the evaporation-crystallization process.

The basis for Feth's objections to the inclusion of the Jordan River as an arid-region river in the evaporation-crystallization grouping—that "the sample site is not indicated"—is also unfounded. Feth hypothesizes that the Jordan sampling site is dominated by groundwater seepage. The sampling point at Jericho (*3*) does, indeed, reflect the "saline inflows from springs in the vicinity of Lake Tiberias" (*1*) resulting from the fact that most of these springs enter Lake Tiberias (*6*) which serves thus not only as a mixing basin, but also as the source of the Jordan. However, as shown in Fig. 1, the 507-ppm salinity of Lake Tiberias (*6*) [also given by Livingstone (*3*)], serves as the base point for the steady increase in the salinity of the Jordan to 1310 ppm at Jericho (*3*) after the water flows through a region that is without major springs (*6*). This increasing salinity and the changing ratio of Na to (Na + Ca) are evidence in support of the inclusion of the Jordan River as an arid-region river in the evaporation-crystallization process grouping.

Figure 1 shows the distinct trends of the Rio Grande (upstream from the Pecos junction), the Pecos, the Colorado, and the Jordan rivers toward steadily higher salinities and higher Na values relative to Ca, based on data compiled by Love (*5*) and Bentor (*6*), which substantiate that of Livingstone (*3*). For each of these rivers the site sampled farthest downstream is far from either oceans or seas and, therefore, is not at all influenced by seawater.

Feth also desires elaboration on the precipitation of $CaCO_3$. It is common knowledge that the soils in arid-region river basins have an abundance of $CaCO_3$ precipitate in the form of càliche which, in some instances, produces a limestone-like layer in the soils.

With regard to the mass-balance calculation shown in table 1 (*2*) for the Rio Grande (as an evaporation-crystallization river type), the rainfall data used are of the best quality available for the area. Although this calculation is, indeed, a first approximation, it does vividly demonstrate the contribution of Na, K, Mg, and Ca cations from rocks (99.9 percent) to the evaporation-crystallization river types. Further calculations based on additional data would not change the significance of the conclusion already drawn.

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Precautions with Alkyl Mercury

This technical comment has been written in response to inquiries concerning recommended safety precautions in the handling of alkyl mercury compounds. In 1865 Edwards first reported that two laboratory technicians died from intoxication caused by methylmercury (CH_3Hg) while studying valencies of metallic compounds (*1*). Although the lethal effects of the volatile compounds in this case were communicated from one laboratory technician to another, additional cases of poisoning of laboratory personnel caused by alkyl mercury have been reported. In these cases, inhalation was thought to be the mode of contact with the organic mercurial (*2*). Hunter *et al.*, in 1940, described intoxication caused by CH_3Hg in four individuals in a seed-dressing factory (*3*). All had taken some precautions in handling the reagents (for example, masks and gloves). They developed subacute illness with initial symptoms of cerebellar ataxia, paresthesias, disturbances of the visual field, dysarthrias, increased salivation, and dysphagia. The disease progressed to more severe neurological symptoms, including deafness, blindness, spasticity, paralysis, urinary incontinence, and seizures.

Some alkyl mercury compounds are very volatile. The saturated vapor concentration of methylmercury chloride at 20°C is 94,000 μg per cubic meter of air as compared with 5 μg per cubic meter of air for phenylmercury chloride and 14,000 μg per cubic meter of air for metallic mercury (*4*). The high volatilities of alkyl mercury compounds increase the risks to those handling the compounds.

The International Committee to Determine Maximum Allowable Concentrations of Mercury met in Sweden in 1968 and recommended that no one should be exposed to more than 0.01 mg of alkyl mercury per cubic meter of air over an 8-hour period and that the mercury concentration in whole blood should not exceed 10 μg per 100 ml (as total mercury) (*5*). For laboratory work we suggest that the following precautions be taken:

1) All handling of CH_3Hg should be done in a well-ventilated hood. Syringes should be filled in a hood; if the solution is spilled, cysteine or some other sulfhydryl-rich solution must be mixed with the spilled alkyl mercurial in order to decrease the volatility. All treatments of animals should be performed in a hood.

2) Methylmercury, when not in use, should be stored in disposable, closed, glass containers (for example, a penicillin ampoule) at refrigerator temperature. Feces, although a major metabolic excretion pathway for alkyl mercury in rats, contain CH_3Hg in nonvolatile, bound form, thus minimizing the danger from this source.

3) Concentrations of mercury in the blood of all those working with these substances should be measured periodically. If the concentration exceeds the recommended maximum blood concentration, the individual should be immediately removed from the area of further exposure to alkyl mercury, and his handling techniques should be evaluated for carelessness or other flaws.

4) Women of childbearing age, and especially pregnant women, should not work with alkyl mercury compounds because of possible teratogenic effects on the central nervous systems of the unborn children (*5*).

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