

- <sup>8</sup>LaChapelle, E., and R. C. Hubley. 1955. Pers. comm.
- <sup>9</sup>Juhle, W., and H. Coulter. 1955. The Mt. Spurr eruption, July 9, 1953. *Trans. Am. Geophys. Union.* 36:199-202.
- <sup>10</sup>Hubley, R. C., and R. Smith. 1955. Data of the Juneau Ice Field Research Project. *Am. Geog. Soc. New York*, unpubl.
- <sup>11</sup>Nielsen, L. E. 1955. Regimen and flow in equilibrium glaciers. *Geol. Soc. Am. Bull.* 66:1-8.

### PROMOTING THE DECAY OF SEA-ICE

Some attention has been paid to hastening the decay of sea-ice along inshore navigation channels; dusting the ice with dark materials has been considered and is being investigated. More practical than dusting might be hosing the ice surface with normal sea-water in the spring. This suggested itself when difficulties arose at McMurdo Sound in 1962, following flooding a runway on perennial sea-ice with sea-water to smooth the surface. The consequent increase in surface salinity (from less than 1‰ for the old ice to 17 to 31‰ for the flooded surface) led to a wet surface layer while air temperatures were still as low as  $-15^{\circ}\text{C}$ .

The surface salinity of annual sea-ice in the Arctic is commonly less than 5‰. Covering the surface with sea-water pumped from below would increase surface salinity to 20 to 30‰. Hence the volume of liquid brine at any given temperature would be increased by a factor of 4 to 6. This should decrease the albedo (possibly by a factor of 2 at temperatures above  $-10^{\circ}\text{C}$ .) so that a higher proportion of the incident solar radiation would be absorbed. The water transfer would also contribute sensible and latent heat at the surface. Surface heat transfer might be aided by convection in the layer of meltwater, and ultimately the surface brine should drain down through the natural ice as its original brine cells expand under rising temperatures. The advantages of increased absorption of radiation might be slightly offset by increased long-wave emission and higher evaporation from the liquid

phase. The net result of these processes should be to reduce the treated ice to a low-strength porous condition comparatively early in the season.

Pumping sea-water on the ice should be appreciably cheaper than delivering and spreading dusting materials. Submersible pumps run from a portable generator could be lowered through holes made in the ice by drilling or blasting. Field tests of the method would be inexpensive.

The above considerations should also have some bearing on the use of the free-flooding technique for thickening runways on sea-ice. If runway surfaces are not to deteriorate by slushing and pitting in the spring, there should be some provision for brine drainage and a snow cover should be maintained on the runway.

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Dr. Helge Larsen, the former Director of the Institut, has succeeded Captain Ejnar Mikkelsen as Chairman of the Board, and Colonel J. Helk has been appointed Director.

### Twentieth International Geographical Congress

The Second Circular of the 20th International Geographical Congress, which will be held from July 6 to August 11, 1964 in the United Kingdom, has just been published. Copies of this circular can be obtained from:

The Secretariat,  
20th International Geographical  
Congress,  
c/o Royal Geographical Society,  
London, S.W.7.

### Corrections

In *Arctic* Vol. 16, No. 1, p. 30: the lettering for the ordinate in Fig. 4 should read feet instead of inches.

On p. 55 in the second line of the heading under O. C. S. Robertson read R. D. for R. B. and C. D. for C. B.