

the dangers at all times inseparable from ice navigation, even in regions not quite so far north."

Admiral Sir George Nares said :—

"The adopted Arctic axioms for successfully navigating an icy region are that it is absolutely necessary to keep close to a coast line, and that the farther we advance from civilization, the more desirable it is to insure a reasonably safe line of retreat. Totally disregarding these, the ruling principle of the voyage is that the vessel—on which, if the voyage is in any way successful, the sole future hope of the party will depend, is to be pushed deliberately into the pack-ice. Thus, her commander—in lieu of retaining any power over her future movements—will be forced to submit to be drifted helplessly about in agreement with the natural movements of the ice in which he is imprisoned. Supposing the sea currents are as stated, the time calculated as necessary to drift with the pack across the polar area is several years, during which time, unless new lands are met with, the ice near the vessel will certainly never be quiet, and the ship herself never free from the danger of being crushed by ice presses. To guard against this the vessel is said to be unusually strong, and of a special form to enable her to rise when the ice presses against her sides. This idea is no novelty whatever ; but when once frozen into the polar pack the form of the vessel goes for nothing. She is hermetically sealed to and forms a part of the ice block surrounding her. The form of the ship is for all practical purposes the form of the block of ice in which she is frozen. This is a matter of the first importance, for there is no record of a vessel frozen into the polar pack having been disconnected from the ice, and so rendered capable of rising under pressure as a separate body detached from the ice block, even in the height of summer. In the event of the destruction of the vessel, the boats—necessarily fully stored, not only for the retreat, but for continuing the voyage—are to be available. This is well in theory, but extremely difficult to arrange for in