The unfrozen Arctic

by GWYNNE DYER

It's the last week of October, and the main nursery of new Arctic Ocean sea ice has not yet started to refreeze. Hardly surprising, since 2020 is on course to be the second-warmest year on record, but it's still a matter of concern. It should have started refreezing about five weeks ago.

Historically the Arctic Ocean would freeze right out to its edges (the northern coasts of Canada, Greenland, Russia and Alaska) each winter ? 14 million sq. km. of ice -- and then melt back to about half that area over the following summer. Not this year.

The summer melt season ended on 15 September, with just over a quarter of the winter ice left (3.74 million sq. km.). That's the second-lowest ever, but normally the ice cover would have begun expanding again right away. This year it didn't.

The edge of the ice north of Scandinavia and European Russia stayed where it was, and the ice on the Laptev Sea (north of central Siberia) actually retreated further north. It will probably start refreezing soon now, but it has already set alarm bells ringing throughout the scientific community.

However, it is making the shipping community very happy. A 2019 conference of the Organisation for Economic Cooperation and Development (OECD)'s International Transport Forum gleefully discussed the prospect that the ice is shrinking and thinning so fast that ships may soon be able to sail straight across the Arctic Ocean rather than creeping around the edges.

If the sea ice completely disappears for even one year, in all later years the old thick, multi-year ice will be gone. At worst ships would only have to make their way through new, thin single-year ice even at the North Pole, so there would be no need for ice-breakers even in winter. Hurrah!

These foolish people should not be hugging themselves with delight. They should be shivering in fright, because an ice-free Arctic Ocean could be an event big enough to tip the world's climate into much faster, irreversible warming. That's what we really have to be afraid of: the sudden lurch, the ?non-linear change' that delivers us into a world of hurt.

The Arctic sea ice, in midwinter covering an area half again as big as the United States, is like a giant mirror reflecting the sun's heat back into space. Replace it with open water that absorbs the sun's rays, and you have created a giant new global warming engine that you cannot turn off.

It could happen next year, it might not happen for another twenty years, but the train has already left the station. It's greenhouse gas emissions that are causing the warming, but no amount of emissions reduction now will stop it: there's already enough CO2 in the air to melt all the sea ice in the foreseeable future.

That would be catastrophic, so some climate scientists are now thinking seriously about the logical next step. The Arctic is warming three times as fast as the rest of the planet, so Dr Hugh Hunt of the Centre for Climate Repair at Cambridge University is prepared to take that step.

?Three years ago if you had asked me, I'd have said I hope we don't have to do any of this geoengineering crap. It's not what you'd want to do, but now I just can't see this predicament going in any other direction. I really hope we do proper government-funded work on how these geoengineering techniques work, because sure as eggs is eggs we're going to have to do ?em.?

Very reluctantly, Hunt would now be willing to consider putting an aerosol (probably sulfur dioxide) into the stratosphere over the Arctic Ocean to reflect enough incoming sunlight to hold the local temperature down. It would be less of a challenge technically than doing it elsewhere, because the stratosphere over the Arctic is only half as high as it is at the equator and existing aircraft could

deliver the aerosol.

He knows there are lots of questions that need to be answered before this was done. Would the effects of the aerosol be confined to the Arctic region? Otherwise you'd need the consent of the whole planet to do it, not just the eight members of the Arctic Council (who probably would be in favour if it was safe, because they definitely have a dog in this fight).

But if the research said it was safe, then Hugh Hunt would be prepared to do it. ?There is something to be said for tipping the Arctic back into refreezing mode a bit more every winter than it melts in the summer. Maybe a bit of stratospheric aerosol injection could nudge it in the right direction.?

He is not alone in that judgement. The alternative is probably a great deal worse.