Jesson admitted that DuPont appears to be hedging its bets on the chlorofluorocarbon controversy.

"DuPont is taking what I regard as the prudent course, that is, to investigate intensively the kinds of alternative products that one might put on the market should the chlorofluorocarbons be found environmentally unacceptable."

At the same time, he said that two chlorofluorocarbon alternatives that looked like they might do the job without interfering with the ozone layer were later rejected because of their extremely high toxicity in animal tests.

For his part, Molina argued that the two years of additional research proposed by Jesson is unnecessary in the face of the large volume of supportive data that has already been accumulated. Even if the incremental effects of the chlorofluorocarbons in the stratosphere are as low as Jesson predicts, Molina believes that it is possible that the same kind of argument will be used to block or delay decisions about continuing manufacture any time in the future, while the overall threat to health continues to grow.

Whether or not the upcoming NAS reports will resolve the ozone controversy and trigger government action against the manufacture of the chlorofluorocarbons is not clear. A hint that the situation still remains unresolved comes from panel member Fred Kaufman of the University of Pittsburgh, who told the ACS press conference that the report will give "uncertainty a generous range of uncertainties." In fact, it was uncertainties about the chlorine nitrate controversy and other disagreements in data from computers, laboratories and various levels of the atmosphere that have already delayed release of the NAS report for more than six months. □

Guadeloupe volcano: Watch and wait

Its reincarnation was heralded last November by swarms of small earth tremors which in July gave way to ominous clouds of steam and ash. Most recently, it belched out a glowing avalanche of rock and gas, called a *nuée ardente*. The still-threatening object is La Soufrière (the sulfur mine), a volcano on the pair of connected French Carribean islands called Guadeloupe. Some 72,000 of Guadeloupe's residents living nearest to the volcano were evacuated about three weeks ago.

Although the Aug. 30 explosion was the volcano's most violent in this current episode of activity, volcanologists disagree on whether or not it was the main eruption they have predicted from the beginning. Four French scientists working at the fissure's rim were injured and others had to be lifted to safety by helicopter when the explosion launched clouds of ash and debris thousands of feet into the air. Richard Fiske and W.T. Kinoshita, two U.S. Geological Survey scientists assisting French volcanologists to monitor La Soufrière, have now returned from Guadeloupe. The pair were halfway up the volcano's slope when it exploded and they escaped injury. It was a "dramatic event," Fiske says, and "kind of scary."

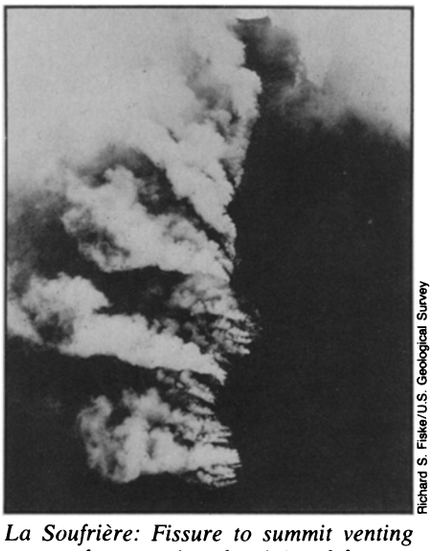
While on the island, they installed a number of tiltmeters to monitor the ground deformations around the volcano. The devices, which can detect even the slight movements caused by human footfalls, are implanted in an array extending halfway up from the base of the 4,815-foot-high volcano. The instruments will measure ground swelling, an indication that the volcano is storing energy in probable anticipation of a major eruption. The recent explosion was a "large one," says Fiske, and there had been "significant inflation" in La Soufrière's slopes to forecast its occurrence.

Since the tiltmeters have just been installed, Fiske says, "we don't know the results" of the recent explosion. "The quakes are continuing," he explains, "about 50 to 150 [of them] per day."

Recently, a statement made by Haroun Tazieff, one of France's leading volcanologists, highlighted the disagreements that have attended this situation from the beginning. In a rather emotional confession he belatedly criticized the decision to evacuate the people, calling it a reaction to "panic." Explaining that "moral pressure" from French authorities had kept him from speaking out sooner, Tazieff asserted that the scientists who made the initial predictions about La Soufrière's impending eruption are "incompetent" and "have never seen an eruption."

Nevertheless, the volcano, which has erupted on 14 occasions since Columbian times, is of the dangerously explosive "strato" variety. By contrast, shield-type volcanos, like most Hawaiian ones, are characterized by "oozing" eruptions of massive lava flows. The various disagreements are easily understood because of the little experience volcanologists have in making predictions of this sort. "The first formal prediction [affecting a volcano] in Hawaii," Fiske notes, was only recently made (SN: 3/27/76, p. 199).

Seismic studies, volcanic gas measurements, monitoring the amount of ash and noting the relative amounts of exuded fresh magma and old rock are techniques employed to predict the likelihood and severity of a volcanic eruption. Observations of this kind indicate that La Soufrière remains in an "unstable state," according to Fiske. The situation now is one of just watch and wait. □



Richard S. Fiske/U.S. Geological Survey

La Soufrière: Fissure to summit venting steam after eruption that injured four.

Arsenic in wine: A bubbling brouhaha

A tempest in a wine bottle is probably a fair assessment of the furor that developed over a paper that was scheduled for presentation, then withdrawn at the last minute, from the 172nd national meeting of the American Chemical Society in San Francisco. And even though the paper was never released it sent shivers down the collective spine of many California wine producers and stimulated a flurry of claims and counterclaims among the principals involved.

It all began with a paper that indicated that some California wines and several other foodstuffs contained potentially toxic levels of arsenic, a known poison and a suspected carcinogen. The authors included Richard K. Vitek of Bio-Metals Analysis, Inc., New Berlin, Wis., William C. Houser of Milwaukee County Hospital, Stanton Deeley, formerly of West Allis Memorial Hospital, in West Allis, Wis., and James J. Bors of Wauwatosa, Wis. The snowball started to roll when a Milwaukee newspaper reporter—inadvertently or otherwise—published news of the findings several days before the paper would have been delivered at the ACS meeting.

The report was triggered by the discovery that a "wino" who consumed about two quarts of wine a day showed signs of arsenic poisoning when examined at the West Allis Memorial Hospital. That suspicion was strengthened after it was determined that the alcoholic's urine contained 439 micrograms per liter (μg/l) arsenic when he entered the hospital. After six days off the wine, the arsenic level dropped to 329 μg/l and to 19 μg/l after 15 days. Further investigation showed that the wine imbibed by the patient contained abnormally high levels of arsenic. The levels found ranged from 66