# 1AC

## 1AC — ADA (KU HW)

### 1AC — Advantage

#### The Advantage is Megaships —

#### The United States is expanding antitrust enforcement of international shipping

Seward & Kissell 3/2/22, Law firm specializing in antitrust. (Federal Maritime Commission and Department of Justice Announce New Steps to Strengthen Antitrust Enforcement Efforts in the Shipping Industry, <https://www.sewkis.com/publications/federal-maritime-commission-and-department-of-justice-announce-new-steps-to-strengthen-antitrust-enforcement-efforts-in-the-shipping-industry/>)

Building on our July 2021 alert regarding the signing of the first interagency Memorandum of Understanding (“MOU”) entered into by and between the Federal Maritime Commission (“FMC”) and the Department of Justice (“DOJ”), the DOJ and FMC on February 28 issued a joint release announcing additional steps that each agency would take to strengthen their partnership and support efforts to enforce the antitrust laws of the United States, reflecting their ongoing focus on promoting competition in the shipping industry. In press releases posted to each agency’s website, the Antitrust Division of DOJ and the FMC disclosed that “the Justice Department will provide the FMC with the support of attorneys and economists from the Antitrust Division for enforcement of violations of the Shipping Act and related laws” and that “the FMC will provide the Antitrust Division with support and maritime industry expertise for Sherman Act and Clayton Act enforcement actions.” This interagency initiative highlights an increasing level of sophistication and an ongoing focus by both DOJ and FMC to investigate and enforce violations of the Shipping Act and the antitrust laws of the United States. Simultaneously, the White House also on February 28 released a companion fact sheet that highlights ongoing enforcement efforts by the Executive Branch, with a particular focus on ocean carrier companies and alliances that operate in the container shipping industry. The fact sheet includes criticism of ocean carrier detention and demurrage fees and price increases, and contends that certain ocean carrier business practices have contributed to supply chain disruptions and port congestion. The fact sheet also notably states that the FMC will continue ramping up oversight of the global ocean shipping industry, and seeks additional reforms that “address the current antitrust immunity for ocean shipping alliances.” As shipping industry participants have speculated that supply chain pressures may last well into 2022, we expect that the government’s focus on fair competition in the shipping industry will continue.

#### They’re targeting all major shipping alliances

Consadine 21, Attorney with Seward & Kissell LLP. (Michael, Shipping Companies Beware: Antitrust Challenges Ahead as DOJ Focuses On Industry, <https://www.sewkis.com/publications/shipping-companies-beware-antitrust-challenges-ahead-as-doj-focuses-on-industry/>)

On July 12, 2021, the FMC and DOJ signed its first interagency MOU to foster cooperation in the enforcement of antitrust and other laws related to the maritime industry. Key provisions of the MOU provide that the agencies will: i) share information and materials relevant to the competitive conditions in the U.S.-international ocean liner shipping industry, including terminal services provided to ocean liners, and ii) confer, at least annually, to discuss and review enforcement and regulatory matters. Unlike the FMC, DOJ has the authority to bring criminal charges against alleged offenders of antitrust laws. In the past, DOJ has made its presence known by issuing statements regarding certain alliance agreements (vessel-sharing agreements); this MOU raises the stakes as it suggests more intense scrutiny by DOJ. FMC Activity, Audit Program and Recent Litigation On July 19, 2021, within days of the Executive Order and the signing of the MOU, the FMC also disclosed the Vessel-Operating Common Carrier Audit Program to review carrier compliance with FMC’s detention and demurrage rule. As part of this new audit program, the FMC will audit the top nine carriers by market share ― i.e., Maersk, MSC, CMA CGM, COSCO Group, Hapag-Lloyd, ONE, Evergreen, HMM and Yang Ming. Initially, the FMC will request information from the carriers to create a database of quarterly reports on detention and demurrage practices, and will follow with individual carrier interviews. The audit may also focus on other aspects of these companies’ practices and operations, such as billing, appeals procedures, penalties assessed by the lines, and any other restrictive practices. Significantly, the FMC has already been auditing carriers to address issues concerning intermodal congestion related to COVID-19 and to identify operational solutions to cargo delivery system challenges. The FMC is apparently poised to investigate eight carriers ― CMA CGM, Hapag-Lloyd, HMM, Matson, MSC, OOCL, SM Line and Zim ― that were identified as having implemented congestion-related surcharges. In August, the FMC requested information about these surcharges from these carriers. The FMC’s inquiry may focus on whether surcharges were implemented following proper notice, if their purpose was clearly defined, and whether there were clear events or conditions that triggered or terminated the surcharges. The FMC suggested enforcement action may occur if tariffs are improperly established. Shipping customers are also imploring the FMC to investigate shipping practices. On July 28, 2021, MCS Industries, a Pennsylvania-based home furnishings manufacturer, filed an administrative proceeding against COSCO and MSC, alleging that the carriers had violated provisions of the Shipping Act and refused to honor their service contracts, calling for the FMC to conduct an investigation of these companies’ shipping practices. COSCO and MSC have denied the allegations and noted, among other things, that MCS’s complaint should be heard in the fora specified in its respective service contracts with the carriers. An administrative law judge was appointed to hear the matter, the outcome of which should be closely watched by industry participants. DOJ Antitrust Landscape DOJ’s coordinated efforts with the FMC have implications for the shipping industry as DOJ antitrust prosecutions have been both expansive and punitive. DOJ’s jurisdiction includes foreign business activities that have a “substantial and intended effect in the U.S.” That broad reach has impacted numerous companies throughout the world in various industries ranging from auto parts to air cargo. Companies in such industries have paid millions of dollars in penalties and many of their employees have been imprisoned. The shipping industry has not been spared. In a long-running investigation, a Norwegian shipping company and its executives were indicted for their participation in an antitrust conspiracy focused on the allocation of customers and routes, rigging bids, and fixing prices for the sale of international ocean shipments of roll-on, roll-off cargo to and from the United States. The company pled guilty and was sentenced to pay a $21 million fine; four individuals have already been sentenced to serve prison terms. Four other companies also pled guilty for their roles in the conspiracy, leading to the assessment of more than $255 million in criminal fines.

#### BUT the Shipping Act creates immunity for vessel-sharing agreements

UNCTAD 18, UN Conference on Trade and Development – Report of Intergovernmental Group of Experts on Competition Law and Policy, (Challenges faced by developing countries in competition and regulation in the maritime transport sector, https://unctad.org/system/files/official-document/ciclpd49\_en.pdf

The Federal Maritime Commission [FMC] is the independent regulatory agency responsible for the regulation of seaborne transportation in the foreign commerce of the United States for the benefit of United States exporters, importers and the United States consumer. 25 Its mission is to ensure competitive and efficient maritime transportation services for shippers, by monitoring agreements among carriers and service contracts with regard to their effects on prices and services. The amendment of the Shipping Act (1916) in 1961 established the Commission and gave it the power to disapprove agreements between liner shipping carriers that were not in the public interest. In this regard, a violation of antitrust laws would be considered against the public interest. The Shipping Act (1984) removed both the public interest clause and the requirement for approval by the Commission for agreements between liner shipping carriers. Vessel-sharing agreements and other cooperative agreements are also permitted under the Act. 23. The United States has a statutory antitrust exemption for liner conferences. The Shipping Act, as amended by the Ocean Shipping Reform Act (1998), provides an alternative competition enforcement regime and includes limited antitrust immunity for agreements between liner shipping carriers from competition law. The Act introduced reforms that ended the authority of liner conferences to regulate the service contracts of members. In addition, the Act allows conference members to negotiate independent confidential service contracts with shippers and prohibits other members from retaliating against shippers or carriers that do so. Prior to the Act, such contracts had to be made public, potentially reducing the incentive for participants to enter into them. The annual report of the Commission in 2014 stated as follows: “Conference or price-fixing agreements have become largely irrelevant to United States liner shipping. No new carrier conference agreements have been filed with [the Commission] since fiscal year 2000. The remaining three conferences cover only government cargoes.” 26 All conduct that does not fulfil antitrust exemption requirements is subject to competition law and investigated by the Department of Justice if it involves cartel-like practices, including price fixing, bid rigging and market allocation.

#### That allows for the continuous acquisition of larger and larger megaships

O’Connor 14, Cozen O'Connor Law Firm, (A New Era For Vessel Sharing Agreements – FMC Allows P3 and G6 Alliances To Go into Effect https://www.jdsupra.com/legalnews/a-new-era-for-vessel-sharing-agreements-23682/)

Perhaps the first true vessel sharing agreement was called, appropriately enough, The Vessel Sharing Agreement (which led to use of the term “VSA” to describe such arrangements) among Sea-Land Service, Inc., Nedlloyd Lijnen, B.V., and P&O Containers, Ltd. This agreement was intended to maximize the utilization of the then very large and fuel efficient containerships (the so-called Econships) that Sea-Land had acquired from the estate of the bankrupt U.S. Lines. The P3 and G6 agreements have a similar purpose — maximizing utilization of large, efficient vessels as a means to reduce carrier costs. In other words, some of the basic reasons lines enter into VSAs have remained unchanged over the years. The use of space charter and vessel sharing agreements increased through the late 1980s and early 1990s, although the vast majority of these agreements were (like the original VSA) often focused on a single trade lane. During this period, relatively few lines were considered “global” carriers and those that were often offered service through a combination of stand-alone strings that did not involve partners, trade-specific vessel sharing agreements, and space charter arrangements. As world trade increased and the phenomenon of globalization emerged, carriers sought to meet the transportation needs of their increasingly global customer base. Hence, carriers moved to geographically broader cooperations that the FMC labeled “global alliances,” most notably The Grand Alliance, The New World Alliance, and the CKYH alliance. These agreements, although not truly global, were often broader in geographic scope and involved a more integrated, long-term cooperation than many of their predecessors. However, the objective was still the same: to provide a service superior to that which could be offered alone while reducing operational costs and capital risks. In many respects, the P3 and G6 agreements represent the next logical step in the evolution of carrier agreements: geographically broader, more operationally integrated, long-term vessel sharing arrangements that come closer to being truly global. As in the past, these arrangements help carriers hedge against the risk of the investment required to build the large, fuel-efficient ships necessary to provide service at a competitive cost. They also allow improved utilization, a key to achieving cost savings. The difference between these agreements and past VSAs is primarily one of degree rather than kind — the cost advantage offered by new tonnage is necessary to remain competitive, but the size and cost of new ships has reached the point where it may no longer be feasible for carriers to operate outside an alliance that helps reduce the risk of such an investment to the point that it is acceptable. Indeed, some are questioning whether it is possible for a line to remain competitive on a global scale following a 1990s model of offering a patchwork of stand-alone and cooperative services rather than being a member of a global alliance.

#### The size of those megaships are about to explode, drastically shaking up the entire industry

Fickling 21, Reporter for The Print. (David, March 30, 2021, Get ready for future, giant next-gen cargo vessels will make ‘Ever Given’ look like bath toy, <https://theprint.in/opinion/get-ready-for-future-giant-next-gen-cargo-vessels-will-make-ever-given-look-like-bath-toy/630839/>)

If you think the ultimate reason the Suez Canal got blocked last week is because container ships are getting too big, get ready for the future. The next few generations of cargo vessels are going to make the Ever Given look like a bath toy. Big enough to carry 20,124 twenty-foot equivalent units, or TEUs — the standard measure for cargo, representing a single shipping container — the Ever Given was one of the world’s largest such vessels when it was launched in 2018. The first container ship to break the 20,000 TEU mark had been at sea for less than a year. One famed 1999 study, written at a time when the largest boats carried less than 8,000 TEUs, argued it would prove impossible to build craft bigger than 18,000 TEUs. The Ever Given, finally floating on its way again, is now distinctly in the second class of mega freighters. There are nearly 100 ships carrying more than 20,000 TEUs on the seas or under construction, and the bigger vessels being assembled in Chinese and South Korean shipyards are mostly around the 24,000 TEU mark. A quarter of the capacity moved by the world’s largest container line, AP Moller-Maersk A/S, is on boats above the 17,500 TEU mark. That’s unlikely to be the end of it. Chinese shipyard Hudong-Zhonghua Shipbuilding Group Co. has already registered designs for a 25,000 TEU vessel, and it has become relatively commonplace to predict that 30,000 TEU monsters will be plowing the oceans before the decade is out. Such enormous hulls may cause problems that will put the Ever Given’s mishap into the shade. At Rotterdam, the largest ships already have to arrive at high tide to ensure there’s enough clearance for them to get through the channel, according to a 2019 study by Nam Kyu Park of South Korea’s Tongmyong University. Larger vessels will soon be unable to berth at Shanghai, Busan and Hong Kong even at high tide, unless channels are dredged out further, Park wrote. There are similar problems with infrastructure on dry land. Modern ports are astonishingly efficient at unloading, and can turn around a fully laden 20,000 TEU vessel in a couple of days. But the time spent waiting for a berth can cut deep into the wafer-thin economics of a container line. Longer quays may have to be built to accommodate the larger ships, as well as cranes that can reach across wider decks, larger loading yards for tens of thousands of containers, and faster rail and road terminals to take cargo to its next destination. Current vessels are already at the limits of what can fit along major shipping lanes. The Ever Given is too bulky to squeeze through the Panama Canal, where boats must be lifted over its mountainous spine with massive lock gates. At 24 meters (79 feet) deep, the Suez Canal has more capacity — but it’s roughly as deep as the Straits of Malacca and Singapore, so dredging it further to accommodate bigger ships won’t help much. The binding constraint on East-West trade at this point isn’t engineering, but geology. Extending 15.7 meters below the water line, the Ever Given shouldn’t, on paper, have trouble making it through any of those channels, which typically require 3.5 meters of clearance from the bottom. Next-generation ships with a 20-meter draught, on the other hand, would be at constant risk of grounding. How have container ships managed to defy expectations that their size would hit fundamental limits? A large part of it is because the economies of scale are so compelling. Bigger vessels use more fuel, but relative to the number of boxes stacked on their decks they’re far more efficient. They can also turn around a larger number of containers at a time and serve a wider array of feeder ports, ensuring they can defray their massive capital costs quicker. There’s little sign that this is about to change. New International Maritime Organization regulations against the burning of sulfur-intensive fuel oil introduced last year mean current ships are using costlier diesel, putting more pressure on naval architects to come up with yet more efficient designs. Beyond that, the IMO now has plans to reduce carbon dioxide emissions by 40% in 2030 compared with 2008, and by 70% by 2050. Even with a switch to cheaper, less polluting liquefied natural gas as the main fuel, that’s going to mean further drastic improvements in efficiency, not to mention propulsion technologies that don’t exist yet. To date, the best way to chip away at fuel consumption and emissions is by increasing size. It’s hard to know how the industry is going to cope with this. Perhaps Suez, Malacca and Singapore can be dredged to accommodate even bigger vessels. Perhaps shipyards will find ways to squeeze a few more inches out of existing channels. If not, alternative routes around the Cape of Good Hope and through the deeper Straits of Sunda and Lombok between Indonesia’s islands may prove the only viable way to accommodate such massive boats. Should that happen, those economies of scale will have to be drastically larger to make up for the longer sailing time. We’ve seen container ships leap from 10,000 TEUs to 24,000 TEUs. Don’t be shocked to see 50,000 TEU vessels plying the sea in your lifetime.

#### There are two scenarios —

#### The first scenario is Accidents —

#### Megaships drastically increase harms to the Arctic

Baker & Harris 16, Chairman of Marsh Marine Practice, and, Senior Vice. (Marcus & Stephen, Marsh Report: "PLUMBING THE DEPTHS" OF MEGASHIP SUPER-SIZED RISK, In Navigating a Shifting Risk Landscape Expert Perspectives on the Marine Industry, file:///C:/Users/sharris/Downloads/Navigating%20a%20Shifting%20Risk%20Landscape%20Expert%20Perspectives%20on%20the%20Marine%20Industry.pdf)

Navigation routes, such as those leading to or from the Panama Canal, have been the same for many years, with commercial cargo vessels following tried-and-tested pathways through the sea; however, the known safe depth for the navigation of many is only as much as the draught of the largest, deepest vessel ever to have used it. An extra four meters of depth that the newest megaships can draw could be the vital difference between uneventful navigation and a serious grounding or stranding, with all the perils of ship damage, crew endangerment, cargo loss and marine pollution that could result. As container ships are the largest users of both the Suez and Panama Canal systems, these are the vessels that, having the ability and commercial reasons to navigate new parts of the world’s oceans, are of most concern. Governments seeking to have large vessels use their ports and terminals will often be the first to blame the shipping industry when a serious grounding or stranding accident occurs in their waters. But how much of that blame should actually lay at a government’s own doorstep, when it comes to ensuring hydrographic surveys meet modern standards (and, where necessary, the funding to do so), especially when it is known that increasingly larger vessels will be using their waters? Let us not forget that the attempted—and ultimately unsuccessful—salvage of the MV Rena after it grounded on Astrolabe Reef in New Zealand in October 2011 resulted in one of the largest-ever protection and indemnity losses to the market. And the MV Rena was a very small container ship in comparison to the modern generation. Many vessel operators have been viewing, with great interest, the increasingly viable Arctic routes between Asia and Europe as an alternative to the much longer (both in time and distance) routes via Singapore and the Suez Canal; however, the vessels that have, to date, successfully transited the Northern Sea Route (NSR) around northern Russia have been relatively small in size. Marsh has already voiced concerns about the potential risks of larger vessels using this route with greater frequency, but the knowledge that so few of the waters have been adequately surveyed for depth to modern standards adds to those concerns. In addition, there is increasing talk of commercial use of the Northwest Passage (NWP) around northern Alaska and through the many islands of northern Canada, which still poses considerable risk, as some of the waters are even less bathymetrically assured than parts of the NSR. Only a handful of commercial vessels have ever successfully transited the NWP, yet some operators are already heralding those few successes to prove the NWP to be a major route for the future. The lack of hydrographic data for that whole region should remain a major concern for any sensible operator, echoed by similar warnings in the new Polar Code.

#### They make accidents inevitable

Waterson 19, Senior Vice President - Marine Hull and Liability for Lockton Companies LLP World’s Largest Insurance Broker. (Robert, Re-evaluating the risk of mega ships, https://www.locktoninternational.com/gb/articles/re-evaluating-risk-mega-ships)

“A consolidation process in the shipping transport market has contributed to a trend towards fewer but bigger ships,” says Robert Waterson, Senior Vice President - Marine Hull and Liability at Lockton. “Fleet operators have ordered larger ships and because they are newer this tends to have a positive effect on all costs including insurance premium levels. However, this does not necessarily mean claims volumes will be lower,” Waterson notes. With larger and more sophisticated vessels entering the sector – and more hazardous areas such as polar waters being explored – this is aggravating the risk of ever larger single losses, insurer AGCS warned in its “Marine claims trends 2018” report. “A major incident involving a fully loaded ultra-large container ship will easily result in a $1bn to $2bn insurance claim including damage to cargo, hull, salvage and wreck removal costs,” the report added. A number of container ship casualties recently fuelled a discussion about the growing risks associated with fires on mega-containerships. Ship fires are one of the major loss drivers in the shipping industry: In March 2018 a fatal fire on the new 15,252 TEU Maersk Honam. The incident is believed to have been triggered by mis-declared chemical cargoes causing a blast and fire which resulted in 130 people being taken to hospital. “The cargo description is often not clear and containers may contain chemicals and hazardous goods that were not supposed to be there or that were incorrectly described and thus loaded in the wrong part of the vessel,” says Waterson. Insurers’ apprehension focuses not only on large container ships but also on large passenger vessels, especially after Costa Concordia off the Tuscan holiday island of Giglio in Italy set off a chaotic evacuation of 4,229 passengers and crew, and 32 people died, according to the May 7, 2019 presentation “Megaship Challenges: The P&I Perspective” by Joe Hughes from the The American Club. Large vessels are more difficult to navigate, and grounding and/or collisions are harder to deal with as there is more cargo and fuel to salvage. Where salvage/wreck removal is required, the costs are vastly influenced by the type of cargo that has to be removed and how hazardous this cargo is. Very often this has to be accomplished in remote and difficult environmental conditions, and always within the requirements of both the local and international law. As environmental regulations tighten globally, these costs will only rise further and more cover will be required. A discussion in the insurance industry about whether large container ships might require a specific insurance rating, previously under consideration but not implemented, may now re-open as more data is available. As some underwriters withdraw from underwriting large container fleets this may affect renewals pricing and available capacity in the short term. “In hull and cargo, the specific risks attached to large ships are not being addressed. Ratings do not take this into account,” Waterson says. “Mega-ships carry higher risks and are not necessarily safer. While the claims frequency may fall, the size of a loss is likely to be much higher,” he notes.

#### They independently increase drastic amounts of pollution in the Arctic AND risk massive oil spills

Shavley 21, Reporter for Business Insider. (Kevin, May 1, 2021, The Ever Given crisis put mega ships under the spotlight. As vessels get bigger and more automated, a long-serving captain and other experts are weighing up the risks., <https://www.businessinsider.com/ever-given-suez-canal-blockage-mega-ships-sea-captain-2021-4>)

Shipping vessels have grown larger by multiples in just a few years, adding to worries among some industry insiders that a single mistake made by a massive ship could cause a global supply chain disruption, as the world saw with the Ever Given. That ship, which was stuck in the Suez Canal for about a week in March, slowed or stalled shipping traffic around the world. It was estimated to cost the global economy about $400 million per hour, and its effects have still been rippling through the economy in recent weeks. As ships like the Ever Given have grown over the last few decades, their crews have been shrinking because they're using more automated processes, said Captain Rahul Khanna, global head of marine risk consulting at Allianz Global Corporate & Specialty, whose team publishes an annual safety review. "Decades ago, the ships with 3,000 TEU — that's the number of twenty-foot containers that can fit onboard — were considered the big ones," said Khanna. Now, ships like the Ever Given carry maximum loads of more than 20,000 containers. Boat-building technology could in the years and decades ahead produce ever-larger ships, perhaps growing to 50,000 containers or more. If there's demand for such ships, modern technology could allow for such builds, Khanna said. Between 2006 and 2020, the largest shipping vessels in the world grew by 155%, according to a January report from the United Nations Conference on Trade and Development. The biggest ships are loading or unloading 125% more at each port they visit. With bigger boats, there could be more impactful accidents. "While seemingly efficient, they are too large to fit in some ports, increase dangers in storms, and highly piled containers are falling, causing product and the corresponding financial losses," said Cheryl Druehl, associate professor of operations management at George Mason University. Even the Ever Given debacle, which grabbed hold of the worldwide news cycle, could have been worse. If that ship's hull had broken, say, it would have taken even longer to fix the issue, Khanna said. It's likely that a crane would have had to have been constructed nearby to remove some or all of its load. Refloating it would have been a more complex task, likely stretching into months. As the shipping industry gets back to its normal routine, Khanna and other shipping industry insiders walked Insider through their concerns about the next big disaster. The most obvious answer was that another ship could get stuck in the Suez or Panama canals. The risk of a situation similar to the Ever Given's crash in one of those waterways was "unlikely but high impact," said Ambrose Conroy, founder and CEO of Seraph, a consulting and turnaround firm. The risk was lower at other heavily travelled shipping lanes, including the Singapore Strait, and the Strait of Hormuz, although it has geopolitical risks of its own, said Khanna. Ports in the future may also have trouble handling larger ships, but that's an issue that can be fixed with proper planning, Conroy said. Instead, it's the "black swan events" like the Ever Given that the industry needs to look out for. One concern is a shipping route that's becoming more popular. In decades past, a lane through the Arctic would open in summer months, giving ships a more direct path between Europe and Russia. As the climate crisis has reduced the amount of ice in those northern regions, that passageway is now increasingly being used in the winter. It's become so popular that the International Maritime Organization issued a revised Polar Code. As the Ever Given stalled global shipping in March, Moscow officials pointed to the Northern Sea Route through the Arctic as an alternative. But Arctic travel comes with its own risks. While it's unlikely that modern ships, with all their technology, would hit an iceberg, smaller ice floats can still damage hulls, Khanna said. An oil spill in the Arctic would also be devastating to marine life. And rescue crews might have difficulty reaching a stranded ship in such inhospitable waters.

#### That risks global species and ecosystem destruction

Tewari 17, IIASA Science Communication Fellow. (Parul Aug 16, 2017, What would an oil spill mean for the Arctic?, https://blog.iiasa.ac.at/2017/08/16/what-would-an-oil-spill-mean-for-the-arctic/)

While it can never be good news, an oil spill in the Arctic could be particularly dangerous because of its sensitive ecosystem and harsh climatic conditions, which make a cleanup next to impossible. With an increase in maritime traffic and an interest in the untapped petroleum reserves of the Arctic, the likelihood of an oil spill increases significantly. Maisa Nevalainen, as part of the 2017 Young Scientists Summer Program (YSSP), is working to assess the extent of the risk posed by oil spills in the Arctic marine areas. “That the Arctic is perhaps the last place on the planet which hasn’t yet been destroyed or changed drastically due to human activity, should be reason enough to tread with utmost caution,” says Nevalainen Although the controversial 1989 Exxon Valdez spill in Prince William Sound was quite close to the Arctic Circle, so far no major spills have occurred in the region. However, that also means that there is no data and little to no understanding of the uncertainties related to such accidents in the region. For instance, one of the significant impacts of an oil spill would be on the varied marine species living in the region, likely with consequences carrying far in to the future. Because of the cold and ice, oil decomposes very slowly in the region, so an accident involving oil spill would mean that the oil could remain in the ice for decades to come. Yet, researchers don’t know how vulnerable Arctic species would be to a spill, and which species would be affected more than others. Nevalainen, as part of her study at IIASA will come up with an index-based approach for estimating the vulnerability (an animal’s probability of coming into contact with oil) and sensitivity (probability of dying because of oiling) of key Arctic functional groups of similar species in the face of an oil spill. “The way a species uses ice will affect what will happen to them if an oil spill were to happen,” says Nevalainen. Moreover, oil tends to concentrate in the openings in ice and this is where many species like to live, she adds. During the summer season, some islands in the region become breeding grounds for birds and other marine species both from within the Arctic and those that travel thousands of miles from other parts of the world. If these species or their young are exposed to an oil spill, then it could not only result in large-scale deaths but also affect the reproductive capabilities of those that survive. This could translate in to a sizeable impact on the world population of the affected species. Polar bears, for example, have, on an average two cubs every three years. This is a very low fertility rate – so, even if one polar bear is killed, the loss can be significant for the total population. Fish on the other hand are very efficient and lay eggs year round. Even if all their eggs at a particular time were destroyed, it would most likely not affect their overall population. However, if their breeding ground is destroyed then it can have a major impact on the total population depending on their ability and willingness to relocate to a new area to lay eggs, explains Nevalainen. Due to lack of sufficient data on the number of species in the region as well as that on migratory population, it is difficult to predict future scenarios in case of an accident, she adds. “Depending on the extent of the spill and the ecosystem in the nearing areas, a spill can lead to anything from an unfortunate incident to a terrible disaster,” says Nevalainen. It might even affect the food chain, at a local or global level. “If oil sinks to the seafloor, some species run the risk of dying or migrating due to destroyed habitat – an example being walruses as they merely dive to get food from the sea floor,” adds Nevalainen. As the walrus is a key species in the food web, this has a high probability of upsetting the food chain. When the final results of her study come through, Nevalainen aims to compare different regions of the Arctic and the probability of damage in these areas, as well as potential solutions to protect the ecosystem. This would include several factors. One of them could be breeding patterns – spring, for instance, is when certain areas need to be cordoned off for shipping activities, as most animals breed during this time. “At the moment there are no mechanisms to deal with an oil spill in the Arctics. I hope that it never happens. The Arctic ecosystem is very delicate and it won’t take too much to disturb it, and the consequences can be huge, globally,” warns Nevalainen.

#### Extinction

Petersen et al 4, Director @ Icelandic Institute of Natural History (Aevar, “Circumpolar Biodiversity Monitoring Program,” CAFF, http://library.arcticportal.org/309/1/CircumpolarBiodiversityFramework.pdf )

The circumpolar Arctic region, as defined for the purpose of CAFF at its inaugural meeting (see Figure 1 - CAFF map of the Arctic), covers some 14.8 million km of land and 13 million km of ocean. It plays a key role in the physical, chemical and biological balance of the globe. The Arctic region encompasses relatively pristine environments, compared to the rest of the globe. Vast wilderness areas are crucial for the preservation of the Arctic’s unique biological diversity, and the Arctic is additionally of much cultural, economic, and recreational value. The CAFF overview report (2001) highlighted such diverse actual and potential importance of Arctic biodiversity as for fuel, food (e.g. fisheries), fodder, nature tourism, ecosystem functioning, feedbacks f rom ecos y s tems to the global atmosphere, future genetic recombinations and adaptations, fiber pharmaceuticals, anti-microbial drugs and industrial enzymes (from extremophiles). The Arctic is unique in biological, physical, and chemical properties. Life in the Arctic has adapted to extreme conditions of darkness, cold and a brief summer season where food becomes plentiful. Arctic ecology is shaped by the severity of the climate and its variability in space and time. Arctic species must survive long periods when food is limited or unavailable, or otherwise migrate to more southerly latitudes, as many do to all corners of the globe. Arctic species must be adapted to respond quickly when conditions improve. The growing season is brief and intense. When sunlight reaches the oceans in the spring, plankton bloom. On land, the growth of plants begins the summer feast for the terrestrial species, allowing the breeding, raising of young, and storage for the upcoming winter. At the foundation of the intricate marine food webs are highly specialized species of phytoplankton and sea ice algae, especially adapted to the extreme conditions of darkness and cold, and the freshwater-brine conditions of the sea iceocean interface. Terrestrial and freshwater food webs are usually simpler than those in the marine environment, but are closely linked to the marine ecosystem, e.g. through run-off and many creatures which move between the different ecosystems. The complexity of Arctic biodiversity stems in part from the interplay between the terrestrial species, habitats and ecosystems, with those in the marine environment. In the overlapping structure of ecosystems, all species in a system depend to some degree on the ecological functions of other species such as good production, competition, and predation; and species behavior such as reproduction and migration are closely linked with these functions. With an integrated, ecosystem-based approach to monitoring, the impacts of stressors to these ecological functions are better identified and understood, as this type of monitoring bridges ecosystems, habitats and species. For example: seabirds nest on land but may feed in the ocean or in lakes and rivers on fish and invertebrates. Salmon, Arctic Char and certain other fish species are anadromous – crossing from the marine ecosystem to the freshwater ecosystem to breed. Polar bears den on land in snow banks, but hunt almost exclusively out on the edge of the sea ice. Seals make their homes in and on the sea ice and hunt in the ocean. Indigenous Peoples hunt across all ecosystems and habitats in the Arctic, marine, terrestrial and freshwater. Monitoring of the natural and anthropogenic impacts to the food webs and the ecological func t ions of the Arc t i c env i ronment and ecosystems provides critical information about the status and trends of Arctic species and the integrity of the food webs on which they depend for their survival. For humans, this directly relates to the socio-economic stability of their societies. The Arctic has high genetic diversity among its species. Many migratory species breed in the Arctic but spend the non-breeding season at more southerly latitudes. As a polar region, greater and faster impacts are being seen in the Arctic from climate change. Consequently Arctic biodiversity is experiencing both greater and earlier impacts than many other parts of the globe. These issues, vulnerabilities and impacts are more fully documented in Arctic Flora and Fauna: Status and Conservation (2001), and Impacts of a Warming Arctic: Arctic Climate Impact Assessment (2004). Of the approximately 450 species of birds, which breed or have bred in the Arctic region, 279 breed in significant numbers within the Arctic and spend the boreal (northern hemisphere) winter in significant numbers outside the CAFF member states. Migratory birds from the Arctic reach every part of the world except the interior of Antarctica. Thirty species reach southern Africa, 26 species reach Australia and New Zealand, 22 species reach southern South America and several pelagic species reach the southern oceans. Virtually all the world’s major ecosystems support some Arctic breeding birds during the boreal winter, with Arctic migrants occupying every major habi tat in ever y major region. The c o n s e r v a t i o n o f a l l A rc t i c b re e d i n g b i rd s throughout their migratory ranges is a global challenge, covering virtually all of the world’s major terrestrial and marine ecosystems, and requires a high level of international cooperation which can be achieved in part through the CBMP. In addition to the migrating birds, several species of land and marine mammals migrate to the Arctic in search of rich food resources. Migration routes link Arctic species to marine and terrestrial ecosystems throughout the world including the Antarctic. The Arctic’s nutrient-rich coldwater feeding grounds are crucial to the survival of many species of whales and are the foundation for the huge numbers of Arctic fish stocks. Northern waters, particularly the North Atlantic and the Bering Sea, are some of the world’s largest and most important marine fisheries. The link between the survival of humans and sustainability of the living environment is therefore obvious and of paramount importance.

#### Independently, megaships decimate phytoplankton populations

Xue et al 21, State Key Laboratory of Estuarine and Coastal Research, School of Marine Sciences, East China Normal University, (Chengfang, with Yang Yang, Peipei Zhao, Dongyun Wei, Jianhua Gao, Peng Sun, Zhiyang Huang and Jianjun Jia, Impact of Ship Traffic on the Characteristics of Shelf Sediments: An Anthropocene Prospective, https://www.frontiersin.org/articles/10.3389/fmars.2021.678845/full)

Marine vessels are undoubtedly one of the most prominent symbols of human activities in the ocean. Large ships cause significant disturbances in sediment dynamic processes mainly in three ways: (i) the jet flow generated by ships’ propellers causes resuspension of sediment on the bed of shipping lanes (Soon and Lam, 2014; Hong et al., 2016); (ii) the propagation of ship-induced waves may cause erosion of the channel slope and shoal (Rapaglia et al., 2011); and (iii) prolonged and frequent ship shuttle services enhance seabed sediment activity and increase the thickness of the active layer (Hong et al., 2013). Consequently, suspended sediment concentration increases significantly during ship navigation, and can be 30 times higher than the average background concentration (Rapaglia et al., 2011). More than that, turbid water affects the growth of phytoplankton, which in turn affects marine productivity (Huang et al., 1986; Pan and Shen, 2009). Compared to known ship-related hydrodynamics (e.g., propeller-jet, ship wave, ship wakes, etc.), little is known about the impact of ship traffic on marine sedimentation records (e.g., the characteristics of shelf sediments), largely due to the scarcity of studies dedicated to this field. Considering that maritime transport is responsible for 80% of the total volume of international trade (Notteboom et al., 2021), this rising anthropogenic-force induced sedimentary process deserves more attention, and research related to this will be important for marine biogeochemistry, sedimentary dynamics, and geomorphology. Over the past 70 years, China’s maritime transport has experienced explosive growth. Shanghai Port and Ningbo-Zhoushan Port have become the world’s leading ports in terms of container and cargo throughput. Due to these two ports, the coastal shipping lanes along Zhejiang Province are particularly busy. This area represents an ideal place to analyze the effects of seagoing traffic on the shelf sedimentary record. In this study, a shipping lane suitable for 5,000 ∼ 50,000 tons ships along the Zhejiang coast of the East China Sea was selected as the study site, and two short sediment cores were collected from the centerline and the periphery of the lane to analyze their ages and sediment characteristics. We use an improved 210Pb dating model to establish a more accurate depth-age framework in regions with frequent ship disturbance. In combination with development of China’s offshore shipping lanes, we explore the possible linkage between ship traffic and the changes in sedimentation. Study Area The booming development of China’s coastal and ocean-going shipping began in the late 20th century, with coastal transport accounting for 60% of the total domestic transport [China Port Yearbook (1999–2019)]. After decades of development, Shanghai Port and Ningbo-Zhoushan Port have become the world’s leading ports in terms of container and cargo throughput. The coastal shipping lanes along Zhejiang Province are particularly busy due to these two ports and the coastal shipping lanes intersect. The north–south lanes throughout the East China Sea include four main lanes: the Outer Shipping Lane, the Eastern Shipping Lane, the Middle Shipping Lane, and the Western Shipping Lane (Figure 1). The eastern and western shipping lanes intersect outside Aiwan Bay, where shipping is well-developed and traffic is frequent in the north–south direction. The lanes can allow ships of 5,000- to 50,000-ton to pass through, even up to 100,000 tons on some sections. This area is close to the Wenzhou Port, where many passenger ship lanes lead to the surrounding islands (He, 2008). Therefore, it is an ideal area to study about the disturbance caused by ships. The tides are regular semidiurnal tides with an average tidal range of 4 m, and the maximum can be 7 m. The wave height is approximately 1 m. During typhoons, the wave height is up to 5 m, and the maximum can reach 10 m (China Gulf Annals, 1993). The bottom sediment is clayey silt and silt (Jia et al., 2018). Materials and Methods We obtained two cores off the coast of Aiwan Bay, Zhejiang Province, China, to analyze grain size and geochemical elements. Combined with the dating framework, we analyzed the changes in sediment characteristics over time. A literature review was conducted to understand the history of the marine transport industry and the shipping lanes where the cores have been located over the past decades, with a view to quantify the sedimentation effects of ship disturbance. Coring Two cores were collected in May 2018 using a gravity coring tube. Core Z7 (28°3′0″N, 121°33′36″E), 1.5 m long with a water depth of 13.2 m, was collected at the intersection of two main shipping lanes used by vessels of 5,000- to 50,000-ton. Core Z8 (28°5′21″N, 121°32′36″E), 1.5 m long with a water depth of 12 m, was collected outside the shipping lane at a distance of 4.7 km from core Z7 in the northwestern direction. The natural sedimentary environments in the region of two cores are nearly identical because of the short distance between the two cores, which will better ensure an accurate representation of the effects of disturbance on the sediment due to maritime traffic through contrast analysis. XRF Core Scan The cores were each split into two parts using a GeoTek Core Splitter. One half of the core was covered with a 4 μm thick Ultralene film to avoid the contamination of the X-ray fluorescence (XRF) core scanner (Avaatech 3RD, Netherlands) measurement unit and the desiccation of the sediment (Richter et al., 2006). Instrument settings were optimized to minimize the mean square error (MSE) values, and the step size was 0.5 cm. Count times for XRF analysis ranged from 10 to 30 s (Table 1). Reliable data were obtained for 29 elements. Four powdered standards were analyzed every day before and after the analysis of the sediment cores to monitor signal drift and indicated that the signal remained stable during the analytical runs. The experiment was completed at the State Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen. Grain Size Analysis Grain size analysis of 1 cm sub-samples was conducted using a laser particle analyzer (Mastersizer-2000, United Kingdom), which has a measurement range of 0.02–2000 μm with a relative error of <3% for repeated measurements. The experiment was completed at the Key Laboratory of Coastal and Island Development, Nanjing University, Nanjing. The matrix formula of McManus (1988) was used to calculate the sample statistics of the grain size distribution, that is, mean grain size (Mz), sorting (S), skewness (Sk), and kurtosis (K). The above four parameters refer to: the average size, the spread of the sizes around the average, the symmetry or preferential spread to one side of the average, and the degree of concentration of the grains relative to the average, respectively (Blott and Pye, 2001). The grain size standard deviation at 10 cm intervals was calculated to extract the sensitive grain size fraction (Sun et al., 2003). The changes in the sensitive grain size fraction over time can reflect the evolution of sedimentary dynamic processes and depositional environments. Age Models Age models are of critical importance in interpreting sedimentary records. One of the most important means for dating recent sediments (0–150 years) is by 210Pb (half-life 22.3 years), a natural radioactive isotope of lead (Appleby, 2001). The dried sample was homogeneously pulverized, weighed, and then sealed in a plastic box (70 × 70 mm) for 3 weeks. The activities of 210Pbex and 137Cs in the sediment samples were measured following the method described by Du et al. (2010). The radioactivities of the above nuclides were measured using an HPGe γ-ray detector (Canberra Be3830, United States) with a relative counting efficiency of 35% and an energy resolution of 1.8 keV (at 1332 keV). The detector has multilayer shielding (ultralow cryostat and no peak background in the isotopes of interest). The activity of 210Pbex was calculated from the activity of total 210Pb (46.5 keV, 4.25%) minus the activity of 226Ra, determined using the γ lines at 351.9 keV (37.6%) for 214Pb and 609.3 keV (46.1%) for 214Bi. The efficiency calibration of the detector systems was conducted using LabSOCS (Baronson, 2003). The experiments were performed at the State Key Laboratory of Estuarine and Coastal Research, East China Normal University, Shanghai. The commonly used 210Pb data processing and computation mainly include the CIC dating mode and the CRS dating model (Appleby, 2001). Given the strengths and weaknesses of the two computational models, the 210Pb chronology of this study was determined using both models. Historical Documents To study the response of sediment characteristics to the disturbance effects of ships, it is necessary to be familiar with the shipping lanes near the study area and the frequency of ship navigation. Compared to bulk cargo ships, container ships have the characteristics of large loading capacity, fast speed, and fixed throughput, which are more representative indicators to better reflect the impacts of ship disturbance on sedimentation. The China Port Yearbook comprehensively and accurately recorded the development of China’s port navigation and shipping industry, and recorded the container throughput of China’s coastal ports from 1979 to date, which could reflect the intensity of disturbance by ship movement on the shipping lanes. Therefore, the container throughput of the whole country and three ports, namely Qingdao Port, Shanghai Port, and Guangzhou Port, were calculated for the period 1979–2018. These three ports are important coastal ports in the Yellow Sea, East China Sea, and South China Sea, respectively. Results Depth-Age Framework The excess 210Pb of Z7 and Z8 remained in the law of radioactive decay. The linear fitting result of the excess 210Pb of Z7 was good, with a correlation coefficient of 0.66 by the CIC model and a sedimentation rate of 1.09 cm/yr. The Z8 was better, with a correlation coefficient of 0.91 and a sedimentation rate of 1.54 cm/yr (Figure 2). Considering that the locations of the two cores were not far from each other, approximately 4 km—expecting a great difference in sedimentation rate would be unreasonable. According to sedimentation rate data of the mud area along the coast of Zhejiang and Fujian (Jia et al., 2018), the average sedimentation rate here is approximately 1.5 cm/yr. The entire 150 cm long sedimentation sequence was recorded from approximately 100 years ago, which was before the emergence of container ships navigation along the coast of China in the late 1970s. Thus, it would be inaccurate to use uniform sedimentation rates to infer the age of sediment before and after the emergence of shipping lanes. In theory, the CIC model of 210Pb dating is suitable for a stable sedimentary environment, but for a less stable sedimentary environment, the CRS model may provide more accurate dating results (Zhang et al., 2008). It was found that above 70 cm depth both models gave similar curves for Z8 (Figure 3D), whereas for Z7, the difference was extremely large, with some layers up to 24 years (Figure 3A). The CRS dating results of the two cores above a depth of 70 cm were almost identical, and the sedimentation records were from 1977 to 2018; below a depth of 70 cm, the CRS model algorithm led to older dating results, and increasing depth (Zhang et al., 2008), with a small sedimentation rate. Therefore, in this study, the CRS dating model was used at depths above 70 cm and the CIC dating model at depths below 70 cm. The sedimentation rate was assumed to be uniform below 70 cm, and the sedimentation rate at 70 cm was used as the sedimentation rate for the 70–150 cm section. On this basis, the dating framework was established for the two cores, and the age of sediment for each layer at the same depth were almost identical, with a mean time difference of 0.4 year. The two cores showed the sedimentation records of 1873–2018 (Figures 3B,E). The sedimentation rates of Z7 and Z8 were in the ranges of 0.77–2.76 cm/yr and 0.77–2.53 cm/yr (Figures 3C,F), respectively. Grain Characteristics of Sediments The grain size components of Z7 and Z8 were dominated by silt, followed by clay, with the least amount of sand (Figure 4). Overall, the content of the grain size component did not fluctuate significantly with time. The sediment type was mainly clayey silt, with an occasional silt layer. Through comparative analysis of the two cores, it was found that the grain size parameters were quite different below and above 70 cm. The sensitive grain size fraction was calculated at 10 cm intervals. Both Z7 and Z8 had two sensitive grain size fractions—the first between 4 and 6 Φ, and the second between 6 and 9 Φ. The peak heights (standard deviation values) of the two sensitive grain size fractions below and above 70–60 cm were very different for the two cores, with the 70 cm value corresponding to the year 1977 (Figure 3). Generally, before 1977, the standard deviation of Z7 was smaller than that of Z8, whereas after 1977, the standard deviation of Z7 was larger than that of Z8. To better illustrate the variation in the sensitive grain size fraction over time, the layer at 70–60 cm was selected and two layers below and above 70–60 cm were shown, such as 150–140 cm, 120–110 cm, 30–20 cm, and 10–0 cm (Figure 5). Here we can see the difference below and above 70–60 cm for the two cores (Table 2), which indicated that the sedimentary dynamics of the environment had changed considerably since 1977. Before 1977, the standard deviation of Z7 was smaller than that of Z8, which meant that the sedimentary dynamics of Z7 were more stable than those of Z8. However, after 1977, the standard deviation of Z7 was larger than that of Z8, which meant that the sedimentary dynamics of Z7 were more turbulent than those of Z8. Moreover, after 1977, both the first and second sensitive grain sizes of Z7 were finer than those of Z8, which assumed that the finer particles were more affected by ship disturbance (Table 2). The first sensitive grain size fraction of Z7 (4.50–5.75 Φ) did not change significantly in the 150–110 cm section, with a moderate increase in the 110–70 cm section, a sudden increase in the 70–60 cm section, and a moderate increase above 60 cm (Figure 6). The second sensitive grain size fraction of Z7 (6.75–8.25 Φ) did not change significantly in the 150–110 cm section, with a moderate decrease in the 110–70 cm section, a sudden decrease in the 70–60 cm section, and a moderate decrease above 60 cm. The first grain size fraction of Z8 (4.25–5.50 Φ) showed a significant change in the 150–70 cm section, a moderate increase and then a decrease, and it changed very little above 70 cm, with a moderate decrease. The second grain size fraction of Z8 (6.50–8.00 Φ) varied significantly in the 150–70 cm section, with a moderate decrease and then an increase, and it changed very little above 70 cm, with a moderate increase. The measured grain size distribution curve (in the range of 2–12 Φ) was divided into 40 small cells in units of 0.25 Φ. The difference between two cores at the same time in these small cells was calculated separately. The content of Z8’s grain size component was subtracted from that of Z7 on the same layer, with the difference shown on a two-dimensional contour plot (Figure 7). Here we can see the quantity of coarser or finer particles difference between two cores at the same time. The results showed that the sediment can be divided into two groups—coarse and fine—using 6.25 Φ as the boundary, and the sediment varied considerably over time. In the section of 150–140 cm, the difference in relative content between the two cores was approximately zero. In the section of 140–80 cm, the coarser particles (<6.25 Φ) of Z7 were significantly less than those of Z8, whereas the finer particles (>6.25 Φ) were significantly more than those of Z8. In the section of 80–0 cm, the opposite occurred, especially above 70 cm, where the coarser particles of Z7 were significantly more than those of Z8. This indicates that the sediment on the shipping lane showed an increase in the coarse particulate fraction and a decrease in the fine particulate fraction from 1977. Elemental Characteristics of Sediment Elements with specific indicators, including S, Cl, Br, Si, Ti, and Ca, were selected for comparative analysis. These elements have steady repeat scanning results and reliable detection, and have often been used by previous researchers (Thomson et al., 2006; Marsh et al., 2007; Agnihotri et al., 2008; Croudace and Rothwell, 2015; Grygar and Popelka, 2016). The content of elements is a relative value, and the data quality is influenced by several factors, such as grain size and water content variations, core surface imperfections, and the presence of organic matter (Croudace and Rothwell, 2015). In order to attenuate above effects, element-to-element ratios were used, which can allow comparison between the cores. Ti is a typical reference element used for normalization (Grygar and Popelka, 2016). The element ratios Br/Cl, S/Ti, Si/Ti, and Ca/Ti, were selected for the study (Figure 8). The Br/Cl ratio for Z7 ranged from 0.06 to 0.17, with a mean value of 0.12, and the element ratio decreased slightly in the 0–40 cm section, with a mean value of 0.11. The S/Ti ratio ranged from 0.12 to 0.38, with a mean value of 0.20, and the element ratio increased significantly in the 0–40 cm section, with a mean value of 0.24. The Si/Ti ratio ranged from 2.77 to 6.79, with a mean value of 5.01, and the element ratio decreased significantly in the 0–40 cm section, with a mean value of 4.87. The Ca/Ti ratio ranged from 2.86 to 4.32, with a mean value of 3.54, and the element ratio decreased slightly in the 0–40 cm section, with a mean value of 3.48. The element ratios shifted at approximately 40 cm. According to the established dating framework (Figure 3B), the year was estimated to be approximately 1999. For Z8, the most significant shift was Si/Ti, which transformed at 77 cm, with a decrease in the 0–77 cm section. The Br/Cl ratio for Z8 ranged from 0.08 to 0.21, with a mean value of 0.14. The S/Ti ratio ranged from 0.14 to 0.34, with a mean value of 0.21. The Si/Ti ratio ranged from 3.92 to 7.20, with a mean value of 5.50, and the element ratio decreased significantly in the 0–70 cm section, with a mean value of 5.17. The Ca/Ti ratio ranged from 3.05 to 4.73, with a mean value of 3.63. Discussion Development of China’s Offshore Shipping Lanes Containerized maritime transport plays an important role in global trade, accounting for 80% of international cargo trade and growing at an average annual rate of 4% (Ducruet and Notteboom, 2012). A country’s container transshipment capability and accessibility directly reflect its maritime transport capacity, as well as its level of maritime transport development. China’s container industry began in 1979, with a container throughput of 32,900 twenty-foot equivalent unit (TEU). The late 20th century was in a period of rapid growth (Figure 9). According to statistics, the average annual container throughput in 1979–1999 was 2.95 million TEU, and in 1999–2018 it was 127.18 million TEU, a staggering 42-fold increase. The Port of Shanghai has held the top position for container throughput of the world’s largest ports since 2010. The external and internal feeders of foreign trade from the Port of Shanghai pass through the outside of Wenzhou Port, where our cores were collected. Combining the model with global economic development scenarios, it is suggested that global maritime traffic will increase by 240–1,209% by 2050 (Sardain et al., 2019). In addition, the shipping industry entered the so-called megaship era in 2007 when a leading container shipping company deployed a fleet of mega-containerships with a carrying capacity of more than 10,000 TEUs (Imai et al., 2013). The development of megaships requires deeper draft depths and the sea areas affected by ship disturbance is expanding into deeper water accordingly, thus the disturbance effect of megaships will have an increasing impact on relatively deep waters. China’s coastal shipping lanes are traversed in dense networks, with frequent passenger and cargo lanes. Vessels with a container load of more than 5,000 TEU, bulk cargo of more than 100,000 tons, and tankers of more than 100,000 tons meet our definition of a megaship. The southeast coast of China, the Bohai Bay, the Changjiang Estuary, the Taiwan Strait, and the eastern side of Taiwan Island are all areas affected by the disturbance of megaships (Figure 10). The study of modern sedimentary dynamics and its products in these areas should consider the influence of megaships on shipping lanes. Differential Performance of Grain Size and Elements The element content in the sediment is mainly controlled by its mineral composition. In addition, hydrodynamic conditions, adsorption and flocculation of fine particles, redox conditions, and human activities all have an influence on the variation of element content (Dong et al., 2009; Singh, 2009; Ye et al., 2013; Grygar and Popelka, 2016). The grain size of marine sediment is closely related to geochemical elements, both of which are in accordance with the “law of elements controlled by grain size” (Zhao and Yan, 1994). Fine-grained sediment can be readily enriched in some chemical elements, either because they are present in the clay minerals or because of the adsorption effect of the fine-grained particles. This is due to the correlation between particle size and elements, which are often used as a proxy for particle size (Zhou et al., 2019). However, as mentioned above, the particle size changed significantly approximately 1977, whereas the elemental ratios of S/Ti, Ba/Ca, Si/Ti, and Br/Cl did not change significantly until approximately 1999. The behavior of particle size and elements was not identical, and it was therefore worthwhile to investigate the underlying mechanism. Correlation analysis was conducted between the element ratios selected in this study and the sand, silt, and clay contents. Both were found to be poorly correlated, with the correlation coefficient almost always less than 0.3 (Table 3). There was therefore no significant correlation between the grain size and the elements. The factors influencing the change in the grain size of marine sediments can be summarized into two categories: the first is the change in sediment sources (sources or sediment flux), and the second is the change of sedimentary dynamics environment, which is closely related to the coastal circulation system and extreme climate events (Liu et al., 2010). The study area is located in the distal mud of the subaqueous Changjiang River delta, and the sediment mainly comes from the Changjiang River. Thus, the annual sediment flux of the Changjiang River Datong Station was counted during the period 1953–2018 (Figure 11). Before 2000, the annual sediment load was more than 300 Mt. After 2003, due to the influence of the Three Gorges Reservoir, the annual sediment load was less than 200 Mt. In this study, the grain size transition occurred early before the drastic change in sediment flux, so the grain size transition was not influenced by the change of sediment source. Some studies suggest that the load, grain size and sediment composition deposited over the coastal and shelf water adjacent to the estuary have changed in response to the Three Gorges Dam. However, this phenomenon occurs mostly downstream of the reservoirs and estuaries, and after long-distance transport, the signal of changing grain size in the study area has been difficult to detect (Gao et al., 2019). Even in the downstream of the reservoir, the median grain size variation is only about 5 μm (Gao et al., 2015), which is smaller than the variation caused by the navigation channel. Therefore, the transition of grain size was caused by changes in the sedimentary dynamics environment, mainly due to disturbance by ships. Marine sediments are mainly composed of terrestrial debris, biogenic materials, and marine authigenic substances, whose relative content determines the distribution of elements in the sediment. The elements, especially the biogenic elements related to the ecological environment, can reflect the evolution of the sedimentary environment. The time of element ratios shift lags behind the time of grain size shift, which was most likely a response of the ecological environment to the effects of ship disturbance. This occurred approximately 1999, when the frequency of navigation began to increase rapidly (Figure 9). At the beginning of ship navigation, the effects of ship disturbance did not cause significant changes in elements, until the rapid growth in the maritime transportation of China in 1999. There are complex mechanisms behind this response, involving processes such as the migration and transformation of marine biological production, biogeochemical cycling of marine substances and elements, especially redox-driven processes (Schubert et al., 1998; Duan et al., 2010). All of these processes were influenced by the environmental characteristics include suspended sediment concentration, salinity, total dissolved organic carbon, temperature, depth, pH, Eh, phytoplankton, and water circulation (Marcussen et al., 2008). Only after the disturbance frequency reached a certain level, would the elemental variation manifest. Therefore, grain size variations were expressed soon after the start of navigation, whereas the biogenic elements did not change significantly until 1999. Sedimentary–Ecological Response to Ship Disturbance Quantitative studies on the impact of human activities on ecology are of vital importance. In recent years, global reductions in riverine sediment fluxes have become widespread (Syvitski et al., 2005; Milliman and Farnsworth, 2011). Studies to investigate the impact of human activities, mainly in terms of changes in the fluxes and sediment properties of the sea (Dai et al., 2008; Gao et al., 2014; Yang et al., 2019), have made good progress in quantifying these impacts. For example, Dai et al. (2008) argued that, for the Changjiang River, the contribution of climate change to the reduction of sediment flux into the sea was only approximately 3%, with anthropogenic contributions accounting for 97%. Ship navigation is an important anthropogenic agent. During navigation, ships alter the local hydraulic regime, i.e., the generation of currents and ship-induced waves (Rapaglia et al., 2011; Fleit et al., 2016). The highest near-bed velocities resulting from ship generated waves range between 0.1 and 0.4 m/s in Danube River of Hungary, which was obtained by computational fluid dynamics (CFD) modeling (Fleit et al., 2016). The average flow velocity with no ship is 0.02 m/s, which means an increase of an order of magnitude due to ship (Fleit et al., 2016). In situ measurement shows that the water velocity increases to 2.1 m/s when the ship passes by, which is more than an order of magnitude higher than the typical tide and wind driven current speed in the channels of Venice (Coraci et al., 2007). The increased current speed can increase bottom shear stress, which will cause the resuspension of sediment in shallow water areas and the erosion of the channel slope and seabed (Rapaglia et al., 2011; Ji et al., 2014; Fleit et al., 2016). It is found that the ship-generated waves (including drawdown and surge waves) have much more effects on sediment resuspension than wind waves (Houser, 2014). Once the shear stress generated by the ship is larger than the critical shear stress which is further determined by sedimentary characteristics, the seabed sediment would move in suspension, saltation, and creep (Liou and Herbich, 1976; Liao et al., 2015). The bottom shear stress caused by propeller scour is an important mechanism contributing to sediment resuspension and subsequent erosion (Liao et al., 2015). In the same situation, the resuspension of coarser particles requires a greater incipient velocity (Liou and Herbich, 1976). Finer particles are easier to resuspend. Ship-generated waves are capable of resuspending significant quantities of bottom sediment and suspended sediment concentration increases with increment of turbulent kinetic energy of the ship wakes (Houser, 2014; Ji et al., 2014). In situ observation showed that suspended sediment concentration rose from 12 mg/L to 400 mg/L in Venice Lagoon, Italy, after the ship had sailed (Rapaglia et al., 2011). The intensity of sediment disturbance by a ship is related to the speed, propeller rotation speed, water depth, and draft of the ship (Liou and Herbich, 1976; Hong et al., 2013). Generally, the faster the speed of ships, the shallower the water depth, and the deeper the draft, the stronger the intensity of the disturbance. Sediment resuspension caused by ship disturbance has led to a series of changes in both the sedimentary environment and ecology. In this study, when establishing the dating framework, it was found that in a relatively stable sediment environment (such as the location of core Z8), the dating results obtained by the CIC and CRS dating models were consistent. However, in an unstable sediment environment (such as the location of core Z7), the results of the two dating models differed greatly, and the age difference of the same layer could be up to 24 years. Because of the inherent shortcomings of the CRS model, the bottom age is biased toward aging, whereas the CIC model homogenizes the sedimentation rate, which is obviously not applicable in an unstable sediment environment. A single dating model cannot establish a convincing and comparable dating framework. The best approach is to combine the two models, using the CRS model in the layer affected by ships and the CIC model in the lower part, to establish a CRS–CIC dual dating model. Figure 3 shows that the CRS–CIC dual dating model can be used with reliable results to address sedimentation rates in an overall sedimentary environment, but locally influenced by frequent ship motion. Since the development of coastal shipping in China in 1977, the fluctuations of grain size has changed largely. Before 1977, the fluctuation of grain size of Z8 is wider than that of Z7, which shows an opposite trend after 1977. Core Z8 is located near a small bedrock island called “Pishan,” which will cause more complicated hydrodynamics (tidal and wave) compared to core Z7 before 1977. In this case, the fluctuation of grain size at Z8 is wider than that of core Z7. However, the hydrodynamic condition is more complicated at core Z7 than that of core Z8 after 1977 due to the disturbance of ships, causing the fluctuation of grain size of Z7 is wider than that of Z8. In addition, the sensitive grain size at Z7 has been finer (Figure 5A). With 6.25 Φ as the boundary, the grain fraction finer than 6.25 Φ decreased (Figure 7). It was calculated that before 1977, core Z7 had a significantly higher fine grain fraction (>6.25 Φ) than core Z8, with a mean value of approximately 6%, but after 1977, core Z7 had a significantly lower fine grain fraction (>6.25 Φ), with a mean value of approximately 5%. This indicated an 11% reduction in the grain fraction finer than 6.25 Φ at the shipping lane and a significant coarsening of the sediment. Ship motion affected the local sedimentary dynamic environment. Although the total sedimentary flux was the same as the flux outside the shipping lane, it has a selective modifying effect on the sedimentary record: in the sediment on the shipping lane, which was dominated by silt, all grain fractions became more active under frequent ship disturbance. Due to differences in sedimentation mechanisms, it was relatively slow for fine grain to settle, and a significant proportion of the fine grain fraction may leave the shipping lane, causing a reduction in the fine grain fraction entering the seabed sediment. It has been shown that vessel-induced wakes can increase the concentration of suspended sediment by a factor of 30 above background values, but this surge only lasts for a few minutes, and then the high concentration persists for almost an hour before returning to background values (Rapaglia et al., 2011). The sustained high concentration is due to the slow settling velocity of fine particles. Ship disturbance also caused ecological changes. After 1999, the value of Br/Cl in the Z7 core decreased from 0.12 to approximately 0.11, the value of S/Ti increased significantly from 0.20 to 0.24, the value of Si/Ti decreased from 5.01 to 4.87, and the value of Ca/Ti decreased from 3.54 to 3.48. The decrease in Br/Cl could indicate, to some extent, the decline of primary productivity in the region (Thomson et al., 2006). High S-levels tend to indicate a low oxygen zone (Croudace and Rothwell, 2015). Si/Ti is an important indicator of siliceous phytoplankton productivity. The principle of reduced Ca/Ti is the same as that of Si/Ti, both of which belong to the response of biogenic elements to the marine environment (Marsh et al., 2007; Agnihotri et al., 2008). Specific to the above individual indicator, small changes in value may not be evidence of significant changes in the ecological environment. However, the changes in the four indicators pointed to consistency, which may be related to the disturbance of ships in the waterway. For example, frequent disturbance by ships made the shipping lane waters turbid, and light became the most important factor limiting marine productivity. The turbidity and high concentration of suspended solids was not conducive to the growth and reproduction of phytoplankton, and this reduced primary productivity (Jiang, 1993; Pan et al., 2011). In addition, the amount of phytoplankton directly affected the dissolved oxygen content in seawater. The reduction of phytoplankton decreased the dissolved oxygen content in seawater, leading to the dissolution of iron oxides and the formation of pyrite (FeS2), which increased the amount of elemental S in the sediment (Jiang, 1993; Croudace and Rothwell, 2015). Frequent disturbance was detrimental to diatom growth and reproduction, and decreased the biotransformation rate of silicates in seawater and the “silicon fixation” effect, thus decreasing the Si/Ti value in sediment (Huang et al., 1986; Pan and Shen, 2009). Calcareous phytoplankton such as coccolithophores are widely distributed and abundant in the ocean, are well preserved in the sediment and are important sources of biogenic Ca in the sediment (Poulton et al., 2007, 2013). Frequent disturbance was also detrimental to the growth of coccolithophores, and made it difficult for biogenic Ca to adhere to the particulate matter, which can reduce the Ca/Ti ratio in the sediment. Overall, the quality of habitat conditions along the shipping lane was significantly different from those outside the shipping lane. The content of each element in the sediment of the shipping lane was controlled by a combination of physical, chemical, and biological interactions. Suspension of fine particles caused by physical disturbance affected the marine ecosystem and ultimately changed the elements in the sediment.

#### Extinction

Poddar 21, Director SafEarth Clean Technologies Pvt Ltd. (Harshit, How The Loss Of Phytoplankton Could Lead To Our Demise, <https://medium.com/climate-conscious/how-the-loss-of-phytoplankton-could-lead-to-our-demise-8f9c91b937a8>)

The base of the entire aquatic food chain is the phytoplankton. Essentially what plants do on land, phytoplankton does in the ocean. It is the foundation on which the entire aquatic life is built. Any threat to this species would ultimately lead to a complete collapse of aquatic life. Unfortunately, the phytoplanktons are dying, and we are the ones killing them. These microscopic algae have been critical in making life on Earth possible for a number of key reasons. Oxygen Phytoplankton are responsible for over 50% of all the oxygen in our atmoshpere. These microscopic algae in our oceans are some of the most laborious workers in our ecosystem. Day and night, they absorb the carbon dioxide in the atmosphere and convert it into oxygen through photosynthesis. Food All the food in the ocean is ultimately produced by phytoplankton. Through photosynthesis, they produce carbohydrates which are in turn consumed by small fishes. These fishes are then consumed by larger fishes and so on. Kill the phytoplanktons and the oceans will be left with no food.

#### Megaships create global pressures for port expansions that enact devastation of environments and indigenous communities in various parts of the world--

Brown 20, a freelance writer and video journalist based in Quito, Ecuador. (Kim, June 8, 2020, ‘I’ll never be ready for this port,’ locals say of Colombia’s proposed project, <https://news.mongabay.com/2020/06/ill-never-be-ready-for-this-port-locals-say-of-colombias-proposed-project/>)

Wilmsmeier says there has been global pressure to develop deepwater ports since 2008, after the shipping industry started building extra-large cargo vessels to account for a boom in trade, forcing ports to adapt and deepen. When the financial crisis hit that same year, trade volume declined, but shipping firms continued to use these new massive vessels that were now half-empty — a trend that continues today, Wilmsmeier says. As Latin America has seen a significant trade shift toward Asia, mainly China, over the past two decades, Colombia, with its port of Buenaventura, is definitely the weakest along South America’s coast, says Wilmsmeier, who is also the former economic affairs officer for the United Nations Economic Commission for Latin America (ECLAC). Neighboring Ecuador and Peru each have one dominant deepwater port on the Pacific, while Chile has two. The answer isn’t to build an entirely new port, he says, but rather to adapt the one at Buenaventura, which only operates at 40% capacity as it is. The only problem with the port is its marine accessibility, and the highway that leads from Buenaventura to the nearest city of Cali, which was never fully converted to a two-lane highway. But otherwise, he says “it’s not a bad port at all.” It would be a lot cheaper to dredge 15 or 16 meters (about 50 feet) into the harbor here, rather than build a new port from nothing. “I have until today not understood why to build a port [in Tribugá], particularly if you have port capacity in an existing port system,” Wilmsmeier says. Catalina Ortiz, a Green Party congresswoman representing the department of Valle del Cauca, where Buenaventura is located, has been an outspoken opponent of the idea of building a new port in Tribugá, in the neighboring department of Chocó. Not only would a new port be expensive, it would also cause massive environmental damage, which in this case isn’t justified since it’s not necessary, Ortiz tells Mongabay. She says she is confident ANLA will never approve the environmental studies for the project. Naranjo says the plan for Tribugá is for it to be the first “green port city,” and that the project will have little environmental impact. The design includes areas for public services, tourist areas, and urban dispatch areas, in addition to the docks. Potential construction plans for Tribugá include docks that run 3.6 km (2.2 mi) long and 15 to 20 m (49-66 ft) deep, according to an Arquimedes presentation. These docks would have the capacity to receive ships carrying up to 200,000 tons, like the Panamax and Post-Panamax class of freight ships, both of which are roughly the length of three football fields and have a draft, or portion of the ship that sits underwater, of 12 to 15 m (39-49 ft). ‘No guarantees for local communities’ While the port is proposed for Tribugá, it is only one town in the wider municipality of Nuquí, which includes eight Afro-Colombian townships and 13 indigenous communities that could also be affected. According to both national and international law, these populations must be consulted prior to any project planned on or near their territory, and have the right to refuse it. Mosquera, who is based in the municipal seat of Nuquí, says neither he nor other authorities from Los Riscales have been consulted about the port yet. He says he can’t support a project that threatens community autonomy and food security. More than 600 families here live from daily fishing or collecting shellfish like the crabs and mussels that reproduce in the roots of the mangroves, he says, which would all be at risk from this massive marine infrastructure project. The region’s nearly 5,000 hectares (12,300 acres) of mangroves are one of its unique features, according to the international marine conservation organization Marviva. These are important ecosystems where fish, invertebrates and reptiles gather to both feed and breed, which also makes them an important sources of marine protein for families in the region. But the potential traffic of massive ships entering and leaving the coast on a daily basis will destroy the mangrove ecosytems and push fish farther out to sea or displace them altogether, making it harder for local families to survive, according to Marviva. View of the town of Nuqui, looking north where the proposed port will be built. Photo by Kimberley J. Brown. The communities have long had their own development and conservation initiatives to maintain this harmonious relationship with the environment they depend on, Mosquera says. This includes practicing responsible fishing, protecting the mangroves, and carrying out small-scale community agriculture, where they plant plantains, yucca or rice for local consumption, he says. But not everyone in the town is against the port construction. The mayor of Nuquí, Yefer Gamboa, says the municipality is split over the project, with many here seeing it as a good opportunity for jobs, infrastructure like schools and hospitals, and connectivity to the rest of the country. According to state data from 2005, 60% of the population of Nuquí don’t have their basic needs met. Problems include lack of access to water, consistent electricity supply and health care. Gamboa says some of these problems are exacerbated by the municipality’s remote location on the coast, surrounded entirely by thick rainforest. No roads connect the municipality to the interior, and the only way in is by small passenger plane to the municipal center of Nuquí, which is expensive for locals, Gamboa says, or some five hours by boat from Buenaventura. Gamboa says he will support the construction of the deepwater port, if that’s what the majority of residents decide they want. But if the community rejects it, he says he expects the government to respect that decision, and work with locals on other development plans that address their ongoing needs. “We have to sit down and develop our own route for development,” Gamboa says, adding the solution doesn’t need to come from Bogotá or commercial sectors in the interior. A local resident named Pablo, a resident of Nuqui who works as an informal guide for tourists who come through the area, cuts through a fresh coconut he found on the beach in Nuqui. Photo by Kimberley J. Brown. Living off conservation One of the ways this is already happening is through ecotourism, which is the second most important part of the local economy, after fishing, says Mayor Gamboa. And it’s growing. Today, up to 10,000 people visit Nuquí per year, according to municipality figures. The vast majority of these visitors arrive between July and November to watch the migration of humpback whales (Megaptera novaeangliae), which migrate every year from the colder waters of southern Chile to Colombia’s Pacific coast to breed, and return the next year to give birth. Guide books call Nuquí one of the best places for whale-watching on the coast, precisely because of the tranquility that stems from its isolation. White sandy beaches line the shores and are virtually empty, while the lush Chocó rainforest reaches right up to the water providing hiking opportunities through narrow jungle trails to natural hot springs and waterfalls. Local tour guides also bring people on excursions to see a variety of fauna, from birds, sharks, dolphins and turtles, to the occasional jaguar sighting. Mosquera says some 40% of the population of Nuquí work in ecotourism, either as guides, cooks or lodge owners. The lodges are for the most part locally owned. A resident of Tribuga, after finishing a town meeting to discuss a new ecotourism project. Photo by Kimberley J. Brown. Kelly Rojas, communications manager with Marviva, says the port project puts these local ecosystems and the ecotourism economy that the communities rely on at risk. Marviva has been working in Nuquí since 2006, predominantly with local communities to develop protected marine areas, responsible fishing practices and markets, ecotourism projects, as well as to document marine species in the area. The organization has been able to identify a wide range of unique marine life in the Gulf of Tribugá, including turtles, piangua cockles (Anadara tuberculosa), humpback whales, sharks, dolphins, a variety of fish, important coral formations, and seven different species of mangroves. Rojas says the vibrations and contamination that would be released by the port activity and ship traffic will destroy local ecosystems and displace marine populations.It would also displace popular breeding grounds of sharks and humpback whales, he says. “[The port] goes against everything they have. You saw that their development is very focused on conservation issues, it is very focused on fisheries, it is very focused on community tourism issues, and these are all things this port construction would directly affect,” Rojas says. Connecting Nuquí to the rest of Colombia Deforestation in the Chocó rainforest is another major concern, as publicly funded highways will have to be built or expanded to connect the port to the rest of the country. Only two highways exist in the department of Chocó, which is otherwise pristine rainforest with little development. These roads connect the departmental capital, Quibdó, to the cities of Medellín and Pereira in respective neighboring departments of Antioquia and Risaralda. But both are single-lane highways that travel through winding mountain paths, and are unfit for large cargo trucks, so would have to be expanded, says Mauricio Cabrera, policy coordinator for mining with WWF. The group is part of a network called Tribugá Alliance made up of environmental organizations, researchers and local community councils that are against the port project. The proposed highway that would connect Nuquí to the interior would leave from Las Animas, some 57 km (35 mi) south of Quibdó on the road to Pereira. So far, some 55 km (34 mi) has been built, but it resembles more of a narrow trail than a road, Cabrera says. These road expansions would be expensive, but the expansion of a highway to Nuquí would also cross through pristine rainforest. The region from the Baudó River to the Pacific coast all the way up to the border with Panama is a known as the Baudó mountain range. It’s considered one of the most biodiverse places on the planet due to its high precipitation, receiving between 9,000 and 10,000 millimeters (354-394 inches) of rain per year, and because it’s completely untouched by human development, Cabrera says. . This area is also home to the indigenous Embera community, already considered in danger of cultural and physical extinction, according to the Constitutional Court, he says. The proposed Las Animas-Nunquí road is meant to cross directly through an Embera reserve, where 18 communities live. “If you build a port through these territories, you’re going against the Constitutional Court, you’re going through a zone of immense biodiversity. It’s a disaster,” Cabrera says. The region is home to endemic plants and wildlife as well as unique migratory species, including several species of birds, says Geovanny Ramirez Moreno, science director with the Pacific Environmental Research Institute (IIAP) in Chocó, part of the Ministry of Environment and Sustainable Development charged with investigating biodiversity and communities in the Chocó rainforest. Any infrastructure development threatens these ecosystems, but the creation of roads also makes it easier for illegal loggers and miners to move deeper into the rainforest and cause even further destruction, he tells Mongabay.

#### The second scenario is Hacks —

#### Megaships are unique targets for cyber attacks

PTN 16, (3 Ways to Tackle Piracy and Terrorism, <https://www.porttechnology.org/news/how_shipping_lines_can_tackle_piracy_terrorism_and_cyber_threats/>)

However, as ships become larger, and the volume of containers increases, this puts ships at a much bigger threat of piracy and terrorism; however, the motivations behind each are fundamentally different, since they both have a different aim in mind. So what are the motivations behind attacks on mega containerships? Peter Cook, Director of the Security Association for the Maritime Industry, argues: “Whilst there is a clear difference between the motivation for piracy and terrorism (piracy being a criminal act is predicated purely on financial gain, whereas terrorism has an ideological aim and is therefore designed to terrorise those involved and affected), it does not necessarily mean that they should be treated exclusively. “Whilst a pirate is looking at what he can make out of attacking a ship from a business perspective (weighing up the risk v return ratio) a terrorist group will be looking at how they can further their cause by attacking a specific type of vessel, perhaps due to its flag, company of ownership or national/international standing. The terrorist attacks listed above clearly demonstrate that terrorists want a sensational attack and therefore the bigger the better.” Technical Paper: Port Security and the Effect of Piracy As well as piracy and terrorist threats, cyber security is also a massive issue within the maritime industry. It is such that cyber security has a fluctuating level of severity within the industry and requires increased focus to effectively deal with potential threats. It is therefore important for shipping lines not to underestimate their exposure to risk and implement the appropriate solutions. A recent survey from Moore Stephens found that although risk management strategies are satisfactory in the shipping industry, the companies that do not implement sound practices for preventing security threats are at risk or paying a much higher price, with cyber security being one of the most pertinent threats. Peter Cook elaborates on the main types of cyber security threats facing mega ships: “Cyber-attacks fall into three main categories: a criminal using cyber as the facilitator to commit another crime such as fraud; a targeted cyber-attack when the systems of a shipping company/ship are attacked to get specific data/IP or cause the company to lose business and or revenue or a “Hacktivist” who may target a company for personal gratification (CIA hackers for example).

#### Terrorists have the means, motive and opportunity to hack and weaponize megaships

Demchak & Thomas 21, Chair of Cyber Security and Senior Cyber Scholar, Cyber Innovation Policy Institute, U.S. Naval War College (Chris with ichael L. Thomas, Ph.D., is currently assigned to Maxwell Air Force Base as a professor of cyberwarfare studies at the U.S. Air Force Cyber College, CAN’T SAIL AWAY FROM CYBER ATTACKS: ‘SEA-HACKING’ FROM LAND, <https://warontherocks.com/2021/10/cant-sail-away-from-cyber-attacks-sea-hacking-from-land/>)

The vast bulk of the world’s critical economic and military traffic passes through a handful of narrow strategic waterways known as “maritime chokepoints.” While these waterways have always been prey to pirates, weather, and maritime accidents, these perils are now joined by maritime cyber attacks — whether conducted for ransom, malicious disruption, piracy, or as part of larger geopolitical conflicts. When a commercial vessel or warship is strategically delayed via sea-hacking, critical shipments are delayed by days or weeks. The massive size of modern container ships such as the Ever Given makes hacking their steering systems or forward speed a means of weaponizing the vessel. It is worth a bad actor’s effort to experiment with grounding a major new container ship remotely from land-based cells. The Suez Canal could be one of the more lucrative cyber disruption targets due to the amount and expected speed of traffic flow through its two-lane and one-lane sections. 30 percent of the world’s shipping container volume carrying 12 percent of global trade passes through the canal. Ships, including the very largest container vessels, can cut an average 12 days off a three-week trip from India to Italy by transiting the canal. The 205-meter-wide canal is known to be challenging even at modest speeds for ships the size of the Ever Given. Its 120-mile-long narrow transit offers the opportunity for cyber-induced disruption, particularly if one wanted to stall oil and gas deliveries to the Mediterranean and Europe. If the canal is blocked companies must take the alternative route — around the Cape of Good Hope, adding 10 to 12 days transit time, fuel costs, and security costs. Comparatively, according to a 2006 RAND study, the closing of the Malacca Strait would increase transit time by only an additional three days. With the grounding of the enormous container ship — the Ever Given — on March 23, 2021, the world was reintroduced to the issue of “maritime choke points”. The giant ship blocked the Suez Canal for six days. The Ever Given was not a cyber target this time but its grounding demonstrated the potential impact on global trade when a ship blocks a chokepoint. For example, the BBC reported that fears that the blockage would tie up shipments of crude oil resulted in crude prices rising by 4 percent on international markets. The Ever Given was launched in 2018, and is one of the largest ships in the world. It was built and is owned by a Japanese firm, leased and operated by a Taiwanese company, and sailing under a Panamanian flag. Similar-sized ships carry an increasing percentage of global trade, and the relatively recent 2015 addition of a second channel to the Suez Canal was undertaken in part to accommodate them. The canal is wide enough to accommodate such large vessels but physical clearance on either side of both channels is currently still limited. Mistakes in speed or understanding of wind effects on huge vessels can (and did in this case) come from human error. But they can also be stimulated by difficult-to-detect cyber intrusions into the navigation and steering systems of these ships, especially in newer vessels. The internet protocol networks used for steering and navigation are often not segregated effectively for cyber security. They are connected to the serial bus networks that make up the supervisory control and data acquisition systems critical to ship operations. The blockage caused by the grounding of the Ever Given demonstrates to cyber-competent terrorists or adversaries the potential for disruption if they are able to manipulate or disrupt transit mechanisms from the ships themselves, their containers’ content, and pilotage management systems. Even basic electricity supplies for locks such as those in the Panama Canal offer disruption options to a world of bad actors who have already demonstrated a willingness to attack critical infrastructure. The 900-kilometer-long Malacca Strait carries 40 percent of the world’s maritime trade, including a quarter of the globe’s seaborne oil supplies and 80 percent of the Middle East’s oil and gas supplies to China. Traffic congestion is its major challenge, particularly where the strait narrows to just 2.7 kilometers wide near Singapore. In addition to posing a lucrative target, these chokepoints also afford the opportunity, both from shore and through remote means, for potential bad actors to track particular ships, owners’ fleets, crew, content, origin, destination nationalities, or missions in order to select targets. These risks are aggravated as ships and systems rely increasingly on automation. Fully autonomous ships are a stated goal of the industry and the U.S. Navy. Such systems should include proper cyber security. Ships and Cyber Security Still Strangers In 2018, security researchers at Pen Test Partners found vulnerabilities in electronic chart display and information systems commonly used on cargo and container ships. These chart systems are often linked to GPS-guided autopilots, which when exploited give hackers the ability to access the operational technology of the ship: If networks are not segregated, hackers can remotely manipulate the ship’s steering, ballast pumps, and navigation. The electronic charting system is often slaved directly to the autopilot on many ships, causing the ship to automatically follow the charted course. Hackers can redirect the ship’s course by planting false information messages via satellite communications in order to mislead navigational decisions. Many satellite communications terminals on ships are available on the public internet with default credentials and can be hacked remotely. Numerous other paths can also prove useful vectors in the cyber attack of a vessel. For example, the 2018 research also showed that the electronic charting systems on some ships were still using relic operating systems with many known major vulnerabilities, such as Windows NT, often because these are expensive to upgrade. Even when malicious control is discovered, as the cliché goes, it can be very difficult to regain control in a timely manner. Commercial ship networks tend to have flat network architectures that are originally unsegmented networks without firewalls or other cyber security measures as part of their architecture. Once inside such networks, it is not difficult to travel around across the systems of the entire ship. Internal systems often use manufacturer default passwords, not just on firewalls but also on the critical programmable logic controllers running systems, as well as satellite communication equipment. Researchers have identified other vulnerabilities in computer-security forums, such as using the ship’s satellite terminal as a point of penetration. The terminal opens the system itself to attackers replacing the poorly secured firmware or simply reverting to an even less secure previous version, and then altering the applications running the terminal. Similar research results have produced similar concerns. Access in — whether through the electronic charting system, the satellite communications terminal, or any other outward-facing communications — means the ability to control critical ship systems covertly and use the massive bulk for any reason the attacker desires. At the outset some experts suggested that the Ever Given grounding was a cyber incident. When the voyage data recorder was examined, this speculation was shown to be wrong in this case. However, as long-time cyber control systems expert Joe Weiss noted, the potential for cyber disruption still exists. Despite the ship’s relative youth, the latest marine electronics likely installed for control and navigations do not resolve the vulnerabilities discussed earlier. The recent DefCon exercise is not a one-off example of success in simulated seahacking. Concurrent with the actual grounding of the Ever Given, a team of doctoral students competed in a NavalX “Hack the Machine” exercise — using the same “Grace” maritime system as DefCon — in order to determine if “hackers” could successfully attack maritime systems remotely through a cloud network. The team succeeded, “hacking and crashing the [fictional ship’s] cyber security monitoring system.” These oversights are major safety and security issues currently left unaddressed. One reason is a gap in crew skills and the costs of maintaining cyber secure systems while underway. Leaving poor default administrative passwords on essential systems means that attackers can take control of those systems. Shipping as a Cyber Campaign Weapon Attackers will not ignore the opportunities presented by poor maritime cyber security. A cyber campaign can provide a good enough return on investment in either economic or political benefits to make it attractive, and possibly even lucrative. American adversaries such as China, Russia, and Iran learn from these exploits and integrate them in larger cyber-enabled campaigns. Russia, for example, has spoofed a ship’s GPS at least 7,910 times between 2016 and 2019, affecting about 1300 commercial ships. In 2017, North Korean navigation jamming was said to be behind the forced return of hundreds of South Korean fishing vessels, and its cyber attacks led to the devastating NotPetya attacks that crippled the large Maersk shipping line the same year. In July 2021, Sky News reported the acquisition of documents said to originate from an Iranian offensive cyber unit called Shahid Kaveh, which is part of the Islamic Revolutionary Guard Corps cyber command. They present research on how to sink a cargo ship using cyber techniques and include details on the satellite communications systems used in the global shipping industry. The routine hacking of ships from space is coming. Currently the Global Navigation Satellite System constellation includes the American-run GPS, the Russian GLONASS, the European Union’s GALILEO, Japan’s QZSS, China’s BeiDou, and the Indian system known as NAVIC. Each nation’s ships tend to use their own national system. No nation’s commercial ships are as secure as necessary today, and they lag in securing the shipboard systems in the near and medium term. There is some talk of using older but functional radio wave technology as a more secure alternative to satellite-based systems, but the discussions are only just beginning. It is questionable how rapidly or widely alternatives such as eLORAN will spread. It will take investment and a sense of urgency on cyber security from major shipbuilding firms and shipping lines to accomplish this. As one researcher states, “[Electronic charting] systems pretty much never have anti-virus.” The anti-virus industry that protects land-based personal computers in the United States and Europe started over 30 years ago, but a multitude of huge ships launched during that time with complex computer architectures contain only basic cyber protection. U.S. and allied warships — as well as most of the world’s exporting economies — plan on free transit through the Suez Canal and other chokepoints. Iranian intelligence services have collected maps, means, and incentive to use maritime cyber weaknesses for Iranian campaigns. In the mid-1990s, Osama bin Laden’s al-Qaeda group experimented with a variety of attempted attacks using public transit, notably in Paris. Six years later al-Qaeda used commercial airliners against the Twin Towers in New York City on Sept. 11. The maritime cyber environment is abysmally insecure. The technical means to exploit these ships is well distributed across land-based hackers with no prior maritime systems experience. It doesn’t take much to mess with a passing ship. The opportunities are well-known, from the chokepoints and the ship dependence on external networks, clouds, and satellite navigation communications. The motivation is as varied as the adversary, ranging from the ransomware criminal, to the “just because they can” opportunist, to the state adversary and its proxies.

#### Ukraine means that attacks on megaships ensure escalation between the US and Russia

Borger 2/13/22, Reporter forn the Guardian. (Julian, Ukraine crisis: miscalculation could trigger unintended wider conflict, https://www.theguardian.com/world/2022/feb/13/ukraine-crisis-miscalculation-could-trigger-unintended-wider-conflict)

The unprecedented Russian military encirclement of Ukraine has not only brought closer the prospect of a devastating war in that country, it has also raised the risks of triggering an unintended wider conflict. The US and Nato have been adamant that their troops will not enter Ukraine no matter what happens, and the Pentagon has pulled out the 160 national guard soldiers who were acting as military advisers. This image provided by The White House via Twitter shows President Joe Biden at Camp David, Md., Saturday, Feb. 12, 2022. Biden on Saturday again called on President Vladimir Putin to pull back more than 100,000 Russian troops massed near Ukraine’s borders and warned that the U.S. and its allies would “respond decisively and impose swift and severe costs” if Russia invades, according to the White House. (The White House via AP) Biden warns Putin: you’ll pay a heavy cost if you attack Ukraine Even during the cold war, Washington and Russia made sure their forces did not clash, and Joe Biden has made clear he would seek to keep it that way. “That’s a world war when Americans and Russia start shooting at one another,” Biden said. However, the massing of Russian troops in Belarus and the deployment of a substantial Russian naval force in the Black Sea, matched on a smaller scale by Nato land, sea and air reinforcements on the alliance’s eastern flank, means there is far more military hardware in close proximity than is normal. And with proximity comes the increased danger of accidents and unintended consequences. “The risk of something going down like a mid-air collision, or a trigger-happy Russian or American, can really escalate things quickly,” said Danny Sjursen, a former army major and director of the Eisenhower Media Network. “You’re setting yourself up for accidents and miscalculation, and that’s when you can get out of control real quick, because there are domestic considerations both in Russia and in the United States. An American pilot dies – now what? I’m not saying that necessarily means we go to cataclysmic nuclear war but it escalates things.” The US national security adviser, Jake Sullivan, told CBS News on Sunday that the US had sought to be transparent about its troop deployments in eastern Europe in order “to avoid mistake, miscalculation or escalation and also to send a very clear message to Russia we will defend every inch of Nato territory”. There is a long history of close encounters over the Baltic and Black Seas. Earlier this month US jet fighters scrambled to intercept Russian warplanes operating close to Nato airspace while British and Norwegian planes took off to monitor Russian aircraft flying into the North Sea. While Russia has shut off large parts of the Black Sea to conduct its manoeuvres, Nato navies have stayed out of the immediate vicinity for now, while building up their presence in the Mediterranean. If they do decide to go through the Bosphorus in a show of strength, or to safeguard commercial shipping, the risk will rise again. Elisabeth Braw, a senior fellow at the American Enterprise Institute, said the danger was further heightened by Russia’s suspected use of “GPS spoofing”, interference with the navigational equipment of other vessels. On several occasions recently, civilian ships traveling in the Black Sea have encountered mysterious GPS troubles that showed the vessels being in a different part of the Black Sea or even on land. It was widely though the incidents were caused by Russia testing its technology. “It raises the risk for naval vessels that are in the Black Sea, which we should remember is not that big, and it’s crowded,” Braw said. “There’s enormous shipping activity in the Black Sea, and so all those crews face the risk of having no GPS.” The transfer of combat troops from Russia’s far east to Belarus has not only significantly increased the imminent threat to Ukraine, but also made eastern European Nato members increasingly nervous. “The closest training ranges in Belarus are 150 to 200km from Vilnius or Warsaw,” said Kristjan Mäe, the head of the Nato and EU department at Estonia’s ministry of defence. “This is a Russian force posture that hasn’t been there previously.” A refugee crisis at the Polish-Belarus border last year led to a close encounter between the troops facing each other, with Warsaw complaining that Belarus forces opened fire in the direction of their soldiers. “We have to remember that the people who are actually out on the frontline are very young men and women and they face enormous responsibility,” Braw said. “Yes there is a chain of command but if there is some sort of provocation or aggression, intentional or unintentional, that is directed against them, then they have to respond.” The close encounters so far have occurred in peacetime. In the event of war, nerves will be far more on edge, communications could be hampered or flooded with disinformation. “We cannot be entirely confident that in the lead-up to or during a conflict that Nato and Russia will be able to communicate, especially as current civil and military communication systems between them are not as robust or technically resilient as they should be,” Sahil Shah, a policy fellow at the European Leadership Network, said. “The world’s two largest nuclear-armed states have returned to the brink of conflict exactly 60 years after the Cuban missile crisis. If diplomacy is not pursued to the fullest extent, the risks of miscalculation and miscommunication could potentially pull in wider Europe into a devastating war. Without dialogue on how to manage de-escalation, it will be as if our leaders are running into a monsoon with newspapers over their heads.”

#### US-Russia escalation over Ukraine causes extinction

Helfand 2-8-2022, MD, is Immediate Past President of the International Physicians for the Prevention of Nuclear War, recipient of the 1985 Nobel Peace Prize, and cofounder and past president of Physicians for Social Responsibility, IPPNW’s US affiliate. He has published studies on the medical consequences of nuclear war in the New England Journal of Medicine, the British Medical Journal, and the World Medical Journal. (Ira, “Ukraine and the Threat of Nuclear War,” *The Nation*, <https://www.thenation.com/article/world/ukraine-russia-nuclear-threat/>)

As the crisis in Ukraine deepens, it is appropriate to consider what the actual consequences of war there might be. An armed conventional conflict in Ukraine would be a terrible humanitarian disaster. Last week, US government officials estimated that the fighting could kill 25,000 to 50,000 civilians, 5,000 to 25,000 Ukrainian military personnel, and 3,000 to 10,000 Russian soldiers. It could also generate 1-to-5 million refugees. These figures are based on the assumption that only conventional weapons are used. However, if the conflict spread beyond Ukraine’s borders and NATO became involved in the fighting, this would become a major war between nuclear-armed forces with the very real danger that nuclear weapons would be used—and the public debate about this crisis is utterly lacking in discussion of this terrible threat. Both sides in such a conflict would, of course, begin fighting with non-nuclear conventional weapons. But as a result of advances in technology and firepower over recent decades, these weapons possess much greater range and destructiveness than earlier models, enabling them to strike high-value targets—airbases, radar stations, command centers, logistical hubs, and so on—far behind the front lines. As the losses mounted up on both sides—and if one or the other faced imminent defeat—its leaders could feel driven to employ their tactical nuclear weapons to avert such an outcome. Both US and Russian military doctrines allow for the use of tactical nuclear weapons under such circumstances. Despite reductions in nuclear forces over the last several decades, Russia still has 1,900 tactical nuclear weapons and 1,600 deployed strategic nuclear weapons. On the NATO side, France has 280 deployed nuclear weapons and the UK, 120. In addition, the United States has 100 B-61 tactical bombs deployed at NATO bases in Belgium, Germany, Italy, the Netherlands, and Turkey, and an additional 1,650 deployed strategic warheads. If even a single 100-kiloton nuclear weapon exploded over the Kremlin, it could kill a quarter of a million people and injure a million more, completely overwhelming the disaster-response capability of the Russian capital. A single 100-kiloton bomb detonated over the US Capitol would kill over 170,000 people and injure nearly 400,000. But it is unlikely that an escalating nuclear conflict between the United States and Russia would involve single warheads over their respective capitals. Rather, it is more likely that there would be many weapons directed against many cities and that many of these weapons would be substantially larger than 100 kiloton. For example, Russia’s 460 SS-18 M6 Satan warheads have a yield of 500 to 800 kilotons. The W88 warhead deployed on US Trident submarines has a yield of 455 kilotons. A 2002 report showed that if just 300 of Russia’s 1,600 deployed strategic warheads were detonated over US urban centers, 78 million people would die in the first half hour. In addition, the nation’s entire economic infrastructure would be destroyed—the electric grid, Internet, food distribution system, transportation network, and the public health system. All of the things necessary to sustain life would be gone, and in the months following this attack the vast majority of the US population would succumb to starvation, radiation sickness, exposure, and epidemic disease. A US attack on Russia would produce comparable devastation there. And if NATO were involved, most of Canada and Europe would suffer a similar fate. Still, these are just the direct effects of the widespread use of nuclear weapons between NATO and Russia. The global climate effects would be even more catastrophic. Recent studies have confirmed the predictions, first advanced in the 1980s, that large-scale use of nuclear weapons would cause abrupt, catastrophic global cooling. A war involving the full deployed arsenals of the US and Russia could loft up to 150 teragrams (150 million metric tons) of soot into the upper atmosphere, dropping average temperatures around the world as much as 18 degrees Fahrenheit. In the interior regions of North America and Eurasia temperatures would drop 45 to 50 degrees, to levels not seen since the last ice age, producing a disastrous decline in food production and a global famine that might kill the majority of humanity. Even a more limited war involving just 250 warheads in the 100 kiloton range could drop average global temperatures by 10 degrees, enough to trigger a famine unprecedented in human history, which would almost certainly bring the end of modern civilization. The enormity of the risk inherent in the current game of nuclear chicken between the US and Russia demands a fundamental change in their relation to each other, and in the equally fraught relation between the US and China. The great powers can no longer pursue a zero-sum game to see who will come out on top. It is possible that one of them will emerge on top of the heap—but the heap may well be a global ash pile. Nuclear weapons are a discrete manmade threat to the survival of our species. Their elimination could be achieved within a decade if the leaders of the nuclear-armed states were committed to doing so. And the process of negotiating a verifiable, enforceable timetable for dismantling these weapons would establish a new cooperative paradigm in international relations that would enable them to address the other, more complex existential threat posed by the climate crisis. The elimination of nuclear weapons is not some pie-in-the-sky fantasy. It is an absolute necessity for our continued survival. We have not survived this far into the nuclear era because of wise leadership, or sound military doctrine, or infallible technology. As Robert McNamara famously observed, “We lucked out. It was luck that prevented nuclear war.” A hope for continued good luck is an insane security policy. A determination to eliminate these weapons is a policy grounded in reality, and it offers us the only acceptable path forward.

#### The commitment to megaships is the commitment to a logic of expansionist spatial capitalism

Chua 18, Phd Dissertation in Political Science University of Minnesota. (Charmaine, Containing the Ship of State: Managing Mobility in an Age of Logistics, <https://conservancy.umn.edu/bitstream/handle/11299/200214/Chua_umn_0130E_19452.pdf?sequence=1&isAllowed=y>}

Networked uncertainty: Megaport expansions and infrastructural power The complex demands that megaships place on their corresponding ports thus reveal the deeply networked interdependency of large-scale logistical infrastructure. Because shipping networks depend on unstable and dynamic ensembles of physical, social, and financial infrastructure that are conceived and constructed at different local and regional scales, the extent to which megaships can fulfill their projected economic outcomes depends on the ability of port cities to support their monstrous bodies. In this light, the viability of infrastructural investment in megaship building directly hinges on the production of related port and terminal infrastructure elsewhere. Even though port expansion and megaship orders are pursued in relative isolation through industry-specific logics of competition, the cascading effects triggered by megaship growth demonstrate that such initiatives are in fact deeply interdependent. In this sense, in concerning itself primarily with market-mediated and profit-oriented dynamics of demand and supply, neoclassical economics fails to account for the spatial and political dynamics that are brought into relation when aspects of accumulation - in this case, the growth of megaships - require a corresponding geographical expansion. What then changes if we turn our attention to the explicitly spatial dynamics of the megaship expansion, seeking to understand the geographical implications of economies of scale and their unevenly materialization in urban infrastructure? In this section, I employ David Harvey’s notion of the ‘spatial fix’ to show that whereas neoclassical economics expect a tendency toward equalization of various spaces, an attention to the geographical intensification and expansion of capital accumulation reveals instead the deeply uneven development involved in expanding the mobile networks of trade. Harvey’s notion of the ‘spatial fix’, littered throughout his oeuvre but first theorized in The Limits to Capital ([1982] 2006), broadly designates forms of spatial reorganization and geographical expansion that serve to manage - though only temporarily - the crisis tendencies inherent in capitalist over-accumulation. As he explains, capitalism’s growth imperative requires perpetual market expansion. In periods of over-accumulation, capitalists are faced with a surplus of labor and capital without the conceivable means for bringing them together profitably, and this moment constitutes a crisis that forces capitalism to make new room for itself in either temporal or spatial terms, and thus to seek out new horizons of investment. In Harvey’s terms, seeking these new horizons often requires geographical expansion into other territories and markets - a process that necessitates moving capital across long distances and finding ways to overcome those distances. Harvey builds on Marx’s claim in Capital Vol. 2 that the productive forces of capitalism include the capacity to overcome spatial barriers by intensifying the links to spatially distant territories and regions by investing and innovating in the areas of transport and communication (Harvey 2001a). Specifically, where transportation is concerned, the continuity of the circulation of capital depends on the ability to physically move goods around, and thus depends upon the creation of “an efficient, spatially integrated transport system organized around some hierarchy of urban centers” (Harvey 2005, 377). Speeding up the transportation of goods or the communication of information can drastically reduce the turnover time of industrial capital and accelerate the circulation of commercial and financial capital, allowing capitalists to reinvest money capital into the production process. Harvey refers to this process as “socially necessary turnover time” (Harvey 2001a, 320): the average time taken for capital to be reinvested for average profit rates under normal conditions of production and circulation. Crucially, capitalists seek to shrink this turnover time by making heavy investments in fixed kinds of capital such as infrastructure or transportation: Improving modes of transportation (that is, creating faster or more efficient modes of travel) helps to overcome spatial distance, which, together with the credit system, provides the temporal stepping stone for the “annihilation of space with time” (Marx 1973, 539). As such, the spatial fix refers to a long-term investment that provides potential escape from crisis by expanding markets into regions beyond the local, validating heavy investments in fixed infrastructure at the point of production by increasing relative surplus-value and growing effective demand by expanding the consumer base to new populations. The megaship is in this sense another technology in a long line of investments that aim to speed the turnover of capital by achieving economies of scale in the delivery of commodities to new markets. Yet this only covers one transportation node in a complex network of mobile infrastructures, some of which are more fluid than others. As Henri Lefebvre has shown, the production of space is central to the reproduction of capital and capitalist social relations (Lefebvre 1970, 1976). A crucial tension that thus emerges is the contradiction between the ‘fixity’ and ‘mobility’ of capital. Harvey explains: “[A] distinction must be drawn between fixed capital that is mobile and that which is not. Some fixed capital is embedded in the land (primarily in the form of the built environment or more broadly as ‘second nature’) and therefore fixed in place. This capital is “fixed” in a double sense (tied up in a particular object like a machine and pinned down in place). There is a relationship between the two forms. Aircrafts (a highly mobile form of fixed capital) require investments in immobile airport facilities if they are to function. The dialectic between fixity and motion then comes into play even within the category of fixed capital” (Harvey 2001b, 328). While Harvey uses the example of the aircraft, the megaship might perhaps serve as an even better exemplar of this tension: if capitalism has to fix space (in the immoveable structures of transportation networks inland and in the built environment of ports and railroads) in order to overcome space, the megaship represents precisely this mobile form of fixed capital that achieves the liberty of movement across the globe while reducing transport and communication costs through economies of scale. Importantly, the demand that megaships place on port infrastructures to expand their space and technologies of operation leads to one of the central contradictions of capital: that it has to build a fixed space necessary for its own functioning, only to destroy that space (and devalue the capital invested within it) at a later point in order to make way for newer spatial fixes. “Capitalist development,” in Harvey’s explanation, “has to negotiate a knife-edge path between preserving the values of past capital investments in the built environment and destroying these investments in order to open up fresh room for accumulation” (Harvey 2001, 247). In this way, the spatial fix presupposes not an equalization of various spaces, but rather their uneven and differentiated development. Neil Smith and David Harvey have argued that infrastructure is a central force in enabling, expressing, and reproducing the uneven processes of development. The “frantic geographical expansion” of accumulation, Smith argues, “requires a continuous investment of capital in the creation of a built environment for production” (Smith 2008, 159). Here, infrastructures of mobility - “roads, railways, factories, fields, workshops, warehouses, wharves, sewers, canals, power stations” (ibid) - all function to concentrate capital and labor in metropolitan areas, while taking place alongside more “sprawling far-flung development” in which “roads and railways litter a landscape that has been indelibly and irreversibly carved out according to the dictates of capitalism” (Harvey 1999, 373). Under capitalism, Harvey shows that there is an unrelenting struggle in which capital has to build a physical landscape or infrastructure for itself, that is appropriate to its needs for accumulation at a moment in time. However, as soon as changing technologies or geographies of accumulation supersede the need for that infrastructure, capital finds that it only has “to destroy it, usually in the course of crises, at a subsequent point in time.” In this sense, while spatial fixes leave a very physical trace in the landscape with heavy infrastructure, these forms of fixed capital are constantly superseded in the need for endless expansion. Overall, Harvey stresses, this means that there is “no long-run ‘spatial fix’ to capitalism’s internal contradictions” (Harvey 2001a, 307).

### 1AC — Plan

#### The United States federal government should substantially increase its prohibitions of anticompetitive vessel sharing agreements involving the acquisition, use, and sharing of mega-ships above 10,000 TEU capacity in container shipping.

### 1AC — Solvency

#### Solvency —

#### Prohibiting agreements forces a shift away from megaships

Haralambides 19, Professor of Maritime Economics and Logistics at Erasmus University Rotterdam. (Hercules, 2019, Gigantism in container shipping, ports and global logistics: a time-lapse into the future Maritime Economics & Logistics volume 21, pages1–60, https://link.springer.com/article/10.1057/s41278-018-00116-0)

Such consolidation in an industry that is already highly concentrated is bound to take place under the increasing scrutiny of the regulator who, with the final consumer in mind, is likely to encourage more competition rather than further consolidation. If the liner shipping market thus becomes more open and competitive in the future, i.e. if alliance agreements regarding vessel sharing, investment planning, etc. are scrutinized more closely for their compatibility with competition law, as I expect, the joint filling of the ship will become more difficult and ship sizes shall by necessity decrease, together with an increase in the number of ports of call. Low prices would then be achieved through higher competition rather than big ship sizes. In such a scenario, shipping companies will be forced to provide the services their customers want, rather than the ones they find it convenient to offer. Shippers do not like too much transshipment and, if they could help it, they would like their container as close to them as possible. Reduction in ship size and more direct calls could thus follow the example of the air-transport industry. The most common jet flying across the Atlantic is not the 420-seat 747 jumbo but the 200 plus-seat Boeing 767. Eight out of 10 transatlantic planes are twin-engine craft such as the 767, its bigger brother the 777, or the various airbuses. This taste for smaller international jets reflects the fact that travellers now like to shun big international hubs such as London and New York and fly directly to their destinations. This is changing the international market into a web of direct intercontinental flights rather than one big air-bridge between London and New York.

#### A reduction in ship-size leads to a more competitive industry

Haralambides 19, Professor of Maritime Economics and Logistics at Erasmus University Rotterdam. (Hercules, 2019, Gigantism in container shipping, ports and global logistics: a time-lapse into the future Maritime Economics & Logistics volume 21, pages1–60, https://link.springer.com/article/10.1057/s41278-018-00116-0)

The impact of alliances on container shipping and ports I just stated that the gigantism in shipping has been induced by both port competition and shipping alliances. Indeed, without the ability to use each other’s ships, no carrier alone would be able to achieve a capacity utilization high enough to justify the use of present day mega-ships, while at the same time offering the frequency that shippers demand. But carriers have gone a step too far: At the time of writing, three alliances carry 80% of global trade. Such consolidation, in an industry that is already highly concentrated, is bound to take place under the increasing scrutiny of the regulator who, with the final consumer in mind, is likely to encourage more competition rather than further consolidation. If this happens, i.e., if container shipping becomes more open and competitive in the future, and alliance agreements regarding vessel sharing, investment planning, etc. are scrutinized more closely for their compatibility with competition law, as I expect, the joint filling of the ship will become more difficult and ship sizes shall by necessity decrease, together with an increase in the number of ports of call. Low prices would then be achieved through more competition rather than big ship sizes. This is more so when it is doubtful if the economies of scale in shipping are passed on to the final consumer, as required by the consortia block exception from the provisions of competition law in Europe.Footnote51

#### Enforcement in shipping is effective and ensures compliance

Consadine 21, Attorney with Seward & Kissell LLP. (Michael, Shipping Companies Beware: Antitrust Challenges Ahead as DOJ Focuses On Industry, <https://www.sewkis.com/publications/shipping-companies-beware-antitrust-challenges-ahead-as-doj-focuses-on-industry/>)

In response to U.S. President Joseph Biden’s July 9, 2021 Executive Order to enhance competition and antitrust enforcement, the U.S. Federal Maritime Commission (“FMC”) entered into a Memorandum of Understanding (“MOU”) with the Antitrust Division of the U.S. Department of Justice (“DOJ”) to facilitate criminal investigations of violations of U.S. laws. Given that shipping companies and their employees may be separately charged by DOJ regardless of their physical location and face draconian penalties upon conviction, it is incumbent for all shipping companies – foreign and domestic – to monitor these recent developments and take steps to minimize the likelihood of harmful consequences, including by establishing or enhancing existing compliance programs.

#### Private antitrust action is necessary to deter international collusion

Lande 16, Professor of Law at the University of Baltimore School of Law, Director of the American Antitrust Institute. {Robert; Spring 2016; Antitrust, “Class Warfare: Why Antitrust Class Actions Are Essential for Compensation and Deterrence,” <https://scholarworks.law.ubalt.edu/cgi/viewcontent.cgi?article=2019&context=all_fac>)

OUR RECENT EMPIRICAL STUDIES demonstrate five reasons why antitrust class action cases are essential: (1) class actions are virtually the only way for most victims of antitrust violations to receive compensation; (2) most successful class actions involve collusion that was anticompetitive; (3) class victims’ compensation has been modest, generally less than their damages; (4) class actions deter significant amounts of collusion and other anticompetitive behavior; and (5) anticompetitive collusion is underdeterred, a problem that would be exacerbated without class actions. Recent court decisions undermine class action cases, thus preventing much effective and important antitrust enforcement.1 Class Actions Are Virtually the Only Way for Most Victims of Federal Antitrust Violations to Receive Compensation The antitrust statutes provide that violations result in automatic treble damages for the victims.2 The legislative history 3 and case law indicate that compensation of victims is a goal, perhaps the dominant goal, of antitrust law’s damages remedy.4 Class actions play an essential role in ensuring that the treble damages remedy serves its intended function of “protecting consumers from overcharges resulting from price fixing.”5 As the Supreme Court noted, “[C]lass actions . . . may enhance the efficacy of private [antitrust] actions by permitting citizens to combine their limited resources to achieve a more powerful litigation posture.”6 Accordingly, “courts have repeatedly found antitrust claims to be particularly well suited for class actions . . . .”7 Without class actions, cartels and other antitrust violators that inflict widespread economic harm would have little to fear from the treble damages remedy. This is because, as a practical matter, class action cases are virtually the only way for most victims of anticompetitive behavior to receive compensation.8 A 2013 study that Professor Joshua Davis and I conducted documents the benefits of private enforcement by analyzing 60 of the largest recent successful private U.S. antitrust cases (defined as suits resolved since 1990 that recovered at least $50 million in cash for the victims9 ). These actions returned a total of $33.8–$35.8 billion in cash to victims of anticompetitive behavior.10 These figures do not include products, discounts, coupons, or the value of injunctive relief or precedent—only cash.11 Consequently, these totals significantly understate the actual benefits of this litigation to the victims involved. And, of course, this study covered only 60 suits (albeit 60 of the largest private recoveries) out of the many hundreds of private cases filed in the United States during this period. Of these 60 large private cases, 49 were class action suits.12 These cases recovered a total of $19.4–$21.0 billion—the majority of the amount analyzed in our study.13 Since these were among the largest private actions ever filed, specific conclusions based upon these results may not generalize perfectly to all class action cases. They do suggest, however, that without class action cases, effective and significant victim compensation would be reduced dramatically. Most Successful Class Actions Involve Collusion that Was Anticompetitive Almost every private antitrust case that results in a remedy does so through a settlement,14 so the underlying merits of the plaintiffs’ claims usually have not been definitively assessed by a court or jury. Critics sometimes use this fact to support assertions that class actions usually are meritless, that plaintiffs often receive huge sums from cases not involving anticompetitive conduct, and that private antitrust actions often amount to legalized blackmail or extortion.15 Antitrust class actions arise in widely varied market and factual settings, and views about the merits of specific cases and the litigation risks involved vary as well. This makes it extremely difficult to draw objective conclusions about the merits of settlements. Nevertheless, there are good reasons to believe that the vast majority of class action cases in the Davis/Lande study involved legitimate claims. Forty-one of the 49 class actions involved allegations of collusion,16 and the same conduct supporting the settlements gave rise to criminal penalties in 20 cases; to civil relief by the FTC or DOJ in 8 cases; to civil relief by a state or other governmental unit in 9 cases; to a trial that the defendants lost and that was not overturned on appeal in 7 cases; to a class being certified in 22 cases; and to plaintiffs surviving or prevailing at summary judgment in 12 cases.17 Overall, 44 of the 49 class action suits (90 percent) exhibited at least one of these forms of legal validation as to their merits. (The 5 actions that did not have at least one of these indicia settled too early for a substantive evaluation of their merits).18 These results are broadly consistent with a finding that Professor John Connor derived from an analysis of 130 private recoveries worldwide in international cartel cases for which he could obtain the necessary data.19 He found that of the 50 largest worldwide settlements, measured by their monetary recoveries in constant dollars, 49 had been filed against international cartels.20 Of these, 51 percent were follow-ups to successful DOJ prosecutions, and another 8 percent were filed after fines by the EC or other non-U.S. antitrust authorities.21 Using a different data set, Connor and I found that 36 of 71 (also 51 percent) successful U.S. class action recoveries followed successful DOJ criminal cases.22 This data does not prove that these or any other specific class action cases involved anticompetitive conduct. But critics who assert that most antitrust class actions are little more than legalized blackmail rely only on anecdotes, hypotheticals, and opinions (often of defendants in the cases), without support from studies, and with no reliable empirical evidence that the actions lack merit or that settlement amounts are excessive compared to the anticompetitive harm.23 To be fair, one should compare the above indicia of validity to the absence of any systematic evidence underpinning the critics’ charges. Critics also sometimes assert that remedies typically secured in class action settlements are at best dubious and often are completely worthless, consisting of useless coupons, meaningless discounts, and obsolete products. They argue with regard to cash payments (without providing even a single anecdote) that “issuing [class members] a check is often so expensive that administrative costs swallow the entire recovery.”24 According to many critics the only ones to benefit from private enforcement are the attorneys involved.25 The critics who make these charges, however, never offer evidence beyond opinions, hypotheticals, and occasional anecdotes. Indeed, for the 49 antitrust class action cases that Davis and I studied, the data show that, overall, only a total of approximately 20 percent of the recoveries went for attorney fees (14.3 percent) or claims administration expenses (4.1 percent).26 The rest was returned to the victims. This result is consistent with older estimates of legal fees in antitrust class action cases in the 6.5 to 21 percent range.27 Critics also sometimes examine what happened in other areas of law and assert that these outcomes occur in contemporary antitrust class action suits as well. But they never offer systematic evidence from antitrust cases to support their opinions.28 Interestingly, only one of the lawsuits in the Davis/Lande study involved a coupon remedy—the Auction Houses cases. However, those coupons were fully redeemable for cash if they were not used for five years.29 The actions Davis and I studied were among the largest antitrust class actions ever brought and therefore might not be representative of class action cases in general. Abuses surely occur from time to time in class action cases, as they do almost everywhere in the legal system. But a majority of the critics’ most egregious examples are from other areas of law or are quite old.30 No one has ever presented reliable evidence showing that such examples occur frequently or are typical of contemporary antitrust class action cases.31 Class Victims’ Compensation Has Been Modest, Generally Less than Their Damages Even though the $19.4–$21.0 billion that Davis and I showed had been returned to victims in 49 class action cases is a significant figure when viewed in absolute terms, it probably was not nearly enough to fully compensate all of the victims involved. To ascertain “Recovery Ratios” (the percentage of the illegal overcharges that was obtained in the form of monetary payments to victims in private actions), Professor Connor and I assembled a sample consisting of every completed private case against cartels discovered from 1990 to mid-2014 for which we could find the necessary information. For each of these 71 cases we assembled neutral scholarly estimates of affected commerce and overcharges and compared these estimates to the damages secured in the private actions filed against these cartels.32 The victims of only 14 of the 71 cartels (20 percent) recovered their damages (or more) in settlement. Only seven (10 percent) received more than double damages. The rest— the victims in 57 cases—received less than their damages. In four cases, the victims received less than 1 percent of damages, and in 12 cases they received less than 10 percent of damages. Overall, the median average settlement was 37 percent of single damages. The unweighted mean settlement (a figure that gives equal weights to the cartels that operated in large and small markets) was 66 percent. The mean and median average Recovery Ratios are higher (81 percent and 52 percent, respectively), for the 36 cases that were follow-ups to DOJ prosecutions that imposed criminal sanctions.33 Because these Recovery Ratios do not include any valuations of products, discounts, coupons, or the value of injunctive relief or precedent, the actual worth of these remedies to the victims is greater than the figures reported above. Nevertheless, it fairly can be concluded that antitrust class action cases often return important recoveries to victims that are significant in absolute terms, but usually are modest when measured against the sizes of the overcharges involved. Class Actions Deter Significant Amounts of Collusion and Other Anticompetitive Behavior Private class action cases serve to deter a substantial amount of anticompetitive activity, perhaps even more than the highly acclaimed anti-cartel program of the U.S. Department of Justice, which often results in prison sentences for cartel participants.34 Virtually every contemporary analysis of antitrust enforcement assumes that deterrence is an important purpose of the private treble damages remedy provision.35 The Supreme Court has underscored this point. For example, in Reiter v. Sonotone Corp., the Court explained: Congress created the treble-damages remedy of § 4 precisely for the purpose of encouraging private challenges to antitrust violations. These private suits provide a significant supplement to the limited resources available to the Department of Justice for enforcing the antitrust laws and deterring violations.36 The government, however, cannot be expected to do all of the necessary enforcement for a number of reasons, including budgetary constraints, “undue fear of losing cases; lack of awareness of industry conditions; overly suspicious views about complaints by ‘losers’ that they were in fact victims of anticompetitive behavior; higher turnover among government attorneys; and the unfortunate, but undeniable, reality that government enforcement (or non-enforcement) decisions are, at times, politically motivated.”37 A recent study highlights the deterrence benefits of private enforcement by comparing the likely deterrent effects of private antitrust enforcement to that of criminal anti-cartel enforcement by the Antitrust Division.38The surprising result is that private enforcement—and even just antitrust class action cases considered separately—probably deters more anticompetitive behavior. From 1990 through 2011 the total of DOJ corporate antitrust fines, individual fines, and restitution payments totaled $8.2 billion. (Dis)valuing a year of prison or house arrest at $6 million39 adds another $3.6 billion in total deterrence from the DOJ’s anti-cartel cases, yielding a total of approximately $11.8 billion. This is a substantial figure, and the possibility of incurring such sanctions surely has deterred a significant number of would-be antitrust violators.40 Nevertheless, these penalties amount to approximately 50 percent of the $19.4–$21.0 billion in cash alone (not including products, etc.) secured by just the 49 studied class cases that were completed during the same period.41 These private cases were only a portion of the hundreds of successful class action cases completed during this period (albeit they were many of the largest).42 The total amount of payouts in class action cases is so high that it probably deters more anticompetitive conduct than even the DOJ’s anti-cartel enforcement efforts.

#### Empirics prove antitrust enforcement deters cartelization

Bos et al 15, Professor of Economics Department of Organisation and Strategy Maastricht University. (Iwan, with Stephen Davies Centre for Competition Policy & School of Economics University of East Anglia and Peter L. Ormosi Centre for Competition Policy & Norwich Business School University of East Anglia, , The deterrent effect of anti-cartel enforcement: A tale of two tails <https://ueaeco.github.io/working-papers/papers/ccp/CCP-14-06v2.pdf>)

The empirical contribution of this paper derives from a novel comparison of the distributions of overcharge observed for cartels between jurisdictions which did and did not prohibit cartels. It shows that the distribution for legal cartels has significantly more mass in its tails than does the distribution for illegal cartels. This finding is robust to controlling for the time period in which the cartels occurred and the perceived quality of the sources of the data. We suggest it has two potential explanations, not necessarily mutually exclusive. It may be that anti-cartel law is most effective in deterring very low or very high overcharge cartels, or it may be that such cartels are least likely to be detected in a world where cartels are illegal. The remainder of the paper is designed to distinguish which of these potential explanations is more likely. To do this, we present a fairly general theoretical model which is representative of the previous literature on cartel formation. This establishes the conditions under which we can deduce that its is deterrence which drives the empirical result. We argue that only relatively weak assumptions are required: in essence, low-overcharge cases are deterred by fines which have (at least partly) a fixed element, while high-overcharge cases, in the face of a higher probability of detection, either moderate their overcharge to lessen the likelihood of detection and lower the expected penalty (composition deterrence), or entirely abandon the cartel (frequency deterrence) because incentives become incompatible. This has some potentially important implications. In the previous literature, evidence on the nature of detected cartels has been widely used as a key source of information about the nature of collusion in the real world. But it now needs to be underlined that this evidence emanates only from cases which are not deterred, and are detected, by active anti-cartel enforcement policy. In that this ignores cases 21 which are deterred, it may seriously underestimate the welfare-enhancing impact of policy, especially insofar as it is the most harmful cases which are most likely to be deterred.18 This also raises doubts about conventional empirical wisdoms on the structural factors which are conducive to collusion. The evidence of this paper is confined to overcharge, but it is not unlikely that overcharge will be related to the structure of the cartel (number and asymmetries of members, duration, etc). If so evidence from previous studies on the structure and stability of cartels may require revisiting.

#### Antitrust enforcement targeting ship size can stop mega ships

Stoller 21, Research Director for the American Economic Liberties Project. (Matt, Too Big to Sail: How a Legal Revolution Clogged Our Ports, <https://mattstoller.substack.com/p/too-big-to-sail-how-a-legal-revolution?utm_source=url>)

Finally, we have to restore mid-sized ships and ports. In Portland, Maine, a mid-size port that serves mid-size ships is now thriving, serving both exporters and importers in a reasonably smooth manner. That’s a good model. Public investment in new shipping firms would be useful here. Of course, we can’t undo 20 years of ultra-large container ship construction, but we can end incentives for building more of them by charging harbor maintenance fees based on ship size, or otherwise forcing carriers to internalize the full cost of big ships. This will have to be on a national scale, with the threat of antitrust, so carriers can’t play U.S. ports off one another.

#### Shipping antitrust enforcement effectively deters

Smith 22, Attorney Reed Smith LLC. (Reed Smith, Antitrust insights in shipping – recapping 2021 and preparing for 2022, https://www.reedsmith.com/en/perspectives/2022/01/antitrust-insights-in-shipping-recapping-2021-and-preparing-for-2022)

In the same month that EO 14036 was issued, the FMC and the Antitrust Division of the Department of Justice (DOJ) entered into a memorandum of understanding relative to “Cooperation with Respect to Promoting Competitive Conditions in the U.S.-International Ocean Liner Shipping Industry.” The agencies agreed to share information “for the purpose of improving each agency’s effectiveness in carrying out its respective legal responsibilities.” They also agreed to confer, at least annually, to address law enforcement, regulatory, and other matters related to competitive conditions in the international ocean liner shipping industry. This is the first-ever agreement of this nature between the two agencies. Importantly, unlike the FMC, the DOJ has criminal enforcement capabilities. Specifically, the DOJ has jurisdiction to enforce U.S. antitrust laws not only against domestic business activities but also against foreign business activities that have a substantial and intended effect in the United States, up to and including criminal prosecution. In recent years, the DOJ has indicted a foreign ocean liner shipping company and its executives in relation to a conspiracy regarding allocation of customers and routes, bid rigging, price fixing, and other anticompetitive conduct in the international roll-on, roll-off ocean shipping industry, resulting in guilty pleas, hefty fines, and prison time for individuals, not just for the company and its executives, but also for four other competitors that were found to have participated in the conspiracy. The DOJ’s prosecutions followed a European Union antitrust probe into the container line shipping industry, which was resolved in 2016 when 14 companies entered into legally binding commitments to increase price transparency for customers and reduce the likelihood of coordinating prices. The FMC, on the other hand, has jurisdiction to investigate and sanction ocean carriers that implement unfair and unreasonable practices in violation of the U.S. Shipping Act. Specifically, the FMC brings enforcement actions and issues civil penalties against ocean carriers; the FMC also adjudicates private party actions brought by cargo owners and awards reparations. The FMC has intensified its efforts to use these tools against ocean carriers, in particular in relation to their demurrage and detention practices during the COVID-related port congestion crisis. The most recent illustrations are three policy statements issued by the FMC last month to encourage shippers to file private party complaints against ocean carriers, either individually or collectively, and to protect them from retaliation and attorney fees awards when such actions were brought in good faith. In one of these statements, the FMC recognized that private actions are important to alert the agency of potential violations and to deter unfair and unreasonable conduct by carriers.

# 2AC

## Advantage

#### Decolonization demands engagement with the state

Grande 7, (Sandy Grande, 2007, Critical Pedagogy: Where are We Now?,” pp. 330-331)

Andre Lorde’s essay, The Masters Tools Not Dismantle the Master's House, is one of the most quoted essays in academic history and, I would also venture to say, one that needs rethinking. While it is self-evident that indigenous knowledge is essential to the process of decolonization, l would also argue that the Masters tools are necessary. Otherwise, to take Audrey Lorde seriously means to create a dichotomy between the tools of the colonizer and those of the colonized. Such a dichotomy leaves the indigenous scholar to grapple with a kind of “Sophie’s Choice" moment where one feels compelled to choose between retaining their integrity (identity) as a Native scholar by employ in only indigenous knowledge or to “sell out” and employ the frames of Western knowledge. What does it mean for indigenous scholars to engage Western knowledge? Does it signify a final submission to the siren’s song, seducing us into the colonialist abyss with promises of empowerment? Or is it the necessary first step in reclaiming and decolonizing an intellectual inquiry room-of our own.’ Such questions provoke beyond the bounds of academic exercise, suggest instead the need for an academic exorcism. The demon to be purged is the specter of colonialism. As indigenous scholars, we live within, against` and outside of its constant company` witnessing its various manifestations as it shape shifts its way into everything from research and public policy to textbooks and classrooms. Thus. the colonial tax of Native scholars not only requires a recognition of personal identity but also an analysis of how whole nations get trans- or (dis) figured when articulated through Western frames of knowing. As Edward Said observes. “institutions, vocabulary, scholarship, imagery, doctrines, even colonial bureaucracy and colonial styles” all support to the Westem discourse" (Said, 1985, p, 2). ln other words, is it possible to engage the grammar of empire without replicating its effects.’ At the same time indigenous entertain these ruminations, Native communities continue to be impacted and transformed by the forces of colonization, rendering the “choice” of whether to employ Western knowledge in the process“ of defining indigenous pedagogies essentially moot. ln other words, by virtue of living in this world and having to negotiate the forces of colonization, indigenous scholars are given no choice but to know, understand, and acquire the grammar of empire as well as develop the skills to contest it. The relationship between the two is not some liberal dream of multicultural harmony but rather the critical and dialogical tension between competing moral visions.

**Engaging multiple sites of resistance and interim reforms is necessary to foster an ethos critical to overcome right-wing oppression – their rejection of the state cedes the terrain of politics to neoliberals**

**Connolly ’13** (William, Professor of Political Theory at Johns Hopkins University, The Fragility of Things, pp. 36-42 JM

A philosophy attending to the acceleration, expansion, irrationalities, interdependencies, and fragilities of late capitalism suggests that we do not know with confidence, in advance of experimental action, just how far or fast changes in the systemic character of neoliberal capitalism can be made. The structures often seem solid and intractable, and indeed such a semblance may turn out to be true. Some may seem solid, infinitely absorptive, and intractable when they’re in fact punctuated by hidden vulnerabilities, soft spots, uncertainties, and potential lines of flight that become appar- ent when they are subjected to experimental action, upheaval, testing, and strain. Indeed no ecology of late capitalism, given the variety of forces to which it is connected by a thousand pulleys, vibrations, impingements, de- pendencies, shocks, and threads, can specify with supreme confidence the solidity or potential flexibility of the structures it seeks to change.¶ The strength of structural theory, at its best, was in identifying, institutional intersections that hold a system together; its conceit, at its worst, was the claim to know in advance how resistant such intersections are to potential change. Without adopting the opposite conceit, **it seems important to pursue** possible **sites of strategic action that might open** up **room for** productive **change**. Today it seems important to attend to the relation be- tween the need for structural change **and identification of multiple sites** of potential action. You do not know precisely what you are doing when you participate in such a venture. You combine an experimental temper with the appreciation that living and acting into the future inevitably contain a shifting quotient of uncertainty. The following tentative judgments and sites of action may be pertinent.¶ 1) Neither neoliberal theory, nor socialist productivism, nor deep ecology, nor social democracy in its classic form seems sufficient to the contemporary condition. This is so in part because the powers of market self-regulation are both real and limited in relation to a larger multitude of heterogeneous force fields beyond the human estate with differential powers of self-regulation and metamorphosis. A first task is to challenge neoliberal ideology through critique and by elaborating and publicizing positive alternatives that acknowledge the disparate relations between market processes, other cultural systems, and nonhuman systems. Doing so to render the fragility of things more visible and palpable. Doing so, too, to set the stage for a series of interceded shifts in citizen role performances, social movements, and state action. ¶ 2) Those who seek to reshape the ecology of late capitalism might set an interim agenda of radical reform and then recoil back on the initiatives to see how they work. **An *interim* agenda is** the **best** thing to focus on **because in a world of** becoming the **more distant future is too cloudy to engage.** **We must**, for instance, **become involved in** experimental **micropolitics** on a variety of fronts, as we participate in role experimentations, social movements, artistic displaces, erotic-political shows, electoral campaigns, and creative interventions on the new media to help recode the ethos that now occupies investment practices, consumption desires, family savings, state priorities, church assemblies, university curricula, and media reporting. It is important to bear in mind how extant ideologies, established role performances, social movements, and commitments to state action intersect. **To shift** some of our **own** role **performances** in the zones of travel, church participation, home energy use, investment, and consumption, for instance, that now implicate us deeply in foreign oil dependence and the huge military expenditures that secure it, **could** make a minor difference on its own *and also* ***lift some of the burdens of institutional implications from us*** **to support participation in more adventurous** interpretations, **political strategies**, demands upon the state, and cross-state citizen actions. ¶ 3) Today perhaps the initial target, should be on reconstituting established patterns of consumption by a combination of direct citizen actions in consumption choices, publicity of such actions, the organization of local collectives to modify consumption practices, and social movements to reconstitute the current state- and market-supported infrastructure of consumption. By the infrastructure of consumption I mean publicly supported and subsidized market subsystems such as a national highway system, a system of airports, medical care through private insurance, agribusiness pouring high sugar, salt, and fat content into foods, corporate ownership of the public media, the prominence of corporate 403 accounts over retirement pensions, and so forth that enable some modes of consumption in the zones of travel, education, diet, retirement, medical care, energy use, health, and education and render others much more difficult or expensive to procure.22 To change the infrastructure is also to shift the types of work and investment available. Social movements that work upon the infrastructure and ethos of consumption in tandem can thus make a real difference directly, encourage more people to heighten their critical perspectives, and thereby open more people to a more militant politics if and as the next disruptive event emerges. Perhaps a **cross-state citizen goal should construct a pluralist assemblage** by moving back and forth between experiments in role performances, the refinement of sensitive modes of perception, revisions in political ideology, and adjustments in political sensibility; doing so **to mobilize** enough **collective energy** to launch a general strike simultaneously in several countries in the near future. The aim of such an event would be to reverse the deadly future created by established patterns of climate change by fomenting significant shifts in patterns of consumption, corporate policies, state law, and the priorities of interstate organizations. Again, the dilemma of today is that the fragility of things demands shifting and slowing down intrusions into several aspects of nature as we speed up shifts in identity; role performance, cultural ethos, market regulation, and state policy.¶ 4) The existential forces of hubris (expressed above all in those confident drives to mastery conveyed by military elites, financial economists, financial elites, and CEOs) and of ressentiment (expressed in some sectors of secularism and evangelicalism) now play roles of importance in the shape of consumption practices, investment portfolios, worker routines, managerial demands, and the uneven senses of entitlement that constitute neoliberalism. For that reason activism inside churches, schools, street life, and the media must become increasingly skilled and sensitive. As we proceed, some of us may present the themes of a world of becoming to larger audiences, challenging thereby the complementary notions of a providential world and secular mastery that now infuse too many role performances, market practices, and state priorities in capitalist life. For existential dispositions do infuse the role priorities of late capitalism. Today it is both difficult for people to perform the same roles with the same old innocence and difficult to challenge those performances amid our own implication in them. Drives by evangelists, the media, neoconservatives, and the neoliberal right to draw a veil of innocence across the priorities of contemporary life make the situation much worse.¶ 5) The emergence of a neofascist or mafia-type capitalism slinks as a dangerous possibility on the horizon, partly because of the expansion and intensification of capital, partly because of the real fragility of things, partly because the identity needs of many facing these pressures encourage them to cling more intensely to a neoliberal imaginary as its bankruptcy becomes increasingly apparent, partly because so many in America insist upon retaining the special world entitlements the country achieved after World War II in a world decreasingly favorable to them, partly because of the crisis tendencies inherent in neoliberal capitalism, and partly because so many resist living evidence around and in them that challenges a couple of secular and theistic images of the cosmos now folded into the institutional life of capitalism. Indeed the danger is that those constituencies now most disinclined to give close attention to public issues could oscillate between attraction to the mythic promises of neoliberal automaticity and attraction to a neofascist movement when the next crisis unfolds. It has happened before. I am not saying that neoliberalism is itself a form of fascism, but that the failures and meltdowns it periodically promotes could once again foment fascist or neofascist responses, as happened in several countries after the onset of the Great Depression. ¶ 6) **The democratic state**, while it certainly cannot alone tame capital or re- constitute the ethos and infrastructure of consumption, **must play a significant role in reconstituting our lived relations** to climate, weather, resource use, ocean currents, bee survival, tectonic instability, glacier flows, species diversity, work, local life, consumption, and investment, as **it** also **responds favorably to the public pressures** we must generate to forge a new ethos. **A new,** new **left will** thus experimentally enact new intersections be- tween role performance and political activity, **outgrow its old disgust with the very idea of the state, and remain alert to the dangers states can pose**. It will do- so because, as already suggested, the fragile ecology of late capital requires state interventions of several sorts. **A refusal to participate in the state** today **cedes too much hegemony to neoliberal markets**, either explicitly or by implication. Drives to fascism, remember , rose the last time in capitalist states after market meltdown. Most of those movements failed. But a couple became consolidated through a series of resonances (vibrations) back and forth between industrialists, the state, and vigilante groups in neighborhoods, clubs, churches, the police, the media, and pubs. You do not fight the danger of a new kind of neofascism by withdrawing from either micropolitics or state politics. You do so through a multisited politics designed to •infuse a new ethos into the fabric of everyday life. Changes in ethos can in turn open doors to new possibilities of state and interstate action, so that an advance in one domain seeds that in the other. And vice versa. A positive dynamic of mutual amplification might be generated here. Could a series of significant shifts in the routines of state and global capitalism even press the fractured system to a point where it hovers on the edge of capitalism itself? We don’t know. That is one reason it is important to focus on *interim goals.* Another is that in a world of becoming, replete with periodic and surprising shifts in the course of events, you cannot project far beyond an interim period. Another yet is that activism needs to project concrete, interim possibilities to gain support and propel itself forward. That being said, it does seem unlikely to me, at least, that a positive interim future includes either socialist productivism or the world projected by proponents of deep ecology. ¶ 7) To advance such an agenda it is also imperative to negotiate new connections between nontheistic constituencies who care about the future of the Earth and numerous devotees of diverse religious traditions who fold positive spiritualities into their creedal practices. The new, multifaceted movement needed today, if it emerges, will take the shape of a vibrant pluralist assemblage acting at multiple sites within and across states, rather than either a centered movement with a series of fellow travelers attached to it or a mere electoral constellation. Electoral victories are important, but they work best when they touch priorities already embedded in churches, universities, film, music, consumption practices, media reporting, investment priorities, and the like. A related thing to keep in mind is that the capitalist modes of acceleration, expansion, and intensification that heighten the fra- gility of things today also generate pressures to minoritize the world along multiple dimensions at a more rapid pace than heretofore. A new pluralist constellation will build upon the latter developments as it works to reduce the former effects.¶ I am sure that the forgoing comments will appear to some as "optimistic" or "utopian." But **optimism and pessimism are** both primarily **spectatorial** views. **Neither seems sufficient** to the contemporary condition. Indeed **pessimism**, if you dwell on it long, easily **slides into cynicism**, and cynicism **often plays into the hands of a right wing** that applies exclusively to any set of state activities not designed to protect or coddle the corporate estate. That is one reason that "dysfunctional politics" redounds so readily to the advantage of cynics on the right who work to promote it. They want to promote cynicism with respect to the state and innocence with respect to the market. **Pure critique** as already suggested, **does not suffice** either. Pure critique **too readily carries critics and their followers to** the edge of **cynicism.**¶It is also true that the above critique concentrates on neoliberal capital- ism, not capitalism writ large. That is because it seems to me that we need to specify the terms of critique as closely as possible and think first of all about interim responses. If we lived under, say, Keynesian capitalism, a somewhat different set of issues would be defined and other strategies identified.25 Capitalism writ large—while it sets a general context that neoliberalism inflects in specific ways—sets too large and generic a target. It can assume multiple forms, as the differences between Swedish and American capitalism suggest; the times demand a set of interim agendas targeting the hegemonic form of today, pursued with heightened militancy at several sites. **The point** today **is not to wait for a revolution** that overthrows the whole system. The "system," as we shall see further, is replete with too many loose ends, uneven edges, dicey intersections with nonhuman forces, and uncertain trajectories to make such a wholesale project plausible. Besides, **things are too urgent and too many people** on the ground **are suffering** too much now.

#### Preventing extinction counters the core of the modern colonial mission

Singh 18, Associate Professor of English and Women, Gender, and Sexuality Studies, University of Richmond (Julietta Singh, July 2018, “Errands for the Wild,” The South Atlantic Quarterly 117:3)

What has this day been for, if its future is only now? What kinds of pedagogies might we enact under the threat and fact of erasure? How can we teach a pedagogy of extinction that remains firmly political, hopeful, committed to ever-widening communal formations? By “pedagogy of extinction” I mean to signal a tentacular pedagogy — to borrow from Donna Haraway (2016) — that will not separate the teaching-learning of histories of extinction produced through the systemic force of colonization and its ecological legacies from all those who are becoming extinct in the wake of the Anthropocene and the irreversibility of our collective end. At the end of The TimeEaters, the pedagogical errand is confronted by the extinction of its target. In response to this jam, the pedagogue determines to teach his alien friend the art of protest (in the form of letter writing, which feels touchingly retro as it aims toward the future). The errand here is an insistence, an unrelenting pedagogy of hopeful protest in the now, regardless of what gets scheduled for us tomorrow. Humanimal Projects If the future in The Time-Eaters is precarious for the alien friend, what is the future of the human child who is also (always) animal? For Kathryn Bond Stockton (2009: 5), the figure of the child is “precisely who we are not and, in fact, never were. It is the act of adults looking back. It is a ghostly, unreachable fancy, making us wonder.” In the poetic prose collection Humanimal: A Project for Future Children, Bhanu Kapil (2009) undertakes her “project” for and through the queer historical animal-child, one for whom the future ultimately comes through other bodies. As she undertakes this project, Kapil is accompanied by a French filmmaking crew to West Bengal to research the alleged true story of two “wolf girls,” Amala and Kamala, found living in the wild in 1921 by the Reverend Joseph Singh. Humanimal upturns history for a future that has already passed; Kapil’s errand into this wild past unfolds the missionary logic of a wildness that must be forcibly converted. As the bodies of the wolf girls emerge through this text, they are tangled up with other bodies — those of the missionary and Kapil herself — who are likewise becoming animal through their accounts of their fantastical engagements with the wild girls. Humanimal opens with an explicative passage about the Reverend Singh, the missionary who claimed to have discovered and captured the wolf girls and later wrote about his work to civilize them: In the jungle, on a Mission to convert the tribal population, Singh had heard stories of “two white ghosts” roaming with a mother wolf and her pack of cubs. He decided to track them. Upon discovering the “terrible creatures” to be human, he killed the wolves and brought the children back to his churchrun orphanage, the Home, in Midnapure. For the next decade, he documented his attempt to teach the girls language, upright movement, and a moral life. Despite his e¦orts, Amala died within a year of capture, of nephritis. Kamala lived to be about sixteen, when she died of TB. (Kapil 2009: x) I’m fascinated here by Kapil’s elucidation of a relay of errands — a mission within Singh’s mission, that is, the movement from an errand to convert tribal communities into another adjacent errand that dispels the logic of the ghost to capture and civilize the wild girls. This second pursuit is a “sidetrack,” an errand that strays from but remains staunchly within the logic of the first. They are crucially linked by conversion, by a logic of capture that is at the heart of the colonial mission. Taking up the missionary’s voice, Kapil writes that Singh killed the wolf pack before capturing one of the girls in a bedsheet: “I cut a hole,” Singh states, “and removed her from the cave” (14). So begins Singh’s pedagogy of conversion, a pedagogy that is also a civilizing cut. And his engagement with this civilizing errand, this pedagogy of cut, is one that continuously mimics the very thing it seeks so willfully to convert: “Accused by an orphan of biting, Kamala is called into Joseph’s study where he bites her back. Beats her with a bamboo wand, then pricks her in the palm with its tip” (41). Kapil emphasizes the savagery of civility in capture and its attempt to tame, questioning the line that separates civility from the wild it so relentlessly desires to control. Singh’s own errand-pursuing body becomes itself errant. Even before he captures and cuts the girls into civilization, his own body is already animal, a being whose “hide shivers” as he encroaches on the gendered bodies of the wolf girls to civilize them (22). My interest is in how one colonial errand gives rise to the advent of another and in how this relay might be perverted and redirected toward the decolonial wild. Kapil’s poetic decolonial errand is trans-temporally tentacular: into Bengal, into history, into the wilderness where the wolf girls may once have lived, she begins to uproot the grand colonial errand. In Humanimal, the future child for whom she writes is the wolf child of the past, a girl whose “new, animal mother” will come (has already come, will come again) to cross over with her “into the green” (18). And Kapil herself is as much this wolf girl as she is the one of the past and the one of the future. She embodies her errand: “To write this, the memoir of your body, I slip my arms into the sleeves of your shirt. I slip my arms into yours, to become four-limbed” (15). Constructing memory becomes a requisite labor of intimacy, a mission against the Mission, a strategy for messing with time — reversing and bringing forward the acts of becoming animal, becoming human, becoming civilized, becoming hybrid with, as, and for the other. Kapil writes herself into the body of the historic wolf child and, in so doing, takes on the violence of an intimate history that has sought forcibly to convert the wild. This is yet another kind of pedagogy operating in the text that stands fiercely against the pedagogy of the colonial cut. Kapil’s is a self-rendering pedagogy, a willingness to becoming other-animal, a recognition of the mythical but no less embodied trace of the animal girl who is in you. Who is you. Whose own tortured body has also been and is still becoming yours. Through her journey to Bengal and the writing of her collection, Kapil undertakes missions against the Mission. Errands against colonial force. Errands of wild embrace. Wild errands. From within the colonial errand that we are all living out, Dodge and Kapil point us — from very different locations and through divergent forms — toward how we might dispatch resistant errand-acts that create static in the delivery of the almighty colonial message. If we can conceive of the colonial errand as a kind of permeating noise, we might also follow Michel Serres (2007: 69) in beginning to attune ourselves to other forms of resistant noise that are also always sounding: “There are always multiple systems at play, making noise, even while we live in a world in which it appears that there is only one system, one dominant form of noise we have been socialized into hearing.” Dodge and Kapil take up errands that make noise within and against the false sense of a dominant and dominating sound track. Theirs are errands that bloom through bodyminds in ways that disrupt the cut and capture of the grand colonial message. Errands that set out not to deliver already prescribed messages from on high, but to dispatch and receive messages from the past and the future, from this world and others, through errands that do not lay claim to globalizing authority and civilizing modes of forced obedience.

Wild Extinction

I am summoning an embodied embrace of strange errand making, of transmissions that have no precise destination and no claims to authority, that take up force but refuse its controlled propagation. Against mastery, I am calling for a wild proliferation of texts and/as bodies that are radically hybrid, whose lives — our lives, whoever and whatever we are — might be lived in collective friction against the errands upon which we are founded. I am wandering toward this wild, with ghosts haunting alongside me, gathering messages from friends and strangers and running with them as we move with disorientation not into some wilderness out there, but into and for our own bewildering surround. I am led back to pedagogies of extinction, toward Halberstam’s sanctuary in the wild and the intimate commitment to staying lost. The wild errand sutures these possibilities, aiming for a lost sanctuary — gathering and distributing messages as we head toward a place we cannot (yet? ever?) reach. Perhaps it seems ridiculous to point out that some of us have never been extinct before. The trajectory of the colonial errand has delivered us to this breaking point, to a practice of consumption so enormous that it now devours itself. Our wild errands will spring from the disorientations we feel and sanctuaries we build in the shadows of this colonial force and will not be acts of shelter from the fact of extinction but will be shelters that foster a politics of living into and through our messages of refusal. Into the kind of world we won’t stop dreaming up and stitching together. The errand is act, is place, is temporality, is politics, is an unmapped trail that is being invented and navigated as it is being anarchically sounded and overgrown. The colonial errand, so crucial to the logic of modernity, has run us into our own impending extinction. The misfit craft of the wild errand pops up to confront this end without surrender. It does so without giving up on the work of justice, on forms of redress for those capitalist errands that keep being made and delivered against life. The wild errand is an act of teaching ourselves how to live under and against erasure. What I am calling wild extinction is, counterintuitively, a profoundly hopeful politics even while it pronounces its grounded sense that ours is a perishing life-form. While the colonial errand into the wilderness has driven some to extinction, and is still delivering others closer to it, wild errands bloom through the cracks and fissures of a seemingly impermeable concrete colonialism. The wild errand is a politics that mushrooms against those historically rooted forms of insidious erranding from above. In Anna Lowenhaupt Tsing’s (2015: 2) beautiful account of mushrooms that grow in and because of capitalist ruin, she tells us that “the uncontrolled lives of mushrooms are a gift — and a guide — when the controlled world we thought we had fails.” She reminds us that the mushroom’s willingness to emerge in and through devastation “allows us to explore the ruin that has become our collective home” (3). The wild errand is a style of living together into this blasted landscape — into the settler colony we keep calling home.

#### Apocalyptic images challenges settler-colonialism by contesting the implausibility that inequitable structures can produce catastrophe

Hurley 17, Assistant Professor in the Humanities at the University of Chicago (Jessica Hurley, 2017, “Impossible Futures: Fictions of Risk in the Longue Durée,” Duke University Press, https://read.dukeupress.edu/american-literature/article/89/4/761/132823/Impossible-Futures-Fictions-of-Risk-in-the-Longue)

If contemporary ecocriticism has a shared premise about environmental risk it is that genre is the key to both perceiving and, possibly, correcting ecological crisis. Frederick Buell’s 2003 From Apocalypse to Way of Life: Environmental Crisis in the American Century has established one of the most central oppositions of this paradigm. As his title suggests, Buell tells the story of a discourse that began in the apocalyptic mode in the 1960s and 70s, when discussions of “the immanent end of nature” most commonly took the form of “prophecy, revelation, climax, and extermination” before turning away from apocalypse when the prophesied ends failed to arrive (112, 78). Buell offers his suggestion for the appropriate literary mode for life lived within a crisis that is both unceasing and inescapable: new voices, “if wise enough….will abandon apocalypse for a sadder realism that looks closely at social and environmental changes in process and recognizes crisis as a place where people dwell” (202-3). In a world of threat, Buell demands a realism that might help us see risks more clearly and aid our survival. Buell’s argument has become a broadly held view in contemporary risk theory and ecocriticism, overlapping fields in the social sciences and humanities that address the foundational question of second modernity: “how do you live when you are at such risk?” (Woodward 2009, 205).1 Such an assertion, however, assumes both that realism is a neutral descriptive practice and that apocalypse is not something that is happening now in places that we might not see, or cannot hear. This essay argues for the continuing importance of apocalyptic narrative forms in representations of environmental risk to disrupt conservative realisms that maintain the status quo. Taking the ecological disaster of nuclear waste as my case study, I examine two fictional treatments of nuclear waste dumps that create different temporal structures within which the colonial history of the United States plays out. The first, a set of Department of Energy documents that use statistical modeling and fictional description to predict a set of realistic futures for the site of the Waste Isolation Pilot Plant in New Mexico (1991), creates a present that is fully knowable and a future that is fully predictable. Such an approach, I suggest, perpetuates the state logics of implausibility that have long undergirded settler colonialism in the United States. In contrast, Leslie Marmon Silko’s contemporaneous novel Almanac of the Dead (1991) uses its apocalyptic form to deconstruct the claims to verisimilitude that undergird state realism, transforming nuclear waste into a prophecy of the end of the United States rather than a means for imagining its continuation. In Almanac of the Dead, the presence of nuclear waste introjects a deep-time perspective into contemporary America, transforming the present into a speculative space where environmental catastrophe produces not only unevenly distributed damage but also revolutionary forms of social justice that insist on a truth that probability modeling cannot contain: that the future will be unimaginably different from the present, while the present, too, might yet be utterly different from the real that we think we know. Nuclear waste is rarely treated in ecocriticism or risk theory, for several reasons: it is too manmade to be ecological; its catastrophes are ongoing, intentionally produced situations rather than sudden disasters; and it does not support the narrative that subtends ecocritical accounts of risk perception in which the nuclear threat gives rise to an awareness of other kinds of threat before reaching the end of its relevance at the end of the Cold War.2 In what follows, I argue that the failure of nuclear waste to fit into the critical frames created by ecocriticism and risk theory to date offers an opportunity to expand those frames and overcome some of their limitations, especially the impulse towards a paranoid, totalizing realism that Peter van Wyck (2005) has described as central to ecocriticism in the risk society. Nuclear waste has durational forms that dwarf the human. It therefore dwells less in the economy of risk as it is currently conceptualized and more in the blown-out realm of deep time. Inhabiting the temporal scale that has recently been christened the Anthropocene, the geological era defined by the impact of human activities on the world’s geology and climate, nuclear waste unsettles any attempt at realist description, unveiling the limits of human imagination at every turn.3 By analyzing risk society through a heuristic of nuclear waste, this essay offers a critique of nuclear colonialism and environmental racism. At the same time, it shows how the apocalyptic mode in deep time allows narratives of environmental harm and danger to move beyond the paranoid logic of risk. In the world of deep time, all that might come to pass will come to pass, sooner or later. The endless maybes of risk become certainties. The impossibilities of our own deaths and the deaths of everything else will come. But so too will other impossibilities: talking macaws and alien visitors; the end of the colonial occupation of North America, perhaps, or a sudden human determination to let the world live. The end of capitalism may yet become more thinkable than the end of the world. Just wait long enough. Stranger things will happen. Realism and Risk in the Longue Durée The nature of risk, as Ulrich Beck notes in his foundational Risk Society (1986, 72), is fundamentally anti-realist; in the risk society, “dangerous, hostile substances lie concealed behind the harmless façades. Everything must be viewed with a double gaze, and can only be correctly understood and judged through this doubling. The world of the visible must be investigated, relativized and evaluated with respect to a second reality, only existent in thought and yet concealed in the world.” The traumatic nature of living in a world of risk, exemplified in the canonical toxic-world novels White Noise (Don DeLillo, 1985) and Gain (Richard Powers, 1998), lies in the way that the real world is no longer accessible to perception.4 Risks become perceptible only when they are already no longer threats but events, a condition that makes risk itself appear in a fundamentally literary mode; as Susan Mizruchi (2010, 119) writes, “when improbable risks are actualized in catastrophe, the familiar becomes the uncanny.” What Mizruchi calls the uncanny, Laurence Buell (2001) describes as the gothic; in both cases, Beck’s description of a second, real-er world beneath the phenomenological one finds a strong descriptor and a place in literary history as critics connect risk fiction to more established genres that account for what we cannot perceive and cannot understand. No longer haunted by falling helmets or animate dolls, the risk novel tries instead to theorize the connections between tumors and the factory that closed down two generations ago, between what we know of bioaccumulation and what we feel when we look at a carrot. For many critics, as for F. Buell, the gothic terror of a world of risk produces apocalypticism as a symptom and realism as a solution. 5 Even when apocalypse is recognized as a potentially valuable tool for approaching risk, as in Ursula K. Heise’s insight that in a world of world-threatening danger “apocalyptic narrative….can appropriately be understood as a form of risk perception” (2008, 141), the potential benefit of apocalypse is as the most realistic genre for representing a scenario that is genuinely apocalyptic (as in the exponentially increasing flood of contemporary apocalypse novels depicting climate change, for example).6 As Peter van Wyck has argued, however, the realist commitment to describing the totality of the world’s relations produces its own set of epistemic anxieties in a world defined by risk: contemporary ecological threats can come to make ecological thought itself look like a particularly advanced form of cultural paranoia. I mean this in the sense that once we say that everything is connected in this fashion, we mean that everything is, if not already, then at least potentially integrated into a framework of understanding. And it isn’t. To make everything connected is to see the fissures and cracks rendered by ecological threats—whether the threats posed by wastes or the threats retroactively discovered through accidents— as a kind of recompense for a failure to have properly understood the connections. The real punishing the epistemic for its sins of omission. (ix) Realism, in van Wyck’s account, becomes visible as itself a symptom of the paranoid mindset that the risk society tends to produce, a mindset that insists, as Eve Sedgwick writes concurrently with van Wyck, that “there must be no bad surprises” (2003, 130). In such a mode, comfort comes not from ameliorating the danger that produced the original discomfort, but rather from constructing a model of the world that can give an illusion of totality (ibid. 133-6). A realist approach to representing risk thus has real-world consequences in second modernity, “blotting out any sense of the possibility of alternative ways of understanding or things to understand” (131). Such consequences can be seen nowhere more clearly than in the government experiment with realism that goes by the unglamorous name of the Waste Isolation Pilot Plant (WIPP), where the realism is that of the settler colonial state and the alternative ways of understanding are those of the Native nations who are most vulnerable to the site’s dangers.7

## K — Fugitive Chorus

#### 1 — The text of the resolution calls for debate on hypothetical government action

Ericson 3 (Jon M., Dean Emeritus of the College of Liberal Arts – California Polytechnic U., et al., The Debater’s Guide, Third Edition, p. 4)

The Proposition of Policy: Urging Future Action In policy propositions, each topic contains certain key elements, although they have slightly different functions from comparable elements of value-oriented propositions. 1. An agent doing the acting ---“The United States” in “The United States should adopt a policy of free trade.” Like the object of evaluation in a proposition of value, the agent is the subject of the sentence. 2. The verb should—the first part of a verb phrase that urges action. 3. An action verb to follow should in the should-verb combination. For example, should adopt here means to put a program or policy into action though governmental means. 4. A specification of directions or a limitation of the action desired. The phrase free trade, for example, gives direction and limits to the topic, which would, for example, eliminate consideration of increasing tariffs, discussing diplomatic recognition, or discussing interstate commerce. Propositions of policy deal with future action. Nothing has yet occurred. The entire debate is about whether something ought to occur. What you agree to do, then, when you accept the affirmative side in such a debate is to offer sufficient and compelling reasons for an audience to perform the future action that you propose.

#### 2 — United States refers to the geographic area

US Code, 10(124 Stat. 3024 (2010) Public Law 111-281, 111 Congress Session 2, Coast Guard Authorization Act of 2010, Hein Online)

(14) UNITED STATES.-The term "United States" means the several States of the United States, the District of Columbia, Puerto Rico, Guam, American Samoa, the Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession over which the United States has jurisdiction.

#### 4 — Activism — their model of debate precludes inter-racial activism, causing cynicism and right wing backlash — our model of debate solves all your offense because you can still K the 1AC, read poems and K’s of white linguistics, but must engage relevant content of the 1AC

**Subotnik 98** – (Daniel Subotnik, Professor of Law, Touro College, Jacob D. Fuchsberg Law Center; “WHAT'S WRONG WITH CRITICAL RACE THEORY?: REOPENING THE CASE FOR MIDDLE CLASS VALUES”; Cornell University Press; D.A. November 7th 2020, [Published Spring 1998]; Cornell Journal of Law and Public Policy, Vol. 7, Issue 3, Article 1; <https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=1238&context=cjlpp>)

B. AND THE CONSEQUENCES

Having traced a major strand in the development of CRT, we turn now to the strands' effect on the relationships of CRATs with each other and with outsiders. As the foregoing material suggests, the central CRT message is not simply that minorities are being treated unfairly, or even that individuals out there are in pain-assertions for which there are data to serve as grist for the academic mill-but that the minority scholar [themselves] ~~himself or herself~~ hurts and hurts badly.

An important problem that concerns the very definition of the scholarly enterprise now comes into focus. What can an academic trained to question and to doubt72 possibly say to Patricia Williams when effectively she announces, "I hurt bad"?73 "No, you don't hurt"? "You shouldn't hurt"? "Other people hurt too"? Or, most dangerously-and perhaps most tellingly- "What do you expect when you keep shooting yourself in the foot?" If the majority were perceived as having the wellbeing of minority groups in mind, these responses might be acceptable, even welcomed. And they might lead to real conversation. But, writes Williams, the failure by those "cushioned within the invisible privileges of race and power... to incorporate a sense of precarious connection as a part of our lives is ... ultimately obliterating. '74

"Precarious." "Obliterating." These words will clearly invite responses only from fools and sociopaths; they will, by effectively precluding objection, disconcert and disunite others. "I hurt," in academic discourse, has three broad though interrelated effects. First, it demands priority from the reader's conscience. It is for this reason that law review editors, waiving usual standards, have privileged a long trail of undisciplined-even silly75 -destructive and, above all, self-destructive articles.76 Second, by emphasizing the emotional bond between those who hurt in a similar way, "I hurt" discourages fellow sufferers from abstracting themselves from their pain in order to gain perspective on their condition.77

Last, as we have seen, it precludes the possibility of open and structured conversation with others.78

It is because of this conversation-stopping effect of what they insensitively call "first-person agony stories" that Farber and Sherry deplore their use. "The norms of academic civility hamper readers from challenging the accuracy of the researcher's account; it would be rather difficult, for example, to criticize a law review article by questioning the author's emotional stability or veracity." 79 Perhaps, a better practice would be to put the scholar's experience on the table, along with other relevant material, but to subject that experience to the same level of scrutiny.

If through the foregoing rhetorical strategies CRATs succeeded in limiting academic debate, why do they not have greater influence on public policy? Discouraging white legal scholars from entering the national conversation about race,80 I suggest, has generated a kind of cynicism in white audiences which, in turn, has had precisely the reverse effect of that ostensibly desired by CRATs. It drives the American public to the right and ensures that anything CRT offers is reflexively rejected.

**Time is linear**

Nash 18 — Stephen Nash (a writer and scientist who teaches journalism and environmental studies at the University of Richmond), 2018, The perspective on time – is it linear or is it cyclical, the perspective

What is the nature of time, as we perceive it? Is it linear, meaning it moves in only one direction, or is it cyclical, evolving around cycles, such as seasons? While many people in the modern era seem to agree that time is linear, for most of humankind’s existence, time has been considered cyclical and rhythmic. Below are three arguments stating that time is linear and three more stating that time is cyclical. Three Reasons Time is Linear Time is Irreversible Much to the chagrin of H.G. Wells, Mark Twain, and other writers, it’s simply impossible to travel back in time. As living beings, we are born, we age, and we die, in that order. We know about the past, but we can’t, by definition, know about the future. This is because time is unidirectional. This is not perception, its physical reality. Things Fall Apart The [Second Law of Thermodynamics](https://www.livescience.com/50941-second-law-thermodynamics.html) suggests that time is linear and unidirectional because things in our universe go from a state of order to a state of (increasing) disorder. My hot cup of tea becomes cold, it doesn’t heat up. A dead body decays, it doesn’t come back to life. Cars wear out. And I’m ageing. I can deny that these things happen, but one day I won’t be around to deny them anymore. Time is Cumulative Time is linear because of the different and cumulative ways we can record and measure it. Our Smartphone stopwatches measure time in milliseconds. This may be an absurd level of precision for daily life, but it is increasingly important as we push the limits of human athletic performance. We can also measure time by counting the number of times the earth goes around the sun, just as humans have done for thousands of years. If counted, this shows linear progress from a starting point onward. Or we can measure the vibration of cesium-133 atoms, as is done to set [International Atomic Time](https://www.timeanddate.com/time/international-atomic-time.html). That global standard is so accurate that it will take 1.4 million years for it to be off by a full second. These natural phenomena can be recorded in long, cumulative and linear sequences.

#### But, that focus reduces future possibilities that don’t rely on time to produce material benefits (this answers Mitchell’s “settler time” arguments)

Hurley 17 — Jessica Hurley (Assistant Professor in the Humanities at the University of Chicago), 2017, “Impossible Futures: Fictions of Risk in the Longue Durée”, Duke University Press, https://read.dukeupress.edu/american-literature/article/89/4/761/132823/Impossible-Futures-Fictions-of-Risk-in-the-Longue

Birkerts’s dismissal of a decolonial future for North America as something “so contrary to what we know both of the structures of power and the psychology of the oppressed that the imagination simply balks” (41) is consistent with a much longer history of colonial rhetoric and practice that rejects Native land claims as impossible or unrealistic. The Supreme Court’s invocation in their 2005 City of Sherrill v. Oneida Nation decision of the “impossibility doctrine” that governs the “impracticability of returning to Indian control land that generations earlier passed into numerous private hands” demonstrates the ongoing power of a white-defined realism to distinguish possible from impossible actions with regard to its own practices of settler colonialism (quoted in Rifkin 2009, 4). In this view, for the United States to abide by the terms of its treaties with Native nations is unthinkable; it falls beyond the limits of plausibility that define possible actions. And as Mark Rifkin has argued (ibid.), the idea of Native sovereignty is not just unrealistic but an epistemological challenge to the real itself, to the construction of reality that maintains life as we know it in the United States. The “sadder realism” called for by Buell must not, therefore, be taken as the neutral generic option in dealing with risk, but rather recognized as one which relies on standards of verisimilitude and plausibility that perpetuate the oppression of indigenous communities whether they are applied directly to nuclear risk or to the legal standards that define the limits of Native self-determination. Redefining the real, “draw[ing] attention to the possible by showing the contingent dimension of the actual” (Revel 2009, 52), thus becomes a strategy of decolonization. Realism, in this context, is a self-fulfilling prophecy: the return of Native land is regarded as impossibly implausible by the United States, and so it fails to appear in the imaginable scenarios at key moments of legal and political decision-making and does not come to pass. Consequently, as Ward Churchill writes, all “anti-colonial fighters…accepted as their agenda a redefinition of reality in terms deemed quite impossible within the conventional wisdom of their oppressors”; any decolonial movement will require a counter-realist political and aesthetic strategy (1992, 174). Almanac suggests that apocalypse remains a potent force in redefining reality against colonial norms even as the novel re-forms our traditional understanding of nuclear apocalypse. No longer sudden and total, Almanac gives us the longue durée apocalypse of nuclear waste, an apocalypse defined not by the sudden absence of the future but rather by the impossibility of constructing any mechanism by which we might imagine a specific future or futures. Such an apocalypse is neither a sudden ending nor a revelation of eternal truth but rather a narratological shift that transfigures the present through a radical futurelessness. Apocalypse stands, in Almanac, against the futurological equivalent of what Michael Bernstein (1994) has critiqued as “backshadowing”: the historiographical tendency to construct the past backwards from the present, occluding the contingency of the present, limiting the presents-that-could-havebeen to one, and including in the historical narrative only those factors that gave rise to this specific outcome. A predetermined future, as Bernstein’s subtitle Against Apocalyptic History suggests, does exactly the same thing: it binds the present to the future with a single unfrayed rope and makes the present the necessary, unchangeable precursor to a known future. These imagined futures, despite their virtuality, have significant material effects in the present, making certain things possible and rendering others unthinkable, as we saw at the WIPP where a plausible set of future scenarios allowed the repository to open and foreclosed the possibility of shutting down nuclear manufacturing. In an indigenous context, meanwhile, the historical determinism instantiated by the imagined futures of the nuclear state has rendered Native nations paradoxically futureless, since indigenous lands and communities are by far the most damaged by the ongoing mining, processing, testing, and dumping practices of the nuclear-militaryindustrial complex.17 Apocalypse, then, becomes visible in Silko’s novel not as a model of linear historical determinism, as in the Genesis-to-Revelation teleology that has long subtended Christian historiographies, but rather as a narrative form that explodes such determinism to reveal the contingent nature of the present and allow for other possibilities in both the present and the future. The epistemological challenges to human understanding posed by the deep time of nuclear waste are taken up by Silko to reveal not simply the multiplicity of possible futures (a conceptual leap which, as Annie McClanahan (2009) and R. John Williams (2016) have shown, was made within the nuclear-military-industrial complex and has been profitably taken up by global corporations to deeply conservative ends), but the absolute impossibility of imagining any specific future at all. Exploding the reservoir of probable futures that traditionally structures the novel form (Kermode [1968] 2000) transforms the novel’s present in much the same way that, in radical historiography, telling a different story about the past does. In contrast to the ineluctable presentism that defines the nuclear complex at the WIPP and beyond, the Native/nuclear temporalities that the snake occupies are those of a longue durée that spirals and returns from both the past and the future, in which “these days and years were all alive, and all these days would return again” (Almanac 247). The qualitatively different future whose possibility is so vigorously unimagined at the WIPP is, in Almanac, an inescapable future that is, in the novel’s non-linear timeframe, also a part of the present. Actions and objects have a different realityeffect in this light. When macaws speak of revolution, when opals bleed and grant visions, when ghosts weigh down a donkey, none of these things are unrealistic or even magically realistic. Rather, they are manifestations of deep time temporalities, simultaneously Native and nuclear, producing impossible juxtapositions of space-time (dead riders on a live mule, the future projected on an opal screen) within the Western chronology of the novel form. Silko, bound to damaged and damaging futures by the nuclear complex as it intersects with the other histories of damage left in the wake of colonial modernity, uses apocalypse to transfigure the present: to see the other possibilities that reside in it and to couple those possibilities to their own pasts and their own futures, constructing not only a transfigured instant but wholly transfigured timelines, worlds with a solidity of their own.

#### Adopting a generically linear view of time isn’t violent – it’s the only sensical approach to revolutionary politics and the only way to redeem the violence of the past

Ferguson ‘15 (Stephen C., Assoc. Prof. in Liberal Studies @ North Carolina A & T State U. [he is black], *Philosophy of African American Studies: Nothing Left of Blackness*, pp. 137-139)

Alex Callinicos argues that every theory of history has a theory of directionality, that is, it offers an account of the overall pattern described by the historical process. 29 Afrocentrists such as Asante and Tsehloane C. Keto offer us a cyclical philosophy of history. Time and the events of history contained within go around in a circle. History is nothing more than a recurring treadmill. 3° Foundational to the cyclical philosophy of history are three assumptions. First, human beings, who by nature are the same, will respond uniformly to similar circumstances, and so produce the same effects. Second, history repeats itself ad infinitum in cycles of time. And, lastly, the rise and fall of polities must be seen as episodes in a cyclical movement. The appeal of a cyclical philosophy of history, for Afrocentricity, is based on the explanation it offers of the fall of the African race from ancient civilization and glory into a state of slavery and supposed barbarism. This tradition of racial vindicationism, Wilson Jeremiah Moses argues, envisioned a "utopia of the past'' in which Black people were descendants of "a race of supermen," who had created one of the greatest civilizations in world history. On the basis of the cycles of history, Black people would rise from the ashes of slavery and colonialism and give rebirth to the redemption of Africa.-11 Asame argues that the African-centered philosophy of history stands in opposition to "the Eurocentric idea of straightforward linear progression in time from beginning to end." 32 According to Asame, "African thought was in terms of cycles, circles, continuity."33 Asante and Keto argue that Eurocentric conceptions of history do not accept a conception of world history understood as episodes in a cyclical movement. Yet, in the annals of European inrelleccual history, from Plato to Aristotle to Machiavelli to Giovanni B. Vico to Oswald Spengler, various European or Eurocentric philosophies of history were based on cyclical change.34 Did they adopt an African-centered conception of history? Or can it be argued that the Afrocentrists have adopted a European philosophy of history? Keto argues that the African-centered conception of history should be based on "a transcendent framework modeled on the experience of the every changing seasonal cycles that rotate through the years and/or the cycles of human existence that go through irreversible stages yet follow repetitive stages for each succeeding generation." 35 Keto also suggests a periodization based on these cycles: (1) the first period before the fourth millennium BCE in Kerner that followed the creation of human cultures; (2) the second period between 600 and 1600 CE in West Africa that witnessed the creation of state power and the formation of empires in Ghana, Mali, and Songhai; (3) the third period from 1800 to 1890 that saw the attempt to "rebuild defensive redoubts" through the unification of existing societies among the Baganda, Ashanti, Fulani, t1.)rexample; and (4) the emergence of "African initiatives" in the post-1960 period through the Civil Rights movement and the struggles for political independence in Africa and the Caribbean. In this account, the course of history supposedly follows a cycle of progress and regression. Periods of history give structure to the historical process. Keto's periodization is just simply too broad to allow for any systematic understanding of history. The leap from 4000 BCE in Kerner to 600 CE in West Africa, for instance, is a rather ambitious scholarly approach to African history. The result is not concrete history, but arid abstractions about the continuity of African history under the lens of an African-centered perspective. The difficulties with this periodization scheme become apparent when one sets out to examine and arrange African history – whether of a past epoch or the present. The natural question we should ask, isn't this just a linear conception of time? If there are multiple cycles of history that keep repeating, by default, we have to order them in a linear series of time. As Nkrumah brings to our attention, "this time-dimension must order the cycles themselves, because some of them must come before others." 36 From this standpoint, there is ultimately historical progress. History merely repeats itself ad infinitum. Whether it is derived from ancient Egypt or Nietzsche's "eternal recurrence,'' ultimately, the African-centered conception of history is a flight into speculative mysticism in order to escape the challenge of the present. Despite Afrocentric conjectures, the temporal dimension of historical development is ultimately a movement from past, present to future, that is, temporally linear. Historical progression moves forward not backward. Indeed, Kwame Nkrumah understood this when he fashioned the slogan, "Forward Ever, Back'Ward Never!" This viewpoint is not a denial of the importance of past history in the cultural development of continental Africans, African Americans, and all people of African descent. Rather, it is an emphatic recognition of the past as the ground for our forward movement. History is thus the guide along the path to the future and the road of return to the past via historical research. Our Afrocentrists are committed to an idealist conception of history that emphasizes eminent historical figures and personalities such as African kings, queens, philosophers, politicians, and warlords as the makers of history, its chief participants. This view is clearly expressed in the work of the English philosopher and historian Thomas Carlyle, who wrote in his book *On Heroes, Hero-Worship and the Heroic in History*: "Universal history, the history of what man has accomplished in this world, is at bottom the history of the great men who have worked here."·07 Asante and company take the behavior and actions of a single great individual (e.g., the pharaohs) as the only active element from which arises all historical motion, change, and development. In this view, we have the invisible masses of people that are the passive, dull, and "unhistorical" elements of history. By focusing on the great personalities of history, we consequently ignore people's class membership, being unable or unwilling to understand the dialectics of the relation between the individual and the activities of the classes they belong ro. We have to move beyond the romantic idealism of Afrocentricity. It just is not true that all African people were descendants of Kings, Queens, and the great philosophers of Africa! While "high" cultures (or civilizations) did exist in ancient Africa, it is closer to the truth that the vast majority of Black people are descendants of African peasants. I would argue that the people are the chief creator, the real subject of history; this is a fundamental proposition of historical materialism. The truth of this proposition is expressed throughout African and African American history. Here I use the concept of the people both in the broad sense, coinciding with the concept of the population or the nation in general, and in the narrower sense, meaning working-class people, that is, the makers of history. The concept of the masses or working people is a category chat changes and develops historically. It must be considered in relation co certain socioeconomic formations, their specific social structure, and also in relation to the specific course of historical development of the given society or given country. 08 The utopian character of the African-centered conception of history rests in the face that it devalues the historical experience of the Americas in order to affirm ancient civilization and culture in Africa. Asante observes, "Walking the way of the new world means that we must establish schools which will teach our children how to behave like the kings and queens they are meant to be."59 In a similar vein, Maulana Karenga once remarked, "The day the slave ship landed in America, our history ended and the white man's story began.''·iOHere we find Karenga engaging in an Afrocemric ver- sion of the "end of history."

#### Decolonization is too vague; their “structural claims” make it impossible

Bashir & Busbridge 19, \*Sociology at Open University \*\*Research Fellow at the Centre for Dialogue, La Trobe University (Bashir Bashir; Rachel Busbridge, 2019, “The Politics of Decolonisation and Bi-Nationalism in Israel/Palestine,” 67.2)

For all its attached redemptive prospects and radical possibilities, it is important to emphasise that the meanings of decolonisation as both a concept and political project are not just broad, but also multifaceted and highly contested. What it means to ‘undo’ colonialism is deeply contextual (Jansen and Osterhammel, 2017). While colonialism can be defined broadly as a relationship of domination in which a people or territory is politically and economically subjugated to a foreign power, actual colonial situations vary quite widely from each other, depending on, among others, the particular political systems instituted to maintain control, types of exploitation and expropriation (resources, labour, plantations), relationship between the metropole and colony and patterns of migration they compel (slavery, settlement). Projects of decolonisation accordingly take different forms even if they are united by the common concern of ending or overturning structures of domination instituted by colonialism, which has historically taken place mostly through the withdrawal of colonial powers and achievement of independence for the colonised (Buchanan, 2010). Decolonisation speaks to the aspiration of self-rule and its concomitant critique of colonialism as the ‘systematic denial of freedom’ (Kohn and McBride, 2011: 6) and is therefore entangled with a variety of concerns, namely, self-determination, justice, equality, freedom and solidarity against colonialism and imperialism. As Todd Shepherd (2006: 3–4) writes, decolonisation is ‘a much wider concept than the mere “winning of Independence” or “transfer of power”… It entails the exploration of dreams, the analysis of struggles, compromises, pledges and achievements, and the rethinking of fundamentals’. Traditional literature on decolonisation approached it in terms of the historical process that began in the immediate aftermath of World War Two in which countries previously under (typically European) foreign rule transitioned to constitutional independence (Buchanan, 2010). Decolonisation was one of the most significant developments of the twentieth century, radically changing the face of the globe from one in which a small number of empires had dominion over some 80% of the earth’s surface to an international order based on the principle of self-determination and made up of ostensibly independent states (Hopkins, 2008). Scholars in this tradition have done much to illuminate the widereaching structural transformations that accompanied decolonisation, including the emergence of anti-colonial and national liberation struggles at the turn of the century, shifts in world economy that made the maintenance of traditional forms of Empire increasingly difficult, the development of a ‘Third World’ political project and the institutionalisation of human and civic rights principles that rendered systems based on ideas of racial and ethnic superiority less viable (Hopkins, 2008: 216). Yet, the focus on transition has been critiqued for its narrowness insofar as it seems to take for granted the meanings of selfdetermination and temporally restricts decolonisation to the moment of national liberation. Postcolonial scholars, among others, have been at the forefront of this charge, arguing that decolonisation did not produce a postcolonial world per se, but rather one that continues to be shaped in significant ways by the legacies of European colonialism (e.g. Spivak, 1999). As Ella Shohat (1992) has argued, there is no way of turning back from the world colonialism set in play nor did colonial modes of domination end with the formal period of decolonisation. From this broadened perspective, decolonisation is the difficult task of tracing the economic, political, social, cultural, relational and linguistic consequences of colonialism and is therefore also an ongoing imaginative project seeking ‘a new form of consciousness and way of life’ (Pieterse and Parekh, 1995: 3) beyond the coloniality of modern modes of culture, identity and knowledge more generally. While the transitional focus of conventional scholarship is quite illuminating in the contexts of Africa and Asia, for example, it furthermore excludes a great many decolonisation efforts that have taken place and continue to take place in other regions. This includes countries that remained dependent or only achieved semi-independence as dominions, decolonising projects carried out in territories never formally under colonial rule (the Iranian Revolution, for instance) and – as is particularly important to our discussion here – settler colonies that only partially decolonised, whether by way of loosening ties with the Motherland or achieving independence, but which continue to dominate substantial indigenous populations (Hopkins, 2008). There is a significant lacuna in the decolonisation literature when it comes to settler colonialism, which has increasingly been recognised as a distinct form of colonial practice – and one that is particularly resistant to decolonisation (Veracini, 2007). As the transfer of an exogenous population to a territory they intend to claim as their permanent home, settler colonialism establishes quite a different structural relationship to ‘traditional’ forms of colonialism, especially when settler colonial projects succeed in creating a state (Bateman and Pilkington, 2011). Rather than governing native peoples in order to extract resources for economic gain, settler colonisers instead aim to ‘seize their land and push them beyond an ever-expanding frontier of settlement’ (Elkin and Pedersen, 2005: 2). For Patrick Wolfe (2006), what distinguishes settler colonialism is thus that it is guided by a logic of elimination as opposed to a logic of exploitation, wherein the eradication of indigenous presence is essential to the success of settler colonial projects. The primacy of national liberation in the literature makes it especially difficult to imagine, let alone theorise, decolonisation in many settler colonial contexts. Whereas some settler colonial projects like Algeria and Kenya saw decolonisation by way of a mass settler exodus, paving the way for the establishment of independent states, the more successful ones established permanent settler communities (e.g. Northern Ireland) or their own states (e.g. Australia, Canada, the United States) which preclude a simple transition from foreign rule to sovereign status (Veracini, 2007). This is of course not to say that self-determination of the type aspired to by anti-colonial national movements was an easy or even necessarily achievable task. As Kohn and McBride (2011) suggest, in pursuing the dream of self-rule, anti-colonial thinkers had to reckon with the difficulties of articulating alternative political foundations that would make for a genuinely self-determining polity, an enormous task which demands decolonising of minds as much institutions and territory (see Fanon, 2001[1963]). Decolonisation must pursue a convincing ‘break’ between a colonial past and a postcolonial future ‘through decisive action in the present’; it must also ‘seek to reinterpret the past in such a way that it may help in the present and future struggle for self-rule’ (Kohn and McBride, 2011: 19). While these pursuits are invariably contingent, partial and commonly symbolic, national liberation struggles very often provide the fodder for a reinterpreted past that is robustly positive and the establishment of an independent state serves as that aspired for ‘break’. Settler colonial contexts, especially those where indigenous peoples live as minorities in settler states, make these types of symbolic transitions challenging, as they do the imagining of postcolonial alternatives. If the narrative structure of colonialism is circular (leave, stay, return), making that symbolic break possible, settler colonial narratives are linear insofar as the settler comes to stay and the line continues on unbroken (Veracini, 2007). As Ann Curthoys (1999: 288) writes, settler colonial spaces are simultaneously colonial and postcolonial, colonising and decolonising, which makes decolonisation temporally ambivalent at best. Lorenzo Veracini (2007) suggests that there are only two alternatives to settler evacuation for decolonising settler colonial forms and it is dubious whether one of these counts as decolonisation at all: the decolonisation of relationships through ‘the promotion of various processes of Indigenous reconciliation’ or the maintenance of the status quo ‘with the explicit rejection of the possibility of reforming the settler body politic’. Again, what the former might mean[s] is often vague, and historically it is the decolonisation of relationships that is hardest to come by considering the psychological consequences of colonialism for coloniser and colonised alike (Memmi, 1965). Like traditional forms of colonialism, settler colonialism was legitimated by a belief in the colonised’s racial and cultural inferiority. However, the specific settler colonial pursuit of land seizure compels additional stereotypes of native peoples or unique applications of existing colonial ones, wherein their supposed inferiority makes them ill-equipped to develop that land (premodern, nomadic, barbaric) or, alternatively, voids any claims to ownership (terra nullius). In other words, settler colonialism is as much premised on the denial of indigenous peoples as a political constituency with rights to land as it is their purported inferiority, which is typically enshrined in their status as second-class citizens with all the economic, cultural and social disadvantage this entails (Bateman and Pilkington, 2011: 3). Given that settler societies are marked by ‘pervasive inequalities, usually codified in law, between native and settler populations’ which preserve political and economic privileges for the latter (Elkin and Pedersen, 2005: 4), decolonising relationships demands structural changes that often encounter significant resistance from settler constituencies. Likewise, it requires a reckoning with historical injustice – specifically violence and conflict at the colonial frontier – that is challenging for settler states and populations because it opens questions of settler identity, privileges, legitimacy and reparations and expressly seeks to scrutinise disavowed and long suppressed histories. Settler colonial decolonisation is thus complicated by a multitude of hurdles, which bring the postcolonial caution of the impossibility of a ‘break’ into stark relief. Kohn and McBride (2011) suggest that decisive action in the present is essential to decolonisation, but in settler colonial contexts this is hindered by power discrepancies between settler and native constituencies, a general lack of settler political will to enter into difficult processes of historical introspection as well as the constraining of Indigenous claims within the settler state. Indeed, even a commitment to a postcolonial polity as expressed through processes of historical reconciliation often encounters strong resistance when it comes to judicial, constitutional or legislative change genuinely decolonised relationships would demand. Nevertheless, even if it remains difficult to comprehensively imagine the decolonisation of ‘settler societies vis-à-vis Indigenous constituencies’ (Veracini, 2007), the central question must be how to construct political foundations which simultaneously acknowledge ‘the practices of racism, violence and subordination’ (Kohn and McBride, 2011: 18) that preceded them while also paving the way for a postcolonial future in which natives and settlers are equal parties and share the right to narrate the polity. Equality, freedom and justice may come from legally enshrining Indigenous rights to self-determination or, alternatively, doing away with the categories of ‘settler’ and ‘native’ altogether (Mamdani, 2001). What shape such efforts are likely to take depends, among others, on the ‘size and tenacity’ of Indigenous populations as well as the power of the settler constituency (Elkin and Pedersen, 2005: 3, 6). But we would suggest that the measure to which they may be thought of as decolonising rests on the robustness of the relationship they envision and the space they carve for equal membership in and to a postcolonial polity.

#### The alt’s solution is too overarching and shuts down Indigenous futures

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The prescription for decolonization – that is, a normative project committed to the liberation of the colonized and the overturning of colonial relationships of power (Kohn and McBride, 2011: 3) – is indeed one of the most counter-hegemonic implications of the settler colonial paradigm as applied to Israel-Palestine, potentially shifting it from a diagnostic frame to a prognostic one which offers a ‘proposed solution to the problem, or at least a plan of attack’ (Benford and Snow, 2000: 616). What, however, does the settler colonial paradigm offer by way of envisioning decolonization? As Veracini (2007) notes, while settler colonial studies scholars have sought to address the lack of attention paid to the experiences of indigenous peoples in conventional historiographical accounts of decolonization (which have mostly focused on settler independence and the loosening of ties to the ‘motherland’), there is nevertheless a ‘narrative deficit’ when it comes to imagining settler decolonization. While Veracini (2007) relates this deficit to a matter of conceptualization, it is apparent that the structural perspective of the paradigm in many ways closes down possibilities of imagining the type of social and political transformation to which the notion of decolonization aspires. In this regard, there is a worrying tendency (if not tautological discrepancy) in settler colonial studies, where the only solution to settler colonialism is decolonization – which a faithful adherence to the paradigm renders largely unachievable, if not impossible. To understand why this is the case, it is necessary to return to Wolfe’s (2013a: 257) account of settler colonialism as guided by a ‘zero-sum logic whereby settler societies, for all their internal complexities, uniformly require the elimination of Native alternatives’. The structuralism of this account has immense power as a means of mapping forms of injustice and indignity as well as strategies of resistance and refusal, and Wolfe is careful to show how transmutations of the logic of elimination are complex, variable, discontinuous and uneven. Yet, in seeking to elucidate the logic of elimination as the overarching historical force guiding settlernative relations there is an operational weakness in the theory, whereby such a logic is simply there, omnipresent and manifest even when (and perhaps especially when) it appears not to be; the settler colonial studies scholar need only read it into a situation or context. It thus hurtles from the past to the present into the future, never to be fully extinguished until the native is, or until history itself ends. There is thus a powerful ontological (if not metaphysical) dimension to Wolfe’s account, where there is such thing as a ‘settler will’ that inherently desires the elimination of the native and the distinction between the settler and the native can only ever be categorical, founded as it is on the ‘primal binarism of the frontier’ (2013a: 258). It is here that the differences between earlier settler colonial scholarship on Israel-Palestine and the recent settler colonial turn come into clearest view. While Jamal Hilal’s (1976) Marxist account of the conflict, for instance, engaged Palestinians and Jewish Israelis in terms of their relations to the means of production, Wolfe’s account brings its own ontology: the bourgeoisie/proletariat distinction becomes that of settler/native, and the class struggle the struggle between settler, who seeks to destroy and replace the native, and native, who can only ever push back. Indeed, if the settler colonial paradigm views history in similar teleological terms to the Marxist framework, it does not offer the same hopeful vision of a liberated future. After all, settler colonialism has only one story to tell – ‘either total victory or total failure’ (Veracini, 2007). Veracini’s attempt to disaggregate different forms of settler decolonization is revealing of the difficulties that come along with this zero-sum perspective. It is significant to note that beyond settler evacuation (which may decolonize territory, he cautions, but not necessarily relationships) the picture he paints is a relatively bleak one. For Veracini (2011: 5), claims for decolonization from indigenous peoples in settler societies can take two broad forms: an ‘anti-colonial rhetoric expressing a demand for indigenous sovereign independence and self-determination ... and an ‘‘ultra’’-colonial one that seeks a reconstituted partnership with the [settler state] and advocates a return to a relatively more respectful middle ground and ‘‘treaty’’ conditions’. While both, he suggests, are tempting strategies in the struggle for change, though ‘ultimately ineffective against settler colonial structures of domination’ (2011: 5), it is the latter strategy that invites Veracini’s most scathing assessment. As he writes, under settler colonial conditions the independent polity is the settler polity and sanctioning the equal rights of indigenous peoples has historically been used as a powerful weapon in the denial of indigenous entitlement and in the enactment of various forms of coercive assimilation. This decolonisation actually enhances the subjection of indigenous peoples... it is at best irrelevant and at worst detrimental to indigenous peoples in settler societies. (2011: 6–7) The ‘primal binarism of the frontier’ plays a particularly ambivalent role in Veracini’s (2011: 6) formulation, where the categorical distinction between settler and native obstructs the ‘possibility of a genuinely decolonized relationship’ (by virtue of its lopsidedness) yet is a necessary political strategy to guard against the absorption of indigenous people into the settler fold, which would represent settler colonialism’s final victory. The battle here is between a ‘settler colonialism [that] is designed to produce a fundamental discontinuity as its ‘‘logic of elimination’’ runs its course until it actually extinguishes the settler colonial relation’ and an anti-colonial struggle that ‘must aim to keep the settler-indigenous relationship going’ (2011: 7). In other words, the categorical distinction produced by the frontier must be maintained in order to struggle against its effects. Given the lack of options presented to indigenous peoples by Veracini (2014: 315), his conclusion that settler decolonization demands a ‘radical, post-settler colonial passage’ is perhaps not surprising – although he has ‘no suggestion as to how this may be achieved and [is] pessimistic about its feasibility’. Scholars have long reckoned with the ambivalence of the settler colonial situation, which is simultaneously colonial and postcolonial, colonizing and decolonizing (Curthoys, 1999: 288). Given the generally dreadful Fourth World circumstances facing many indigenous peoples in settler societies, it could be argued that there is good reason for such pessimism. The settler colonial paradigm, in this sense, offers an important caution against celebratory narratives of progress. Wolfe (1994), it must be recalled, wrote the original articulation of his thesis precisely against the idea of ‘historical rupture’ that dominated in Australia postMabo, and was thus as much a scholarly intervention as it was a political challenge to the idea of Australia having broken with its colonial past. Nonetheless, the fatalism of the settler colonial paradigm – whereby decolonization is by and large put beyond the realms of possibility – has seen it come under considerable critique for reifying settler colonialism as a transhistorical meta-structure where colonial relations of domination are inevitable (Macoun and Strakosch, 2013: 435 ; Snelgrove et al., 2014: 9). Not only does Wolfe’s ontology erase[s] contingency, heterogeneity and (crucially) agency (Merlan, 1997; Rowse, 2014), but its polarized framework effectively ‘puts politics to death’ (Svirsky, 2014: 327). In response to such critiques, Wolfe (2013a: 213) suggests that ‘the repudiation of binarism’ may just represent a ‘settler perspective’. However, as Elizabeth Povinelli (1997: 22) has astutely shown, it is in this regard that the totalizing logic of Wolfe’s structure of invasion rests on a disciplinary gesture where ‘any discussion which does not insist on the polarity of the [settler] colonial project’ is assimilationist, worse still, genocidal in effect if not intent. Any attempt to ‘explore the dialogical or hybrid nature of colonial subjectivity’ – which would entail working beyond the bounds of absolute polarity – is disciplined as complicit in the settler colonial project itself, leaving ‘the only nonassimilationist position one that adheres strictly and solely to a critique of [settler] state discourse’. This gesture not only disallows the possibility of counter-publics and strategic alliances (even limited ones), but also comes dangerously close to ‘resistance as acquiescence’ insofar as the settler colonial studies scholar may malign the structures set in play by settler colonialism, but only from a safe distance unsullied by the messy ambivalences and contradictions of settler and native subjectivities and relations. Opposition is thus left as our only option, but, as we know from critical anti-colonial and postcolonial scholarship, opposition in itself is not decolonization.

Decolonizing Israel-Palestine?

In his defense of settler colonial studies against criticisms that it is unable to account for political action, Veracini (2014: 312) has maintained that settler colonialism is an interpretive paradigm, not a transformative one: ‘settler colonial studies’, he writes, ‘is only ultimately accountable for the way it is effective in explaining things’. Yet, as I have already noted, this is not precisely the case in the context of Israel-Palestine. Not only is the settler colonial paradigm increasingly associated with particular normative projects, namely a critique of the two-state solution and advocacy for a single democratic state (e.g. Collins, 2011), but both Veracini and Wolfe have ventured into the question of ‘solutions’ in their respective accounts of the dynamics of Zionist settler colonialism. While they are quite divergent in their readings of what it would mean to decolonize Israel-Palestine, I suggest that they are nevertheless indicative of the limitations of the settler colonial paradigm’s structural perspective, which flattens manifestations of settler colonialism and lends itself to certain parameters. These parameters neglect important differences between Israel-Palestine and its typical sites of comparison – not least of which is the relative ‘completeness’ of settler ethnic cleansing efforts and the political geographies and modes of legal governance they produce (Gordon and Ram, 2016) – which have important implications for any project of decolonization. After all, if there is there is no onesize-fits-all model of colonialism, there is no route to decolonization appropriate to all contexts (see Kohn and McBride, 2011). In this last section, I want to engage Veracini’s and Wolfe’s accounts as a means to trace some of these areas of neglect, and, in so doing, gesture towards issues in need of serious reckoning in the settler-colonial paradigm’s prescription for decolonization. For Veracini (2013: 26), the conflict is best understood in terms of how the Zionist settler colonial project to establish a Jewish-majority state in historic Palestine is complicated and compromised by the ongoing occupation. If success is a matter of perceived legitimacy, Veracini takes 1967 as marking a decline in the success of Israeli settler colonial practice and suggests that the occupation itself is an instance of failed settler colonialism, insofar as Israel has largely failed in having its West Bank settlements recognized as part of the settler colonial state (p. 30). When settler colonialism fails in its attempt to extinguish the colonial relation, he asserts, it reverts to colonialism where the colonial relation is underscored. This explains both the permanency of the occupation – if ‘the Occupation was established as a means to enable permanent settlements, now it is the settlements that perpetuate the need for permanent occupation’ – and the radical turn to the Right inside Israel, which has seen ‘the integration of Israeli Arabs... progressively reversed’ and the ‘autonomy of the settler colonial project eroded’ by an increasing reliance on external support from international allies and the Jewish diaspora (pp. 32–3). This ‘simultaneous coexistence of successful and failed settler colonialisms’ (p. 39) means that ‘approaching the conflict would probably require a suite of solutions’ (p. 27). Nevertheless, Veracini is rather coy about what these may be. On the one hand, he emphasizes that the ‘decolonization paradigm’ is only really available to the West Bank and Gaza Strip, and that other frameworks must be made available to Palestinians inside Israel and those in the diaspora who, by virtue of the success of the Israeli settler project inside Israel, have effectively had decolonization taken off the table (p. 40). On the other hand, he seems to suggest that any solution will nonetheless be unable to escape the colonial conditions that have shaped it. If two-states is a ‘colonial solution’, because ‘internationally sanctioned Palestinian independence (and associated forms of neo-colonial dependency) ...should be seen as the colonial occupation’s logical outcome, not its demise’, one-state ‘turns out to be the settler colonial solution’ because it signals the permanency of the settler polity (pp. 33, 39). Wolfe (2012), in contrast, is far more direct about his preference for a single democratic and secular state in Israel-Palestine. The two-state solution, he suggests, is not only ‘liberal subterfuge’, but an oxymoron, because of its inability to reckon with the ways in which the ‘New Jew’ Zionism has sought to construct needs the contrapuntal presence of the Palestinians to come into being – without the Palestinians, Israel would fracture under the weight of its own internal diversity (pp. 319–20). Wolfe is especially troubled by the religious/secular division that plagues Zionism as an ostensibly secular national movement framed around the notion of Jewish return, and which has become more politically salient with the religious-national settlement movement that has taken hold in Israeli politics since the late 1970s. The ‘ascendancy of [this] religious element’ is of particular concern, loading the settler will to eliminate the native with an additional theological dimension; should Israel ‘be finally cleansed of its Natives’, he warns, it would only be ‘left with a choice between theocracy and implosion’ (p. 318). Thus the appeal of a single state solution: not only does it deal with the tricky questions of territory and sovereignty in one fell swoop, but it also does away with this risk of theocracy. Additionally, it dissolves the ‘irreducible contradictions between Zionism’s twin goals of territorial expansion and ethno-racial exclusiveness’: ‘in a secular state ... that exists for its citizens rather than co-religionists this intractable problem disappears’ (p. 321). The desire for ethnic purity that has characterized Zionism to date becomes its greatest asset in this regard, namely because it does not allow for the assimilation of Palestinians. Thus, for Wolfe, [r]ather than absorbing the colonised population into the ranks of the colonisers, and thereby eliminating that population, a secular democracy does not require the elimination of either – or, better, any – of its constituent ethnicities. That is the whole point. (p. 321) In this sense, ‘a unified state not only dismantles Zionism. In the process, it dismantles settler colonialism’ (p. 321). If Veracini offers a seemingly impossible vision of decolonization in Israel-Palestine, where any solution would be compromised by the colonial conditions preceding it, Wolfe’s vision seems in comparison impossibly easy: not only can Zionism be dismantled, but so too can settler colonialism. This is in stark (and surprising) contrast to his generally fatalistic take on structural transformation in settler colonial societies. It is, however, particularly revealing of the tendency in settler colonial scholarship to regard Zionism as purely settler colonial and the conflict akin to any other settler colonial context (e.g. Collins, 2011). Both Veracini and Wolfe are guilty of this, even as they are otherwise attentive to many of the particularities of the conflict. Wolfe (2013b: 9), for instance, identifies ‘Zionism as settler colonialism pure and simple’, if not a particularly voracious form stuck at the frontier stage. Likewise, Veracini (2015: 1–2) suggests that the ‘settlement, nothing else, [is] the absolute core of Zionist practice’, going so far as to claim that ‘what is in front of us is not a conflict situation, it is actually a postconflict’ (‘postconflicts’, he notes, ‘are rarely peaceful’). Tim Rowse (2014) has argued the tendency towards ahistorical and decontextualized analysis in settler colonial studies means that it misses much about the variety of geographical and regional forms settler colonialism takes. It is equally important, however, to recognize that the settler colonial frame itself is by no means ahistorical or decontextualized. To the contrary, settler colonial studies is very much an Antipodean perspective, having emerged primarily within an Australian context, and it is fair to say that this is evidenced in its main preoccupation with white settler societies. While all transnational frames have to be developed somewhere, the structural emphasis of the settler colonial paradigm not only obfuscates this local heritage but means that its vernacularization is often replication, which is where the ‘imported institution remains largely unchanged from its transnational prototype [and] the adaptation is superficial and primarily decorative’ (Merry, 2006: 44). This can be evidenced in Wolfe and Veracini’s respective accounts of decolonizing Israel-Palestine, which leave the national dimensions of the conflict under-examined and fail to address the unique affective and socio-political resonances of the native/settler distinction in the Israeli-Palestinian context. As Wolfe (2012: 287) points out, the circumstances and intentions of settler colonizers is inconsequential from a native point of view, and both he and Veracini perhaps quite rightly prioritize the historical outcomes of Zionism (namely, the displacement of the Palestinians) over all other meanings attached to it. Nevertheless, it is important to recognize that there is a strong nationalist aspect to Zionism, which is after all a national movement geared towards Jewish self-determination. This marks it as a particularly unique – although not singular – form of settler colonialism. In contrast to settler colonies like Australia where the drive for a settler identity separate from the metropole only emerged much later, the impetus towards an exclusive form of settler self-determination has shaped almost all aspects of the conflict in Israel-Palestine since at least the second aliyah that reached Palestine between 1904 and 1914 (see Shafir, 1989). Of course, Zionism is not the only colonialist project to be carried out in the name of ostensibly nationalist ideals – the French colonization of Algeria is widely cited as a case in point (Pappe, 2008: 612–13). Yet, it does mean that understanding Zionism’s nationalist impulse is crucial to understandings its political strengths and continued affective resonance; ‘a simple dismissal of Zionism’, Jacqueline Rose (2005: 13) appeals, ‘fatally undermines the case it is intended to promote’. Moreover, as Pappe (2008: 613) stresses, ‘labelling Zionism as nationalist or national [by no means] absolve[s] it from the accusations of dispossession and occupation’ (my emphasis). Nor does it lessen its crimes against the Palestinian people. While the Palestinian anti-colonialism has historically been entangled with a broader pan-Arabism, it is similarly impossible to understand it outside of a nationalist vocabulary and the struggle for national self-determination (Said, 1979). Given that the settler paradigm is nominally able to incorporate the Palestinian struggle for national self-determination under the rubric of decolonization, it is striking that neither Wolfe nor Veracini reckon in any rigorous way with implications of Palestinian nationalism in their respective accounts.4 Wolfe’s (2012: 231) one-state, for instance, ‘does not require the elimination of its constituent ethnicities’, neglecting not only that the affirmation of those ethnicities is also a powerful political driver in the ongoing conflict, but that the affirmation of identity for colonized peoples has been a defining feature of decolonizing projects in general (Fanon, 1967). Veracini’s (2013) efforts at disentangling the colonial from the settler colonial would similarly seem to reinforce the Green Line’s fragmentation of the Palestinian polity into those in the ‘territories’ and those inside ‘Israel proper’, thus undermining the paradigm’s potential to aid Palestinian nation-building efforts. The lack of attention paid to the Jewish drive for ethno-national selfdetermination, however, is not surprising. From the perspective of settler colonial studies, the question of settler self-determination is an especially fraught one: not only is it seen as a particular historical relic (loosening ties to the ‘motherland’), but settler colonial scholarship has concerned itself precisely with critiquing how the notion of settler selfdetermination legitimizes continued dominance over indigenous peoples. Additionally, in the context of contemporary white settler societies like Australia, Canada and the United States, the claim for ethno-national self-determination simply does not make sense (save for a few at the very periphery of politics) given that the shape of the polity is more civic than ethnic. Indeed, it is the settler colonial polity’s ability to subsume indigenous alterity that is regarded as most troubling in the settler colonial paradigm; assimilation is, after all, the final stage in the logic of elimination (Wolfe, 1994). It is from this perspective that we can make sense of Veracini’s insistence that the one-state is the settler colonial solution. Yet, as Wolfe makes clear, Zionism has little capacity to assimilate Palestinians: the lines of identity, driven as they are by a dichotomy of Jew/non-Jew determined by a tribal notion of maternal blood-lineage, are simply too firm for serious parallels to be made between Israel and the white settler societies with which it is typically compared. While Wolfe’s (2012: 320) account is more sensitive to these dynamics, his vision of a secular, civic, inclusive and plural united state (which he interestingly addresses to European Ashkenazi Jews) would nevertheless seem to leave aside the ways in which such plurality is fiercely charged in the Israeli-Palestinian context – and is, most certainly, also characterized by a religious dimension for Israelis and Palestinians alike. In this regard, Wolfe replicates much debate on the one-state solution, which presumes that Jews would be incorporated into a single state as a neutral and repentant collectivity (Farsakh, 2011: 70 ). If even a one-state solution would have to reckon with the reality that the very presence of Israeli Jews as a settler collective is grounded on a history of dispossession and occupation, then surely dismantling Zionism – as per Wolfe’s wish – is not enough to dismantle settler colonialism. Perhaps the question is less one of dismantling Zionism than it is of decolonizing Jewish Israeli identity and its settler colonial privileges which, as Theodora Todorova (2015) argues, are most powerfully connected to the Jewish right to return – a right in turn denied to the Palestinians. This is something missed by Veracini, who takes the intimate connections between Israel and the Jewish diaspora as a sign of weakness in the settler colonial project, when this complicated entanglement with diaspora is in fact constitutive of Zionist settler colonialism. If Wolfe and Veracini fail to fully engage the conflict’s nationalist dimensions, they are also strangely silent on the resonances and implications of the settler/native distinction in the Israeli-Palestinian context. Indeed, one of the weaknesses of the settler colonial paradigm as a whole is its inability to fully reckon with indigenous and settler identities as interactive, mutable and contingent processes of social signification. For Wolfe, the native/settler distinction is only socially constructed insofar as it is forged at the moment the settler decides she wants to stay; yet, as Francesca Merlan (2009) has argued, ‘indigeneity’ as a transnational category cannot be understood outside of the historical processes which brought it into being, nor can it be considered inherently oppositional. Counter to most white settler nations where the settler/native distinction has been largely normalized into politics and culture (the settler may seek to ‘indigenize’, but they are under no illusions that they are ‘indigenous’ per se), it is important to recognize that the identities of settler and indigene are not only constructed but also vehemently contested in Israel-Palestine. Rightfully or not, the notion of Jewish return inherent to Zionism means that Israel could be nothing if not ‘native’, to paraphrase Edward Said (1979: 88). As much as the state is consciously engaged in an active process of indigenizing its Jewish population through forging an imagined geography of exclusive Jewish ownership (Abu El-Haj, 2003), this could not have claimed so much success without the pervasiveness of the narrative that ‘we were here first’. The identity of settler is equally loaded in the Israeli context. This means that it has quite different connotations than in white settler societies, where it is more an affective category connected to feelings of historical guilt or nation-building processes that reckon with past injustice – which are often about seeking retroactive legitimacy for the settler state, and thus require a relatively established and secure polity. While there is no doubt that the settler identity resonates with the ‘dormant codes of the immigrant settler political culture’ that characterized Zionism pre-1948 (Kimmerling, 2005: 232), the meanings attached to ‘settler’ are nevertheless complicated by the active settlement project in the territories. This is something of which the ultranationalist settler constituency has sought to take advantage, pointing to the inconsistencies in the liberal Zionist insistence on seeing West Bank settlement as illegitimate while glossing over the settlement history of Tel Aviv, for instance (Lustick, 2015). Certainly, the long-held existential fear of being ‘driven into the sea’ explains the aversion of many Israelis to the implications of illegitimacy contained within the ‘settler’ category; perhaps more sinisterly, the observation that settler states require relatively complete ethnic cleansing in order to normalize (Gordon and Ram, 2016) may only serve to push the Israeli public further to the right. Most significant, however, is the lack of attention Wolfe and Veracini pay to how the status of the Palestinians as an indigenous people might legitimately frame their struggle. Certainly, for a paradigm that purports to prioritize native experience, settler colonial studies in general tends towards an affective focus on the settler which pushes actual indigenous struggles to the side (Snelgrove et al., 2014: 10). On the one hand, Wolfe’s (2012) unified state dissolves the settler/native distinction along with settler colonialism, leaving aside the question whether such a flattened inclusivity is necessarily just considering the kind of historical injustice the Palestinians have experienced. Veracini (2013), on the other hand, leaves his main discussion of indigeneity to the failure of Israelis to indigenize, employing indigenous as a mere descriptive category in the context of the Palestinians. The indigeneity framework, to quote Amal Jamal (2011: 5), is ‘particularly pertinent for Palestinian citizens of Israel because it provides a vocabulary beyond conventional liberal citizenship rights with which they can articulate their demands’. These political resonances credibly explain the ease with which Palestinians inside Israel have taken up the settler colonial frame. What, however, may the settler colonial paradigm and an indigenous rights platform offer in the context of ongoing colonial occupation in the West Bank, and in the context of constant siege in the Gaza Strip? These are, of course, questions yet to be answered, and better answered by Palestinians themselves. Nevertheless, without serious engagement with such questions, the settler colonial paradigm not only risks turning ‘native’ into an affective category emptied of wider political content, but once again redrawing the Green Line between Palestinian citizens of Israel and those in the territories.