Geoengineering, Ocean Fertilization, and the Problem of Permissible Pollution

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Abstract

Many geoengineering projects have been proposed to address climate change, including both solar radiation management and carbon removal techniques. Some of these methods would introduce additional compounds into the atmosphere or the ocean. This poses a difficult conundrum: Is it permissible to remediate one pollutant by introducing a second pollutant into a system that has already been damaged, threatened, or altered? We frame this conundrum as the ''Problem of Permissible Pollution.'' In this paper, we explore this problem by taking up ocean fertilization and advancing an argument that rests on three moral claims. We first observe that pollution is, in many respects, a context-dependent matter. This observation leads us to argue for a ''justifiability criterion.'' Second, we suggest that remediating actions must take into account the antecedent conditions that have given rise to their consideration. We call this second observation the ''antecedent conditions criterion.'' Finally, we observe that ocean fertilization, and other related geoengineering technologies, propose not strictly to clean up carbon emissions, but actually to move the universe to some future, unknown state. Given the introduced criteria, we impose a ''future-state constraint''. We conclude that ocean fertilization is not an acceptable solution for mitigating climate change. In attempting to shift the universe to a future state (a) geoengineering sidelines consideration of the antecedent conditions that have given rise to it —conditions, we note, that in many cases involve unjustified carbon emissions —and (b) it must appeal to an impossibly large set of affected parties.

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