omission seems odd, at least.

The deficiencies I have noted are only minor blemishes on what is otherwise an impressive body of work. When the volume is revised, as it no doubt will be, these shortcomings can easily be remedied. Meanwhile, the editors and contributors deserve our

thanks for a magnificent volume that will serve as a valuable reference for professional and amateur volcanologists alike.

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Correction

September, page 61—In the review of the book by Abraham Pais, the title should be *The Genius of Science: A Portrait Gallery*.

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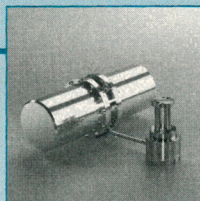
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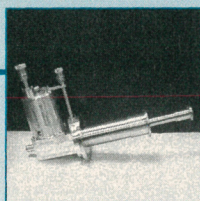
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