

AUTEUR**Michael Hennessy Picard**

Institute of Advanced
Studies, University College
London
m.picard@ucl.ac.uk

Tina Beigi

McGill University
tina.mohammadbeygy@mail.
mcgill.ca.

DATE DE PUBLICATION

20/07/2020

NUMÉRO DE LA REVUE

JEHRHE #3

SECTION

Dossier

THÈME DU DOSSIER

Impérialisme énergétique ?
Ressources, pouvoir et
environnement (19^e-20^e s.)

MOTS-CLÉS

Pétrole, Déchets, Pollution,
Géopolitique, Souveraineté

DOI

en cours

POUR CITER CET ARTICLE

Michael Hennessy Picard,
Tina Beigi, « Stains of
Empire: accumulation by
contamination in the Gulf »,
*Journal of Energy History/
Revue d'Histoire de l'Énergie*
[En ligne], n°3, mis en ligne
le 20 juillet 2020, URL :
energyhistory.eu/en/
node/209

Stains of Empire: accumulation by contamination in the Gulf

Résumé

La découverte du pétrole au Moyen-Orient a contribué à l'éclosion et à l'enrichissement massif du complexe militaro-industriel. Le corollaire de cette accumulation de capital est la contamination de la région, cannibalisant la vie quotidienne de populations entières vivant parmi les décombres de la guerre et les déversements d'hydrocarbure. Militarisés à des fins d'extraction, les territoires des États pétroliers du Golfe sont irrémédiablement contaminés par un double héritage : la pollution militaire d'une part, et la pollution pétrolière de l'autre. Le cas emblématique de l'Iraq postcolonial illustre ce double héritage. Inspiré du marxisme écologique, le concept d'accumulation par contamination offre une grille d'analyse critique pour montrer comment l'impérialisme énergétique a contribué à la répartition inégale de richesses et de pollution toxique entre les firmes transnationales et les groupes sociaux du Moyen-Orient.

Remerciements

This research was supported by the Leadership for the Ecozoic project (L4E) at McGill University. All websites accessed 13 July 2020.

Plan de l'article

- Contamination by the war machine
- Contamination by extraction regimes
 - Iraq as the archetype of accumulation by contamination in the Middle East
 - Resistance to extraction by explosion
 - War pollution by oil accumulation
 - The Iran-Iraq war
 - The 1991 Gulf War
 - The 2003 Gulf War
 - The rise of ISIL and contamination by repetition
- Conclusion

1 The Anthropocene typically refers to a new geological epoch where humanity is “literally making” the planet.¹ Stratigraphically, anthropogenic deposits form part of a new geological record, a new layer of the earth crust on the top of the lithosphere. This crust of civilizational waste (*littersphere*) has deprived the environment to the extent that we now live in an ecological state of permanent exception, illustrated by systematic toxicity and mass extinction.² According to the Stockholm Resilience Centre, resource extraction has surpassed the Earth’s natural regeneration rates and the production of wastes is greater than what can be absorbed by the planet’s sink mechanisms.³ This colossal colonization by waste prompts the question: have we entered a corollary era of the Anthropocene, called the Molysmocene? The Molysmocene was coined in the 1960s by French marine biologist Maurice Fontaine to refer to a future wasteland era, an era which we now live in.⁴

2 In this article, which is part of a broader research agenda on the Molysmocene, we investigate one of the driving forces behind a world colonized by heavy toxic waste, namely the ecological impact of the military-industrial complex. Aside from well-known critiques of the term Anthropocene raised by many scholars⁵ across disciplines, and

contrary to the belief that humanity is “literally making” the planet, we argue that a certain military organization of capital and labor is *littering and breaking* the planet. Military industrialized countries have applied “brute force technologies” to destructive capacity, deliberately targeting the natural environments sheltering the enemy, including forests in Vietnam, and mountains in Afghanistan.⁶ This form of Energy Imperialism uses a host of destructive and extractive technologies to alter human ecology.

For instance, the largest single institutional consumer of hydrocarbons in the world is the US Army. With an annual military budget of \$500 billion, the United States in 2017 alone purchased about 270,000 barrels of oil a day and emitted the equivalent of 25,000 kt-CO₂.⁷ Relying upon a global network of oil supply and heavy equipment on military bases deployed around the world, the US pollutes more than 140 countries combined.⁸

In the name of national security, military spending fuels global warming and planetary turbulence. Therefore, it is critical to assess the ecological destruction of war machines, in order to question the prevalent logic of security harnessed by belligerent governments worldwide. As contributors to the special issue on *Energy Imperialism*, we wish to ask: How are forms of military aggression entangled with the violence of extraction, contamination, fallout, toxicity and extinction? And how are these forces reshaping the very material possibilities and conditions of human lives? In sum, has the military-industrial complex become a planetary force?

¹ Simon Dalby, “Environmental geopolitics in the twenty-first century”, *Alternatives* vol. 39, n° 1, 2014, 3-16.

² Ubaldus de Vries, “Sustainable uncertainty: Normalising the ecological state of exception”, *Water Law* vol. 24, n° 3, 2014, 92-99; Justin McBrien, “Accumulating extinction: Planetary catastrophism in the Necrocene”, *Anthropocene or Capitalocene*, 2016, 116-137.

³ “Sinks are, in the physical-sciences sense of the word, those environmental zones that receive, absorb, and contain wastes” They are sites for storing, processing, discarding, and filtering waste. Jennifer Gabrys, “Sink: The dirt of systems”, *Environment and Planning: Society and Space*, vol. 27, n° 4, 2009, 666-681; Will Steffen et al. “The Anthropocene: from global change to planetary stewardship” *Ambio* vol. 40, no° 7, 2011, 739.

⁴ Molusma means “filth” or “stain” in Greek (μολυσμός).

⁵ Among these scholars, Jason Moore and Donna Haraway pointed out the questionable politics of the neologism Anthropocene and argued that the epoch can be more properly referred to as respectively “the Capitalocene” or “Chthulucene”, so that an undifferentiated humanity is not held accountable and rather the legacy is deviated towards a system: capitalism or the global economic system. Jason

W. Moore, *Capitalism and the Web of Life: Ecology and the Accumulation of Capital* (London: Verso, 2015). Donna Haraway, “Anthropocene, capitalocene, plantationocene, chthulucene: Making kin” *Environmental humanities* vol. 6, n° 1, 2015, 159-165.

⁶ Paul Josephson, *Industrialized nature: Brute force technology and the transformation of the natural world* (Washington D.C.: Island Press, 2002).

⁷ Oliver Belcher et al. “Hidden carbon costs of the ‘everywhere war’: Logistics, geopolitical ecology, and the carbon boot-print of the US military”, *Transactions of the Institute of British Geographers* vol. 45, n° 1, 2020, 65-80.

⁸ *Ibid.*

5 Already, environmental historians have provided clues to answer questions about the role of military ecocide.⁹ For instance, Western rivalry over access to oil played a fundamental role in the Great Acceleration of the 20th Century. As the discovery of oil combustion accelerated the speed, power and performance of warships and other military equipment, control over vast reserves of oil became a strategic war aim for Western powers. At the time of the First World War, the conversion of the British Royal Navy to oil decided its superiority over its German rival and engaged the British Government in a belligerent policy of oil appropriation in the Persian Gulf. Western rivalry for oil in the Gulf peaked in response to military needs of the Second World War, which militarized the region to protect the increasingly complex network of pipelines and oil tankers. Conversion to oil gave rise to a military industrial complex, which multiplied public expenditure in aircraft, munition and chemical production, all energy-intensive and extremely polluting activities. Ultimately, the feedback loop of oil dependence and war economies provoked what Bonneuil and Fressoz call the Thanatocene – or Age of Death.¹⁰

6 In light of these considerations, this article proposes to understand Energy Imperialism as a phenomenon driven by a double logic of extraction and pollution. The capitalist logic of energy extraction depends on the expansion of modes of exploitation outside of the boundaries of capitalist States, in geographical areas which are conquered, plundered and stripped of their previous social relations. This “primitive accumulation” of capital exists because, according to Marx, the creation of surplus value presupposes workers’ complete alienation from self-sufficiency.¹¹ However, Ecological Marxist (Ecomarxist)

readings of primitive accumulation stress the equally important ecological underpinnings of this estrangement: an alienation from the natural world.¹² The coercive expropriation of peoples from their land allows for the overexploitation and degradation of this land: marginalized people are made redundant or “superfluous” by capitalist restructuring to better plunder their land.¹³ Under Ecomarxist terms, Energy Imperialism may be conceptualized as a process of *accumulation by contamination*, by which corporate and military interests endanger, through drilling and bombing, sustainable means of collective subsistence and coexistence in order to reproduce capitalist modes of accumulation.¹⁴

Ecomarxism contends that the intoxication of postcolonial peoples and contamination of their peripheral land is the driving force of profit accumulation at the heart of the metabolic rift between core and peripheral states.¹⁵ Heavy metal pollution, oil spillage, landmines, mortars, rockets, white phosphorus, sniper fire and high explosives, tear gas and barbed wire constitute the elements of the landscape of extraction and pollution in the postcolonial era.¹⁶ Pollution weakens the possibilities of subsistence, let alone resistance of postcolonial peoples, whose ecologies are degraded for purposes of global or transnational value extraction. Postcolonial people suffer from material pollution – such as military-industrial waste – and forms of political

⁹ Richard Tucker and Edmund Russell (ed.), *Natural enemy, natural ally: toward an environmental history of warfare* (Oregon State University Press, 2004).

¹⁰ Christophe Bonneuil and Jean-Baptiste Fressoz, *The shock of the Anthropocene: The earth, history and us* (London: Verso Books, 2016).

¹¹ Dionysios Drosos, “Adam Smith and Karl Marx: alienation in market society” *History of Economic Ideas*, 1996, 325-351.

¹² John Bellamy Foster, “Marx’s ecology in historical perspective”, *International Socialism*, 2002, 71-86.

¹³ David Harvey, *The new imperialism* (Oxford: OUP, 2005); Mark Neocleous, “War on waste: Law, original accumulation and the violence of capital”, *Science & Society* vol. 75, n° 4, 2011, 506-528.

¹⁴ Although we amend its definition to adapt it to an Ecological Marxist framework, the concept is taken from, Federico Demaria, “Can the Poor Resist Capital? Conflicts over ‘Accumulation by Contamination’ at the Ship Breaking Yard of Alang (India)”, *Nature, Economy and Society*, 2016, 273-304.

¹⁵ John Bellamy Foster, *Marx’s ecology: Materialism and nature* (New York: NYU Press, 2000); John Bellamy Foster, Brett Clark & Richard York, *The ecological rift: Capitalism’s war on the earth* (New York: NYU Press, 2011).

¹⁶ Martín Arboleda, *Planetary Mine: Territories of Extraction Under Late Capitalism* (London: Verso, 2020).

pollution – such as military coups and self-perpetuating corruption.

- 8 The abstract process of accumulation by contamination embeds itself in postcolonial peoples' daily interactions. Contamination pervades the most intimate confines of social life, complicating basic access to freshwater or public education. In the postcolonial world, residues of imperial design create the distinct sociopolitical condition of marginalized communities, who have to live in the rubble of war, the spills of oil, and a corrupt political landscape.¹⁷ As we shall see, a century of war-making and oil drilling reduced the autonomy and sustainability of communities in the Gulf.
- 9 The story of accumulation by contamination in the Gulf begins in the new age of engine combustion born out of the world's first oil-based military conflict of 1914–18. At the time, the “Middle East” was carved by a line drawn in the sand to protect British and French imperial interests.¹⁸ Intoxicated by the “vapors of black gold”, which had so valuably contributed to the war effort, the Western military and industrial classes detached Arabia from the Ottoman enemy to secure their grip over the riches of the Gulf.¹⁹ This process of primitive accumulation on a land previously void of large-scale industrial relations created pockets of “humans-as-waste”, or surplus populations separated from domains of capitalist exchange.²⁰ Energy Imperialism divorces labor from its means of subsistence and marginalizes self-sufficient people made redundant in the context of capitalist restructuring.²¹ For exam-

ple, military operations during the First World War disrupted local pearl-diving fisheries in the Arabian Gulf.²² After the war, aerial raids, mining, drilling and piping operations, as well as property enclosure expropriated the *fellahin* (traditional peasantry) in Kut, Amhara and Bagdad.²³ Then, throughout the 1920s and 1930s, military bombing and industrial drilling within artificially-created State boundaries threatened the livelihood of Bedouins, Assyrians and Kurds, who had until then operated along variable relays of exchange across Mesopotamia.²⁴

Therefore, one of the striking features of Energy Imperialism in the Gulf is the dynamic process of accumulation (*extraction*) by contamination (*explosion*). Over the course of a century, surveillance from above and extraction down below fueled successive rounds of oil wars.²⁵ Both kinds of pollution – war pollution and oil pollution – simultaneously converge around the capitalist necessity to feed productivity gains of the combustion engine, which propels war machines and irrigates the global political economy. These two methods of contamination by war (1) and oil (2) have persistently created “land- and humans-as-waste” in the postcolonial Middle East. Many aspects of military-industrial capitalism excrete nature and human labor from the process of accumulation and render it superfluous. This article specifically turns to the history of postcolonial Iraq to illustrate this enduring dynamic of Energy Imperialism in the Middle East. It thus

¹⁷ Gastón Gordillo, *Rubble: The afterlife of destruction* (Durham: Duke University Press, 2014).

¹⁸ James Barr, *A Line in the Sand: The Anglo-French Struggle for the Middle East, 1914–1948: The Anglo-French Struggle for the Middle East, 1914–1948* (New York City: WW Norton & Company, 2012).

¹⁹ Edwin Black, *Banking on Baghdad: Inside Iraq's 7,000-year history of war, profit and conflict* (Hoboken: Wiley, 2004), 165.

²⁰ Michelle Yates, “The human-as-waste, the labor theory of value and disposability in contemporary capitalism”, *Antipode* vol.43, n° 5, 2011, 1679–1695.

²¹ See Susan Marks, “Law and the production of superfluity”, *Transnational Legal Theory* vol. 2. n° 1, 2011, 1–24.

²² Richard LeBaron Bowen, “The pearl fisheries of the Persian Gulf”, *Middle East Journal* vol. 5, n° 2, 1951, 161–180.

²³ Hanna Batatu, *The Old Social Classes and the Revolutionary Movements of Iraq: A Study of Iraq's Old Landed and Commercial Classes and of its Communists, Baathists and Free Officers* (New York: Princeton University Press, 1982).

²⁴ Daniel Silverfarb, *Britain's Informal Empire in the Middle East. A Case Study of Iraq. 1929–1941* (Oxford: Oxford University Press, 1986), 33–47; Martin Thomas, “Bedouin Tribes and the Imperial Intelligence Services in Syria, Iraq and Transjordan in the 1920s”, *Journal of Contemporary History* vol. 38, n° 4, 2003, 539.

²⁵ An oil war is a conflict over petroleum resources, their transportation, consumption, or regulation. The term may also refer generally to military conflicts in oil-rich countries. Mary Kaldor, Terry Lynn Karl & Yahia Said, *Oil wars* (London: Pluto Press, 2007).

investigate how the war machine (1) and the extractive regime (2) have accelerated the rate of accumulation by contamination since the global energy transition to petroleum.

CONTAMINATION BY THE WAR MACHINE

- 11 The Western war machine in the Middle East arose in connection with efforts to absorb vast quantities of oil. At the heart of the Persian Gulf sits the golden stock of 680 billion barrels of proven oil reserves, which represent approximately 66% of the total world oil reserves. As a highly concentrated source of energy, petroleum rapidly became a source of competitive interference in the Gulf during the 20th Century.²⁶ The rivalry for access to oil reserves violently broke out during the First World War²⁷, peaked during the Second World War, morphed during the Cold War into two oil crises in the 1970s, the Iraq-Iran War in the 1980s and heated up again with the more recent Gulf Wars of 1991 and 2003.²⁸
- 12 The war machine relies on oil to function, to the point where a self-perpetuating mode of military coercion, such as jet-propelled bombing, prepares the terrain for further rounds of oil accumulation in the Middle East, upon which the war machine depends for its own survival.²⁹ Whereas the war machine pursues oil extraction underground, the bombing campaigns destroy communities and ecologies overground, either by sudden death or by the slow violence of toxic pollution.³⁰
- 13 As a result of war, Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and United Arab Emirates have all been polluted by heavy toxic metal, and petroleum hydrocarbon contamination. In the

aftermath of the 1991 Gulf War for example, oil field fires have chronically contaminated coasts, seas, soil, and air.³¹ As much as wealth from oil extraction is unevenly distributed, the pollution from oil wars is disproportionately dumped on vulnerable and marginalized communities in the region. Along the Tigris river, in Basra and in the Shatt al-Arab, the prevalence of disease is especially high among the impoverished and malnourished, which are exposed to water sources contaminated with mercury, arsenic, lead, cobalt, cadmium, petroleum products, oil, soot from oil fires, and depleted uranium.³²

CONTAMINATION BY EXTRACTION REGIMES

Tied in with the aforementioned importance of the war machine in the production and reproduction of accumulation by contamination is the role of oil extraction. The environmental legacy of oil extraction in the Gulf reveals the extent to which the petroleum industry is responsible for global contamination today. Oil cartels are linked to 71% of industrial greenhouse gas emissions since 1988. Over half of global industrial emissions since 1988 can be traced to twenty-five corporate and state producers. The state producers are mostly located in the Gulf region, while the corporate producers are mostly headquartered in the West, such as ExxonMobil, Shell and BHP Billiton.³³ Beyond the harmful effect of CO₂ pollution, the physical attrition of environments from exploration, drilling, and extraction can be greater than from a large oil spill. Major impacts of the oil industry include deforestation, ecosystem destruction, chemical contamination of land and water, long-term harm to animal populations (particularly migratory birds and marine mammals),

²⁶ Richard Cottam, *Competitive Interference and Twentieth Century Diplomacy* (Pittsburgh: University of Pittsburgh Press, 1967).

²⁷ Donald McKale, *War by revolution: Germany and Great Britain in the Middle East in the era of World War I* (Ohio: Kent State University Press, 1998).

²⁸ Kaldor et al., supra note 25.

²⁹ Jeff Colgan, *Petro-aggression: When oil causes war* (Cambridge: Cambridge University Press, 2013).

³⁰ Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011).

³¹ Afnan Mahmood Freije, "Heavy metal, trace element and petroleum hydrocarbon pollution in the Arabian Gulf" *Journal of the Association of Arab Universities for Basic and Applied Sciences* vol. 17, n° 1, 2015, 90-100.

³² Tara Rava Zolnikov, "The maladies of water and war: addressing poor water quality in Iraq" *American journal of public health* vol. 103, n° 6, 2013, 980-987.

³³ The Carbon Majors Database & Climate Accountability Institute, "Disclosure Insight Action Report", July 10, 2017, Url: <https://www.cdp.net/en/articles/media/new-report-shows-just-100-compani...> (accessed 20/03/2020).

human health and safety risks for neighboring communities and oil industry workers, and displacement of communities.³⁴

15 On- and off-shore exploration, drilling, and extractive activities are inherently invasive and affect ecosystems, human health, and local cultures. After identifying potential oil reserves using remote sensing techniques and satellite mapping, companies build roads, platforms, and pipelines, bring in crews and vehicles, and drill exploratory test wells. Exploration activities expand a hundredfold, and more wells and infrastructure are built once oil is discovered. Oil extraction includes a range of drilling techniques and the use of subsurface explosives, including in a few historical cases the use of nuclear charges.³⁵

16 Historically, the polluting effects of accumulation by contamination have been disproportionately experienced in the peripheries of the global economy. Political ecologists call this plundering of poorer countries by the exploitation of their resources, the degradation of their natural habitat, which cause an asymmetric global distribution of wealth and waste, an Ecological debt.³⁶ Ecological debt is an indicator of the cumulative historical socio-ecological subsidy “paid” by the peripheries necessary to maintain the core’s industrial techno mass.³⁷ Research on total energy and material consumption shows that core regions within the world economy have significantly higher “metabolic” rates than peripheral regions.³⁸

³⁴ Dara O’Rourke and Sarah Connolly, “Just oil? The distribution of environmental and social impacts of oil production and consumption” *Annual Review of Environment and Resources* vol. 28, n° 1, 2003, 587-617.

³⁵ *Ibid.*

³⁶ Erik Paredis, *The concept of ecological debt: its meaning and applicability in international policy* (Cambridge: Academia Press, 2009).

³⁷ Rikard Warlenius, Gregory Pierce and Vasna Ramasar, “Reversing the arrow of arrears: The concept of “ecological debt”, and its value for environmental justice”, *Global Environmental Change* vol. 30, 2015, 21-30.

³⁸ Shweta Singh, Chris Kennedy, “Estimating future energy use and CO₂ emissions of the world’s cities”, *Environmental Pollution* vol. 203, 2015, 271-278.

As an extractive periphery, the Gulf has been particularly subjected to this Ecological debt. The nexus of war and environmental degradation demonstrates that the Gulf is plagued with toxic rubble, dust, oil fire pollution and war contamination. One country within this localized periphery has been particularly targeted by the process of accumulation by contamination: Iraq. Iraq has become an extractive wasteland through a succession of military bombing campaigns. Coercive oil accumulation contributed to the asymmetric stock distribution of energy and toxic waste between Western corporations and Middle Eastern populations.

Iraq as the archetype of accumulation by contamination in the Middle East

18 In Iraq, the century-long accumulation of extractive policies for the benefit of Western corporations has been accompanied by the correlative bombing and contamination of the Iraqi soil, peoples and culture. By the time British-appointed King Faisal ascended the throne of Iraq in 1925, the Persian Gulf had effectively become a military-industrial site of Western imperialism, where financial speculation and sovereign debt consolidation funded the construction and maintenance of environmentally-costly military bases, roads, railroads, pipelines, canals, residences and embassies.³⁹ Such capital-intensive projects weighed heavily on the populations, depriving them of prior social arrangements and binding them by indenture on the estates of a landed ruling minority. The mechanized oil boom transformed social relations and fixed new boundaries, incorporated a local landed class into the global economy, while excluding and inflaming the resistance of the wider community. Those who resisted the drilling down below were subjected to military repression from above, under the euphemistic policy of “morale bombing”, which was the

³⁹ Geoff Burrows, Phillip Cobbin, “Budgetary and financial discontinuities: Iraq 1920–32”, *Accounting History Review* vol. 21, n° 3, 247-259; Toby Dodge, *Inventing Iraq – The Failure of Nation-Building and a History Denied* (Oxford: Oxford University Press, 2003).

HENNESSY PICARD, BEIGI | STAINS OF EMPIRE: ACCUMULATION BY CONTAMINATION IN THE GULF

weapon of choice of the British Royal Air Force against Arab rebellion in Iraq.⁴⁰

19 Our Ecomarxist analysis of accumulation by contamination in the Gulf emphasizes the entanglement between bombing and drilling, which shaped and transformed the entire system of property rights in the Gulf, but also its ecology.⁴¹ With the full military support of the British Royal Air Force, foreign oil cartels and agricultural engineers restructured the land to guarantee extraction.⁴² Under British trusteeship, Iraqi representatives were coerced into ceding exclusive oil concession rights to a Western syndicate, which bore the deceiving name of the Turkish Petroleum Company (TPC). The 1925 TPC monopoly contract distributed equal shares amongst British, American, Dutch and French shareholders.⁴³

20 Rising militarization costs had to be reimbursed by collecting taxes. Therefore, pursuant to a 1924 bilateral Anglo-Iraqi Treaty, British civil servants controlled public expenditure and made sure that half of British spending was financed by the Arab Kingdom's treasury.⁴⁴ Iraq was essentially controlled by a new military regime of panoptical vision to protect the new boundaries of oil concessions, which terrorized rural populations in the name of foreign oil extraction.⁴⁵ The British Royal Air Force became the bailiff of powerful oil men, revealing the symbiotic relationship between the military and corporate sector.⁴⁶

⁴⁰ Jafna Cox, "A splendid training ground: the importance to the Royal Air Force of its role in Iraq, 1919–32", *The Journal of Imperial and Commonwealth History* vol. 13, n° 2, 1985, 157–184.

⁴¹ Jairus Victor Grove, *Savage ecology: War and geopolitics at the end of the world* (Durham: Duke University Press, 2019).

⁴² Gareth Jones, "The British Government and the Oil Companies 1912–1924: The Search for an Oil Policy", *The Historical Journal*, 1977, vol. 20, n° 3, 666.

⁴³ Turkish Petroleum Company, "Limited Convention with the Government of Iraq", Mar 14, 1925: PRO CO730/158/9/119238.

⁴⁴ Burrows & Cobbin, *supra* note 39.

⁴⁵ Foreign Office, FO 371/12260, E4432/86/65; Llewellyn Woodward (ed.), *Documents on British Foreign Policy, 1919–1939* (London: HMSO, 1946–1986); Dodge, *supra* note 39.

⁴⁶ Peter Sluglett, *Britain in Iraq: Contriving King and Country* (New York: Columbia University Press, 2007), 187; Phillip Meilinger, "Trenchard and 'Morale Bombing': The

Winston Churchill, then Colonial Secretary and Hugh Trenchard, founder of the Royal Air Force, waged a deadly and toxic bombing campaign, which satisfied the need to protect oil field exploration from Bedouin looting activity over a vast and remote territory.⁴⁷ Stripped of their means of survival, Bedouin tribes flocked to privately owned estates and the cities, looking for work.

In the 1920s, fumigating air raids turned the tribes into servitude on the estates of a landed ruling minority backed by the British military. One such onslaught was launched by the Royal Air Force in 1923–24 in Southern Iraq, where the peasants and nomadic tribesmen from the Euphrates refused to pay up taxes to the tribal leaders responsible for collecting them. Later, Air Force operations raided the Kurds and Assyrians, confining them to an insular existence.⁴⁸

While indigenous rulers became landed aristocrats, the British, US, French and Dutch oil company shareholders monopolized underground property rights. Engineers built railways, oil depots, wells and equipment, while senior civil servants held power over the Kingdom's revenue to buy peace among a client network of regional bureaucrats and local tribal leaders. From the beginning of Iraq's history, the uneven distribution of capital created ostentatious wealth on one side of the spectrum, and "superfluous" or "disposable" categories of population on the other. In the new Kingdom, the old Ottoman bureaucracy was replaced by British administrators: only 3.74 percent of civil servants were Arabs, the rest were members of the British imperial service.⁴⁹ The region's extractive economy became a treasure chest for British shipping lines, engineering firms and the

Evolution of Royal Air Force Doctrine Before World War II" *The Journal of Military History*, 60, n° 2, 1996, 243.

⁴⁷ Cox, *supra* note 40.

⁴⁸ David Omissi, "Britain, the Assyrians and the Iraq Levies, 1919–1932", *The Journal of Imperial and Commonwealth History* vol. 17, n° 3, 1989, 301–322.

⁴⁹ Philip Willard Ireland, "Iraq: a Study in Political Development: A Study in Political Development", *Russell & Russell*, 1970, 146.

armament industry. Annual reports to the League of Nations demonstrate that Britain held the financial authority to control the flow of external capital and establish sovereign debt repayment schemes over Iraq for the purpose of accumulation.⁵⁰ The violence of coercive extraction inflamed the resistance.

Resistance to extraction by explosion

23 As the locals were progressively dislodged and contaminated by foreign bombing campaigns, the indignity of British tactics ignited armed resistance across the country. In June 1920, a coalition of disgruntled tribal sheikhs, religious dignitaries and vociferous nationalists rebelled against the British policy of extraction and displacement. In “the Year of the Catastrophe” (*Am al-Nakba*), the “Awakening” (*Thawra*) was considered the catalyst of Arab nationalist sentiment against Energy Imperialism.⁵¹

24 In a coordinated effort to disrupt the enemy’s objectives, nationalists targeted the new transportation routes and building sites. Raids on British lines of communication increased. The rebels ambushed political officers, rampaged British garrisons, burnt local bridges, blew up railroad lines, drowned supply ships and massacred their crew.⁵² Trains were looted. Petrol dumps blew up. “Everywhere and every day, the rebels sniped, murdered, pillaged, burned, kidnapped, robbed, laid siege, sabotaged, and unwove the very fabric of

Britain’s presence”.⁵³ The 1920 revolt was a violent reaction to Energy Imperialism. However, one cannot deny the pollution that endogenous resistance inflicted upon the land. Iraqis were constrained in their resistance tactics by the industrial infrastructure and military equipment imported by the occupying power: by targeting sources of extraction and arms depots, the resistance to accumulation by contamination aggravated the ecological impact of fossil extraction.

25 Encouraged by the wave of nationalism, Iraqi delegates requested the election of a Convention and appealed for a united Arab Government elected by universal suffrage.⁵⁴ Instead, Great Britain continued its policy of extraction by explosion. “The Royal Air Force used aerial bombings to level whole villages. Karbala, Najaf, and Kufa surrendered in mid-October [...]. With most of the leaders under arrest or in exile, the tribes and towns of southern Iraq submitted to British authority.⁵⁵” In the end, airstrikes and military blockades succeeded in locking the agricultural workforce onto landed estates modelled on English aristocratic domains.⁵⁶ Once the revolt had been crushed, the British High Commission established a network of military airbases across the Gulf, backed by a local central authority capable of protecting the flow of crude across large stretches of sand. High-tech weaponry, especially oil-fueled planes, prevented the sabotage of pipelines and shipping routes.

26 By the time the British Mandate was over in 1932, vast tracts of Iraqi land had become militarized to protect the growing oil revenue of the

⁵⁰ Report by H.M. Government to the Council of the League of Nations on the Administration and Progress in Iraq during the Period 1920-1931, Colonial, no 58, H.M.S.O., London, 1931; British embassy in Iraq, “Annual Report on Iraq for 1933”. 28 March 1934, FO 371/17871, E2204/2204/93; Newton to foreign office, 10 June 1940 and 19 Oct. 1940, FO 371/24556, E2198/E2913/203/93. For general discussion, see Burrows & Cobbin, *supra* note 39.

⁵¹ The nationalist coalition brought together four distinct groups: the rural tribes, the Shiite religious community, the urban masses guided by notables and intellectuals, and finally the old guard of Arab officers of the Ottoman army, who had sought refuge in neighboring Syria. See Batatu, *supra* note 23.

⁵² Winston Churchill, “Situation in Mesopotamia, 2nd September 1920”, *Secret Cabinet memo*, Aug 2, 1920: BL L/MIL/5/800, Wilson, 294.

⁵³ Edwin Black, *Banking on Baghdad: Inside Iraq's 7,000-Year History of War, Profit and Conflict* (Hoboken: John Wiley & Sons, 2004), 256.

⁵⁴ Acting Civil Commissioner. Review of the Civil Administration of Mesopotamia to His Majesty’s Government, Indian Office, December 3, 1920 [Cmd. 1061], 141.

⁵⁵ Judith Yaphe, “Until They Leave: Liberation, Occupation, and Insurgency in Iraq” in Amatzia Baram, Achim Rohde and Ronen Zeidel (eds.), *Iraq Between Occupations* (New York: Palgrave Macmillan, 2010).

⁵⁶ Martin Thomas, “Bedouin Tribes and the Imperial Intelligence Services in Syria, Iraq and Transjordan in the 1920s”, *Journal of Contemporary History* vol. 38, n° 4, 2003, 539.

State. The panoptical power of airplanes played a major role in asserting the coercive violence of the State, which collected land rent adjusted to profit margins of foreign oil companies.⁵⁷ The legacy of the British mandate in Iraq created an atmosphere of suspicion, betrayal and revolt.⁵⁸ Soon enough, rival military factions fought for the control of the State.

- 27 In 1933, the Iraqi army crushed the rising Assyrian autonomous movement with British military support, which dropped a hundred bombs on Assyrian positions.⁵⁹ To protect plans for the construction of a new pipeline in Northern Iraq, ground forces led by army officer Bakr Sidqi waged a campaign of terror, indiscriminately massacring, men, women and children in the Simile district. In October 1936, Sidqi, by then acting commander of the Royal Iraqi Army, staged a military coup by dropping leaflets over Baghdad with military planes. Nine months later, in August 1937, Sidqi was assassinated on the Mosul air force base along with the commanding officer of the Royal Iraqi Air Force.⁶⁰ The violent history of postcolonial Iraq shows the extent to which British planes and oil revenue provided the fuel for modernized feudal warfare.
- 28 The cycle of oil extraction and military violence produced political instability in the Kingdom, which is revealed by the fact that fifty-eight governments succeeded each other between 1921 and the nationalist revolution of 1958.⁶¹ The

dazzling spectacle of oil extraction and bomb explosion created an endless appetite for power among rival factions, which claimed to offer a postcolonial alternative, while effectively replicating the hegemonic military structure of government. By using oil as a revenue stream for political repression instead of wealth redistribution, the Iraqi State mirrored the very process of accumulation by contamination established by British Energy Imperialism.⁶² While military officers controlled oil revenue in Baghdad, a landed aristocracy ruled over enclosed agricultural estates in the countryside. As a result of this “great transformation”⁶³ where Iraqis became part of a market society, farmers were not only economically dispossessed from their land by accumulating sheikhs, they were also “contaminated” by new social arrangements. Although the entire society transformed, the shifting political economy of the Oil Kingdom weighed most heavily on the poor, such as small-scale farmers. Between 1932 and 1958, the State relegated the “superfluous categories” of peasants and farm laborers to the slums of urban centers, ravaged by water pollution, trachoma, and dysentery. While oil revenues kept coffers filled to the brim, the military regime was incapable of providing elementary social services.⁶⁴ In contrast to exogenous extraction by explosion, the endogenous exploitation of oil resources led to a dynamic of social exclusion and fragmentation.

The Saddam years: contamination by exclusion

By 1958, Iraq had entered a new historical phase, 29 characterized by the internal adoption of a violent cycle of accumulation by contamination. Throughout the second half of the 20th Century, postcolonial Iraq would follow a path dependency founded on British Energy Imperialism. Since its cartel origins, the country had been an inherently weak client State ruled by a military

⁵⁷ See Art. 32 Convention of the British Oil Development Company with Iraq signed on January 5th, 1931 by the High Commissioner John Chancellor & J. Skliros, on behalf of the Company, published in Iraq's Official Gazette, Bagdad, February 4, 1931; Edward Peter Fitzgerald, “The Iraq Petroleum Company, Standard Oil of California, and the Contest for Eastern Arabia, 1930-1933”, *The International History Review* vol. 13, n° 3, 1991, 441.

⁵⁸ Marion Farouk-Sluglett and Peter Sluglett, *Iraq Since 1958. From Revolution to Dictatorship* (London: KPI, 1987).

⁵⁹ Khaldun Husry, “The Assyrian affair of 1933.” *International Journal of Middle East Studies*, vol. 5, n° 2, 1974, 161-176.

⁶⁰ Phebe Marr, *The modern history of Iraq* (Oxfordshire: Routledge, 2018).

⁶¹ Christopher Catherwood, *Churchill's Folly: How Winston Churchill Created Modern Iraq* (New York: Carroll & Graf, 2004), 221.

⁶² Toby Dodge, *Inventing Iraq – The Failure of Nation-Building and a History Denied* (Oxford: Oxford University Press, 2003).

⁶³ Karl Polanyi, *The great transformation* (Boston: Beacon press, 1944).

⁶⁴ Uriel Dann, *Iraq under Qassem: a political history, 1958-1963* (New York: Praeger, 1969), 5.

minority elite prone to corruption and authoritarian rule.⁶⁵ Under the new nationalist regime of 1958, the State's petroleum assets provided vast powers of patronage to a military elite.⁶⁶ Repeating the criminal foundations of the State, rival military factions fought for the control of its coercive apparatus.⁶⁷ The result was a succession of coups and countercoups between opposing kin-based alliances (1963, 1968) to control and redistribute oil revenue among their respective client networks.⁶⁸

30 In 1968 the Baath Party ruthlessly emerged as the victor of the political struggle for the control of Iraq's extractive economy. Under the growing influence of Saddam Hussein, the nationalized oil industry (1972) became a "slush fund" for high officials within the State apparatus.⁶⁹ Saddam Hussein effectively held patronage over a client network of military officers, bureaucrats, landowners, and tribal leaders loyal to his cause.⁷⁰ In an unprecedented escalation of violence, Iraqi oil greased the process of accumulation by contamination. After having eliminated external opponents to the Baath regime during the 1960s, Hussein waged a fierce power struggle inside the Baath party to expunge his rivals, culminating in his 1979 seizure of undisputed power. The purge of the party allowed Hussein to centralise State power and concentrate the means of coercion and oil production in the hands of loyalists.⁷¹

⁶⁵ Marion Farouk-Sluglett, Peter Sluglett, *Iraq Since 1958: From Revolution to Dictatorship* (London: Bloomsbury Publishing, 2003), 217.

⁶⁶ Charles Tripp, *A History of Iraq* (Cambridge: Cambridge University Press, 2007), 143.

⁶⁷ Charles Tilly, "War making and state making as organized crime", *Collective Violence, Contentious Politics, and Social Change*, Routledge, 2017, 121-139.

⁶⁸ Tripp, supra note 66.

⁶⁹ Phil Williams, *Criminals, militias, and insurgents: organized crime in Iraq* (US Army War College: Strategic Studies Institute, 2009).

⁷⁰ Tripp, supra note 66, 318.

⁷¹ "From 1920 until 1979, Iraq had experienced thirteen coups d'état. Saddam was determined that this would be the last." Judith Miller, Laurie Mylroie "The Rise of Saddam Hussein", *The Iraq war reader: History, documents, opinions*, 2003, 18-29, 28.

War pollution by oil accumulation

Under the Baath regime of Saddam Hussein, 31 Iraq's oil revenue stream reinforced the criminal foundations of the Iraqi State. Although Hussein's regime used the rent from the Iraq National Oil Company to fund industrialization and educational reforms – women literacy, for instance –, oil revenue was diverted to the acquisition of foreign military equipment. As we shall see, Iraq's internal capital accumulation ultimately led to regional ecological contamination at the expense of equal resource distribution among the population.

Hussein's fear of an internal coup was partly 32 deflected by the projection of violence outwards, during the 1980-88 war against Iran, and in 1990-91 against Kuwait. These wars fueled by oil revenue targeted industrial and military sites, armaments factories and oil refineries, which led to acute chemical pollution over the course of successive airstrikes. The endogenous process of accumulation would unleash a wave of military contamination, which peaked against the Kurdish people, collectively punished for siding with Iran. In 1988, the Kurds were targeted by artillery shells and airstrikes in the city of Halabja and gassed with nerve agents and mustard gas. As many as 5,000 Iraqi Kurds, mostly women and children, were killed by the deadly gas attack, and many more – maybe 10,000 – were poisoned. Decades after the attack, unexploded shells and residue from the gas that spread over the city still cause congenital defects.⁷²

The Iran-Iraq war

The Iran-Iraq war of 1980-1988 incurred as 33 many as 1.5 million casualties. Belligerents on both sides used Western military equipment purchased with their national oil revenue. Environmental damage inflicted by the war is

⁷² Michael Kelly, "The Anfal trial against Saddam Hussein" *Journal of Genocide Research* vol. 9, n° 2, 2007, 235-242; Karin Mlodoch, "The Indelible Smell of Apples: Poison Gas Survivors in Halabja, Kurdistan-Iraq, and Their Struggle for Recognition", in Bretislav Friedrich, Dieter Hoffmann, Jürgen Renn, Florian Schmaltz and Martin Wolf (eds.), *One Hundred Years of Chemical Warfare: Research, Deployment, Consequences* (New York: Springer, 2017), 349-362.

scattered and inconclusive, because of a general lack of concern for monitoring or clean-up.⁷³ Some effects are known, such as the fact that ground battles and aerial bombardments caused extensive forest destruction and soil erosion. Tar and asphalt dumped on the coastal region between Abadan and the straight of Hormuz posed a great threat to already endangered species. Leaks from oil tankers in the Gulf are believed to be the cause.⁷⁴ The bombing of oil platforms polluted the Gulf, while sunken ships and bombed wrecks have contaminated the Shatt-al-Arab waterway, threatening its ecosystem and the fishing industry.

34 The impact of war on farmland was equally devastating: in Kermanshah, the conflict contaminated more than 300,000 hectares of irrigated farmland.⁷⁵ Millions of date palms and “5,000 hectares of orchards were destroyed, some 130,000 hectares of natural forest and 753,000 hectares of pasture land in the war-afflicted provinces were also rendered unusable.⁷⁶” All five Iranian provinces impacted by the war appeared to be contaminated by toxic materials emanating from chemical and biological weapons. The situation was compounded by soil compaction, flooding and salinization where irrigation canals were destroyed.⁷⁷ On coastal strips and in mainland waterways, military waste destroyed the prawn-fishing industry and intoxicated the rural population. As a result of war, studies have shown a higher rate of disease incidence, such as eye infection, skin ailments, stomach illness and acute respiratory disease.⁷⁸ The Karoun river in the South-western province of Iran, once the mainstay of economic activity, is now heavily

polluted.⁷⁹ Since the end of the war, there has been an alarming increase in health-threatening insects and pests. Decades later, civilians exposed to chemical attacks show high rates of chronic anxiety, depression, and post-traumatic stress disorder.⁸⁰ Finally, unidentified minefields and unexploded war materials demonstrate the enduring sanitary impact of the Iran-Iraq war.⁸¹

The 1991 Gulf War

A mere two years after the end of the Iran- 35 Iraq war (August 1988), the Gulf War (August 1990-February 1991) sparked a deadly combination of air power from above and oil sabotage down below. Due to the overwhelming fire storm of Western air power⁸², the Iraqi forces opened oil valves of the Sea Island pipeline, releasing oil from numerous tankers, oil lakes and fire trenches, as part of a scorched earth policy in a desperate retreat from Kuwait in 1991. The goal of the spill was to impede Coalition troops from attempting beach landings, but in the end the spill simply resulted in over 240 million gallons of crude oil being dumped into the Persian Gulf.⁸³ For the first time on a regional scale, oil pollution was used as a tactic of war and devastated the biodiversity of uninhabitable coastlines.

Oil spillage in the Persian Gulf tarred beaches 36 and killed more than 25,000 birds, whereas oil

73 Amanda Walker, 1989, “Recessional and Gulf War impacts on port development and shipping in the Gulf States in the 1980s”, *GeoJournal* vol. 18, n° 3, 273-284.

74 *Ibid.*

75 UN Secretary-General, “Report on Iran’s reconstruction efforts in the wake of the conflict between the Islamic Republic of Iran and Iraq”, 24 December 1991, 40-41.

76 Hooshang Amirahmadi, “Iranian recovery from industrial devastation during war with Iraq”, in James Mitchell, *The long road to recovery: community responses to industrial disaster* (New York: United Nations University Press, 1996).

77 *Ibid* 28-48.

78 *Ibid.*

79 Hassan Nasirian, Kim Irvine, “Odonata larvae as a bio-indicator of metal contamination in aquatic environments: application to ecologically important wetlands in Iran”, *Environmental monitoring and assessment* vol. 189, n° 9, 2017, 436.

80 Farnoosh Hashemian, Kaveh Khoshnood, Mayur M. Desai, Farahnaz Falahati, Stanislav Kasl, and Steven Southwick, “Anxiety, depression, and posttraumatic stress in Iranian survivors of chemical warfare” *Jama* vol. 296, n° 5, 2006, 560-566.

81 UN Secretary-General, “Report on Iran’s reconstruction efforts in the wake of the conflict between the Islamic Republic of Iran and Iraq”, 24 December 1991.

82 Richard Hallion, *Storm Over Iraq: Air Power and the Gulf War* (Washington: Smithsonian Books, 1992).

83 Thomas Hawley, *Against the Fires of Hell: The Environmental Disaster of the Gulf War* (New York: Harcourt Brace Jovanovich Publishers, 1992); Muhammad Sadiq and John McCain, *The Gulf War Aftermath: An Environmental Tragedy* (Dordrecht: Kluwer Academic Publishers, 1993); Gar Smith, *The War and Environment Reader* (Washington: Just World Books, 2017).

spilled on land formed huge pools in lowlands, covering fertile croplands. The deposition of oil, soot, sulfur, and acid rain spread up to 1,200 miles in all directions from the oil fires. They turned fields untillable, which led to food shortages. The fires released nearly half a billion tons of carbon dioxide, the leading cause of global warming, emissions greater than all but the eight largest polluting countries for 1991 that will remain in the atmosphere for more than a century. The oil that did not burn in the fires traveled by air in the form of nearly invisible droplets resulting in an oil mist or fog that poisoned trees and grazing sheep, contaminated fresh water supplies, and found refuge in the lungs of people and animals throughout the Gulf.⁸⁴

37 Following the Gulf War, Iraqi Shia in the South rebelled in March 1991. The uprising was crushed by the Iraqi Government, which launched a brutal campaign to drain the marshes of southern Mesopotamia and economically siege a previously self-sufficient population. “The state used hydrological infrastructure to divert water from the wetlands, permanently desiccating the area.⁸⁵” Here again, the State coercively degraded the environment to expropriate peoples and restructure their land to better submit them to State discipline. Between 1991 and 1997, a system of dams, dikes and canals was built to turn the wetlands into dry, salty lands. Once drained, the land would be leased to coopted tribal leaders for commercial agriculture and oil exploration, making survival contingent on cooperation with the State.⁸⁶

The 2003 Gulf War

38 The 2003 invasion of Iraq by the forces of the Coalition removed Hussein from power after his twenty-four-year rule. While mirroring previous practices of accumulation by contamination, this second Gulf war displayed the use of specific weapons responsible for environmental

and sanitary damage. The indiscriminate use of prohibited chemical weapons and toxic gases may have contributed to the high percentage of civilian casualties. Reports indicate that women and children mortality rates exploded fifty-fold since the US invasion and bombardment campaigns.⁸⁷ During the November 2004 battle of Fallujah, codenamed *Operation Phantom Fury*, the US army had recourse to highly toxic white phosphorus to clear the city of insurgents. White phosphorus was used to “flush out combatants from fortified positions⁸⁸” – otherwise known as “spider holes⁸⁹” – to expose them to sniper fire and high explosives. The chemical agent was also reported to have directly affected civilians in the densely populated areas of Nasariyah, Fallujah, and Baquba.⁹⁰

In a 2005 report entitled “Assessment of environmental hot spots in Iraq”, the United Nations Program for Environment estimated that industrial and military pollution contaminated ten sites with high levels of radioactive waste and forty-two sites with dioxin and depleted uranium.⁹¹ Depleted Uranium (DU) used by Coalition forces in 2003 is a heavy metal particularly favoured by the military industry for its penetrating properties of armoured equipment. Previously used during the 1991 Gulf War, DU widely spreads in the air, soil and water, particularly in dust storms over dry landscape. An estimated 250.000 to 300.000 small-caliber munitions were shot for every Iraqi insurgent killed in the Iraq War. When the hardened shell casings of ammunition explode, their toxic components contaminate soil and water. The following “atomisation” of depleted uranium, mercury and lead caused

⁸⁴ Paul Carr, “‘Shock and Awe’ and the Environment”, *Peace Review* vol. 19, n° 3, 2007, 335-342.

⁸⁵ Ariel Ahram, “Development, counterinsurgency, and the destruction of the Iraqi marshes”, *International Journal of Middle East Studies* vol. 47, n° 3, 2015, 447-466.

⁸⁶ *Ibid.*

⁸⁷ Gilbert Burnham, Riyadh Lafta, Shannon Doocy and Les Roberts “Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey”, *The Lancet* vol. 368, n° 9545, 2006, 1421-1428.

⁸⁸ Joseph Tessier, “Shake & Bake: Dual-Use Chemicals, Contexts, and the Illegality of American White Phosphorus Attacks in Iraq”, *Pierce L. Rev.* 6, 2007, 323.

⁸⁹ *Ibid.*

⁹⁰ *Ibid.* 355.

⁹¹ United Nations Environmental Program, “Assessment of Environmental ‘Hot Spots’ in Iraq”, 2005, Url: http://postconflict.unep.ch/publications/Iraq_ESA.pdf (accessed 05/05/2020).

morbid levels of pollution in streets, gardens, fields and children's playgrounds.⁹² "Between 1.000 and 2.000 tons of toxic and radioactive depleted uranium [...] have been used in Iraq by American and British forces during the war."⁹³ The high prevalence of radioactive and toxic uranium in Iraqi soil and infrastructures constitutes a widespread and long-lasting threat to the health of the Iraqi population, which has been plagued by a high rate of cancers and birth defects.⁹⁴ In some rural areas potable water was unavailable to half the population, and caused forced displacement.⁹⁵ According to post-war studies, high levels of carcinogenic pollution in the most targeted areas of war contributed to the epidemic of congenital birth defects, extending the thanatological effects of war well beyond the official cessation of hostilities.⁹⁶ Still today, decontamination of depleted uranium requires the removal of contaminated soil and its treatment as radioactive waste.

40 In synchrony with war contamination, the U.S. occupation established a regime of accumulation for the corporate members and political allies of the Coalition. The Occupying Power siphoned 90% of the Development Fund for Iraq (made of frozen assets and oil revenue from the previous regime), by awarding 74% of contracts to U.S. firms such as Bechtel (electricity), Halliburton (logistical support), Dyn-Corp, Vinnell and USIS (security firms and defense), Creative Associates (education) and Research Triangle Institute (local democracy). Only 2%

of contracts were awarded to Iraqi companies. Refusing to hire Iraqi nationals for security reasons, the Department of Defense outsourced its labor tasks to private security and service companies such as Kellogg, Brown & Root and Blackwater Worldwide. Shortly after the transfer of the Fund to the CPA President Bush signed Executive Order 13303 granting all U.S. entities which were awarded payment under the Fund immunity from legal proceedings.⁹⁷ The Occupying Power also destroyed national public monopolies and replaced them with private extractive activities of foreign corporations. A dozen rounds of oil and gas licensing bids took place during the occupation campaign of 2003-2011, awarding contracts to foreign investors and contractors, such as Halliburton, Baker Hughes, Weatherford International and Schlumberger, which won the largest portion of the subcontracts to drill for oil, build wells and refurbish old equipment. To conclude this section, the U.S.-led process of accumulation by contamination further accentuated the asymmetric distribution of energy and toxic waste between corporate bodies and social metabolisms in Iraq.

The rise of ISIL and contamination by repetition

By the time the US left Iraq in December 2011 in compliance with the terms of a bilateral *Status of Forces Agreement*⁹⁸, the Pentagon had sold the Iraqi Defense Ministry \$1.3 billion in tanks, helicopters, planes and guided missiles.⁹⁹ The US also spent \$1.4 billion of Iraqi treasury funds to finance the Ministry of Interior's secret prison

⁹² Souad Al-Azzawi, "Depleted Uranium Radioactive Contamination in Iraq: An Overview", *Global Research*, 2006.

⁹³ Barry Levy and Victor Sidel, "The Iraq War" in Levy & Sidel (eds.), *War & Public Health* (Oxford: Oxford University Press, 2008), 260.

⁹⁴ Riyadh Abdullah Fathi, Lilyan Yaqub Matti, Hana Said Al-Salih, and Douglas Godbold. "Environmental pollution by depleted uranium in Iraq with special reference to Mosul and possible effects on cancer and birth defect rates" *Medicine, conflict and survival* vol. 29, no° 1, 2013, 7-25.

⁹⁵ United States Government, Special Inspector General for Iraq Reconstruction, "Quarterly Report" 2009, 79.

⁹⁶ Sadik Al-Sabbak, Ali Savabi, Ghazal Savabi, Saeed Dastgiri, and Mozghan Savabieasfahani. "Metal contamination and the epidemic of congenital birth defects in Iraqi cities" *Bulletin of Environmental Contamination and Toxicology* vol. 89, no° 5, 2012, 937-944.

⁹⁷ Coalition Provisional Authority Order Number 17 (Revised), "Status of the Coalition Provisional Authority, MNF – Iraq, Certain Missions and Personnel in Iraq", CPA/ORD/27 June 2004/17, Article 1, Section 4: "the multinational force, foreign liaison missions, their personnel, property, funds and assets and all international consultants shall be immune from Iraqi legal process."

⁹⁸ See "Agreement Between the United States of America and Republic of Iraq On the Withdrawal of United States Forces from Iraq and the Organization of Their Activities during Their Temporary Presence in Iraq", 2008 in Mason Chuck, "US-Iraq Withdrawal/Status of Forces Agreement: Issues for Congressional Oversight" (DIANE Publishing, 2010).

⁹⁹ Paul James, Céline Nahory, "War and Occupation in Iraq", *Global Policy Forum*, 2013, Chapter 9: Corruption, Fraud and Gross Malfeasance, 90.

HENNESSY PICARD, BEIGI | STAINS OF EMPIRE: ACCUMULATION BY CONTAMINATION IN THE GULF

program, train militias and arm the new police force.¹⁰⁰ As a result, al-Maliki's Government of Iraq leveraged the new security apparatus to systematically marginalize, arrest and torture Sunni elected officials.¹⁰¹ This power imbalance, sowing the seed of Sunni resentment, coincided with the growing instability in Syria, which ultimately led to the rise of the Islamic State of Iraq & the Levant (ISIL). Once the U.S. Army departed, ISIL rose out of the rubble to become a profitable multinational oil business operation. ISIL was "adept at exploiting decades-old transnational gray markets for oil and arms trafficking."¹⁰²

42 Because they stretch across desert land, pipelines are easily tapped into. Once tapped, the oil can be "bunkered" into tanks and sailed off into the Gulf. Resource extraction and armament depot looting provided ISIL with the material arsenal necessary to back its political claims.¹⁰³ ISIL grew stronger by reviving old ties on a deregulated oil market.¹⁰⁴ The network used the proceeds of the dark oil trade to capture Raqqa in March 2013 and Mosul in June 2014.¹⁰⁵ Between 2011 and 2016, ISIL orchestrated attacks by funneling cash, arms and oil through similar channels of undercover networks as those used by

the Baath shadow State to smuggle oil out of Iraq during the US embargo of 1991-2003.¹⁰⁶

ISIL seized control of dams, oil wells, refineries, ports, banks and wheat crops to establish its mercenary extractive sovereignty.¹⁰⁷ At the height of its power, ISIL banked in between \$80,000 and \$1.6 million a day from oil sales, bank robberies, extortion, smuggling and punitive taxes.¹⁰⁸ Most of its oil was believed to be smuggled through Turkey at the rate of \$1 million per day.¹⁰⁹ Because the oil trade was illegal, the barrels were sold at a discounted price, which undercut international oil prices and left room for sizable profits.¹¹⁰

By seizing oil wells and military equipment left behind by the American occupation, ISIL reproduced the accumulation by contamination of the occupying forces.¹¹¹ ISIL acquired the extractive means to finance war-making, thereby adding another layer of rubble and dust to the ground they regained among the exploited people they pledged to protect: this pollution has come to be referred to as "the ISIL winter", which depicts the toxic fallout of three years of armed conflict.¹¹² By detonating oil wells and torching sulfur plants across Iraqi provinces to fight against

100 Robert Perito, "Reforming the Iraqi Interior Ministry, Police and Facilities Protection Service" *US Institute of Peace*, February 2007; Mark Sedra, "Security sector reform in Afghanistan and Iraq: exposing a concept in crisis", *Journal of Peacebuilding & Development* vol. 3, n° 2, 2007, 7.

101 Maliki purged Government ministries of their Sunni representatives, such as Vice President Tariq al-Hashemi and Sunni Finance Minister Rafi al-Issawi, who were charged of having links to terrorism. See Kenneth Katzman, "Iraq: Politics, Security, and U.S. Policy", *CRS Report for Congress. RS21968, Washington, D.C, GPO*, April 16, 2015, 17.

102 Michael Weiss, Hassan Hassan, "ISIS: Inside the Army of Terror", *New York: Regan Arts*, 2015. Url: <https://www.nytimes.com/2015/04/05/books/review/isis-inside-the-army-of...> (accessed 09/03/2020).

103 Shiv Malik, "The Isis Papers: Behind 'Death Cult' Image Lies a Methodical Bureaucracy", *Guardian*, 7 December 2015.

104 ISIL is "a mafia adept at exploiting decades-old transnational gray markets for oil and arms trafficking", Michael Weiss, Hassan Hassan, *ISIS: Inside the Army of Terror* (New York: Regan Arts, 2015).

105 Ali Nehme Hamdan, "Breaker of barriers? Notes on the geopolitics of the Islamic State in Iraq and Sham", *Geopolitics* vol. 21, n° 3, 2016, 605-627.

106 Denise Natali, 'The Islamic State's Baathist Roots.', *Al-Monitor*, 24 April 2015. Url: <https://www.al-monitor.com/pulse/originals/2015/04/baathists-behind-the...> (accessed 09/06/2020).

107 Jeremy Bender, "ISIS Is Turning Food And Water Into A Weapon In Iraq", *Business Insider*, Aug. 15 2014. Url: <https://www.businessinsider.com/isis-has-two-major-weapons-in-iraq-2014...> (accessed 09/06/2020).

108 Orlando Crowcroft, "Inside the Struggling Islamic State Economy in Iraq and Syria" *International Business Times* 2015.

109 Dilly Hussain, "ISIS: The 'unintended consequences' of the US-led war on Iraq", *Foreign Policy Journal*, March 23, 2015. Url: <https://www.foreignpolicyjournal.com/2015/03/23/isis-the-unintended-con...> (accessed 09/06/2020).

110 Benoit Faucon, Margaret Coker, "The Rise and Deadly Fall of Islamic State's Oil Tycoon", *Washington Post*, April 24, 2016. Url: <https://www.wsj.com/articles/the-rise-and-deadly-fall-of-islamic-states...> (accessed 09/06/2020).

111 Jessica Stern, John Berger, *ISIS: The state of terror* (New York: Harper Collins, 2015).

112 The Open University, "The ISIS winter: The environmental impact of Middle East conflict", 31st January 2018, Url: <https://www.open.edu/openlearn/nature-environment/environmental-studies...> (accessed 02/03/2020).

Government security forces, ISIL orchestrated environmental sabotage. “The burning of the [Mishraq Sulphur Plant] was a real case of using environmental damage as a weapon of war.¹¹³”

45 Furthermore, the wreckage of twenty-five oil wells in Qayyarah provoked thick blinding smoke clouds stretching over tens of kilometers, turning people’s skin and sheep’s coats black from soot. This toxic legacy includes wide-scale cattle deaths, fields that no longer yield edible crops and chronic breathing complications in children and the elderly. As a result, over 1,500 people were reportedly treated for suffocation in the Qayyarah, Makhmour and Ijhala according to the Ministry of Health and the WHO.¹¹⁴ Large tracts of farming and grazing land have also been affected by oil spills, seriously endangering livelihoods.¹¹⁵ Much of the oil has seeped into the ground and the Tigris river, affecting the supply of drinking and agricultural water. Heavily polluted waterways in the Basra region led to the collapse of agriculture and the displacement of entire communities from rural areas. As they flee, refugees in the city of Basra settle in severely polluted shanti towns, which pump their water in the Shatt-al-Arab river, now littered with debris, bacteria, chemicals and salt. The Norwegian Refugee Council and the Displacement Monitoring Center reveal that systematic pollution and hazardous sanitation have resulted in more than 100,000 cases of waterborne disease in the first months of 2020, fueling the anger and protests of contaminated communities.¹¹⁶ Moreover, damaged ISIL ammunition manufacturing plants, as well as polychlorinated biphenyl (PCB) contamination

from attacks on energy infrastructure disseminated vast quantities of debris and waste across the landscape.

In the end, ISIL used oil both as a revenue stream 46 and as an environmental weapon. The insurgency mirrored the very process of accumulation by contamination, which had been adopted by its enemy, the State. The fight by Government forces to regain control over ISIL-conquered territory, as well as the Coalition’s systematic bombardment of Mosul, fueled another round of contamination, leaving behind a trail of blood and rubble in the ancient city.¹¹⁷

CONCLUSION

A century of Energy Imperialism in the Gulf 47 ultimately contaminated the human ecology of the region. This contamination was the product of the dynamic relationship between fire-bombing from above and oil drilling from below. From British “indirect rule” to American “regime change”, bombs were systematically dropped to secure oil concessions and military alliances. As we tried to demonstrate in our contribution, these foreign rounds of accumulation by contamination were reproduced internally by local actors, who used oil as a political weapon for war-making and State-building, and often consciously using oil pollution as a weapon of ecological warfare. Paradoxically, nationalist movements of the 1950s and rebel forces of 2010s, which claimed to offer an alternative, ultimately replicated the hegemonic model of accumulation by contamination sustained by a regime of legal impunity for ecological destruction during wartime.¹¹⁸

¹¹³ PAX Netherlands, “Living Under A Black Sky: Conflict pollution and environmental health concerns in Iraq”, *Report*, 05 December 2017.

¹¹⁴ UN Environment Technical Note: Environmental Issues in Areas Retaken From ISIL, Mosul, Iraq, 2017. Url: https://reliefweb.int/sites/reliefweb.int/files/resources/UNEP_Iraq_Tec... (accessed 09/06/2020).

¹¹⁵ *Ibid.*

¹¹⁶ Norwegian Refugee Council and the Internal Displacement Monitoring Center, “When canals run dry: displacement triggered by water stress in the south of Iraq”, February 2020. Url: <https://www.internal-displacement.org/publications/when-canals-run-dry-...> (accessed 09/06/2020).

¹¹⁷ Michael Knights, Alexander Mello, “Defeat by Annihilation: Mobility and Attrition in the Islamic State’s Defense of Mosul”, *CTC Sentinel* vol. 10, n° 43. 2017.

¹¹⁸ Katherine Kelly, “Declaring War on the Environment: The Failure of International Environmental Treaties During the Person Gulf War” *Am. UJ Int’l L. & Pol’y* 7, vol. 7, n° 4, 1991, 921-950. In 2011, the International Committee of the Red Cross concluded that the law protecting the environment during armed conflicts is unclear and insufficiently developed. See 31st International Conference of the Red Cross and Red Crescent held in Geneva, Switzerland, 28 November-1 December 2011. For recent scholarship, see Britta

- 48 The Gulf is today one of the most militarized regions of the world, since oil extraction offered ceaseless occasions for military spending and war profiteering. As much as slaves working in plantations contributed to primary accumulation by dispossession in the colonial era¹¹⁹, planes over pipelines contributed to another round of accumulation by contamination in the postcolonial era.
- 49 With the discovery of new petroleum reserves on other continents and offshore, the Western process of accumulation by contamination initiated a century ago in the Gulf has now colonized the planet. Our Ecomarxist study of the Gulf could find resonance elsewhere, in extractive regions of Latin America and Africa, which have come to symbolize the new geographies of dirty wars and mineral plunder. The primitive accumulation by contamination is in a process of constant relocation, revealing new actors. The Far East is now land-grabbing and drilling in the postcolonial world¹²⁰, while the West is pumping and fracking its own underground, with devastating effects on the quality of the water tables. As Michel Serres convincingly argued in his essay *Malfeasance: Appropriation Through Pollution?*, globalization paradoxically leads to worldwide dispossession of a polluted earth: *Res Nullius Mundus*.¹²¹ The world has been turned into a wasteland, which prompts us to revisit the question asked in the introduction: have we entered to a new anthropogenic era – the Molysmocene – representing a general accumulation and dispersion of pollution across the globe?

Sjostedt, *The Role of Multilateral Environmental Agreements: A Reconciliatory Approach to Environmental Protection in Armed Conflict* (London: Bloomsbury Publishing, 2020).

¹¹⁹ Sven Beckert, *Empire of cotton: A global history* (New York: Vintage, 2015).

¹²⁰ Arboleda, supra note 16.

¹²¹ Michel Serres, *Malfeasance: Appropriation Through Pollution?* (Stanford: University Press, 2010).

Bibliographie

Ahram Ariel

“Development, counterinsurgency, and the destruction of the Iraqi marshes”, *International Journal of Middle East Studies* vol. 47, n° 3, 2015, 447-466.

Al-Azzawi Souad

“Depleted Uranium Radioactive Contamination in Iraq: An Overview”, *Global Research*, 2006.

Al-Sabbak Sadik, Savabi Ali, Savabi Ghazal, Dastgiri Saeed, Savabieasfahani Mozghan

“Metal contamination and the epidemic of congenital birth defects in Iraqi cities.” *Bulletin of Environmental Contamination and Toxicology*, vol. 89, no° 5, 2012, 937-944.

Amirahmadi Hooshang

“Iranian recovery from industrial devastation during war with Iraq”, in James Mitchell, *The long road to recovery: community responses to industrial disaster* (New York: United Nations University Press, 1996).

Arboleda Martín

Planetary Mine: Territories of Extraction Under Late Capitalism (London: Verso, 2020).

Barr James

A Line in the Sand: The Anglo-French Struggle for the Middle East, 1914-1948: The Anglo-French Struggle for the Middle East, 1914-1948 (New York City: WW Norton & Company, 2012).

Batatu Hanna

The Old Social Classes and the Revolutionary Movements of Iraq: A Study of Iraq's Old Landed and Commercial Classes and of its Communists, Baathists and Free Officers (New York: Princeton University Press, 1982).

Beckert Sven

Empire of cotton: A global history (New York: Vintage, 2015).

Belcher Oliver, et al.

“Hidden carbon costs of the ‘everywhere war’: Logistics, geopolitical ecology, and the carbon boot-print of the US military”, *Transactions of the Institute of British Geographers* vol. 45, n° 1, 2020, 65-80.

Black Edwin

Banking on Baghdad: Inside Iraq's 7,000-year history of war, profit and conflict (Hoboken: Wiley, 2004).

Edwin

Banking on Baghdad: Inside Iraq's 7,000-Year History of War, Profit and Conflict (Hoboken: John Wiley & Sons, 2004).

Bonneuil Christophe, Fressoz

Jean-Baptiste

The shock of the Anthropocene: The earth, history and us (London: Verso Books, 2016).

Burnham Gilbert, Lafta Riyadh,

Doocy Shannon, Roberts Les

“Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey”, *The Lancet*, vol. 368, n° 9545, 2006, 1421-1428.

Burrows Geoff, Cobbin Phillip

“Budgetary and financial discontinuities: Iraq 1920-32”, *Accounting History Review*, vol. 21, n° 3, 247-259

Carr Paul

“‘Shock and Awe’ and the Environment”, *Peace Review*, vol. 19, n° 3, 2007, 335-342.

Catherwood Christopher

Churchill's Folly: How Winston Churchill Created Modern Iraq (New York: Carroll & Graf, 2004).

Colgan Jeff

Petro-aggression: When oil causes war (Cambridge: Cambridge University Press, 2013).

Cottam Richard

Competitive Interference and Twentieth Century Diplomacy (Pittsburgh: University of Pittsburgh Press, 1967).

Cox Jafna

“A splendid training ground: the importance to the Royal Air Force of its role in Iraq, 1919-32” *The Journal of Imperial and Commonwealth History*, vol. 13, n° 2, 1985, 157-184.

Crowcroft Orlando

“Inside the Struggling Islamic State Economy in Iraq and Syria” *International Business Times* 2015.

Dalby Simon

“Environmental geopolitics in the twenty-first century”, *Alternatives*, vol. 39, n° 1, 2014, 3-16.

Dann Uriel

Iraq under Qassem: a political history, 1958-1963 (New York: Praeger, 1969).

de Vries Ubaldus

“Sustainable uncertainty: Normalising the ecological state of exception”, *Water Law* vol. 24, n° 3, 2014, 92-99

Demaria Federico

“Can the Poor Resist Capital? Conflicts over ‘Accumulation by Contamination’ at the Ship Breaking Yard of Alang (India)”, *Nature, Economy and Society*, 2016, 273-304.

Dodge Toby

Inventing Iraq – The Failure of Nation-Building and a History Denied (Oxford: Oxford University Press, 2003).

HENNESSY PICARD, BEIGI | STAINS OF EMPIRE: ACCUMULATION BY CONTAMINATION IN THE GULF

Drosos Dionysios

“Adam Smith and Karl Marx: alienation in market society.” *History of Economic Ideas*, 1996, 325-351.

Farouk-Sluglett Marion, Sluglett Peter

Iraq Since 1958. From Revolution to Dictatorship (London: KPI, 1987).

Farouk-Sluglett Marion, Sluglett Peter

Iraq Since 1958: From Revolution to Dictatorship (London: Bloomsbury Publishing, 2003).

Fathi Riyad Abdullah, Matti Lilyan Yaqub, Said Al-Salih Hana, Godbold Douglas

“Environmental pollution by depleted uranium in Iraq with special reference to Mosul and possible effects on cancer and birth defect rates” *Medicine, conflict and survival*, vol. 29, no° 1, 2013, 7-25.

Fitzgerald Edward Peter

“The Iraq Petroleum Company, Standard Oil of California, and the Contest for Eastern Arabia, 1930-1933”, *The International History Review*, vol. 13, n° 3, 1991, 441.

Foster John Bellamy

“Marx's ecology in historical perspective”, *International Socialism*, 2002, 71-86.

Foster John Bellamy, Clark Brett, York Richard

The ecological rift: Capitalism's war on the earth (New York: NYU Press, 2011).

Foster John Bellamy

Marx's ecology: Materialism and nature. (New York: NYU Press, 2000)

Gabrys Jennifer

“Sink: The dirt of systems”, *Environment and Planning: Society and Space*, vol. 27, n° 4, 2009, 666-681

Gordillo Gastón

Rubble: The afterlife of destruction (Durham: Duke University Press, 2014).

Grove Jairus Victor

Savage ecology: War and geopolitics at the end of the world (Durham: Duke University Press, 2019).

Hallion Richard

Storm Over Iraq: Air Power and the Gulf War, (Washington: Smithsonian Books, 1992).

Hamdan Ali Nehme

“Breaker of barriers? Notes on the geopolitics of the Islamic State in Iraq and Sham”, *Geopolitics*, vol. 21, n° 3, 2016, 605-627.

Harvey David

The new imperialism (Oxford: OUP, 2005)

Hashemian Farnoosh, Khoshnood Kaveh, Desai Mayur M., Falahati Farahnaz, Kasl Stanislav, Southwick Steven

“Anxiety, depression, and posttraumatic stress in Iranian survivors of chemical warfare” *Jama*, vol. 296, n° 5, 2006, 560-566.

Hawley Thomas

Against the Fires of Hell: The Environmental Disaster of the Gulf War (New York: Harcourt Brace Jovanovich Publishers, 1992)

Husry Khaldun

“The Assyrian affair of 1933.” *International Journal of Middle East Studies*, vol. 5, n° 2, 1974, 161-176.

Ireland Philip Willard

“Iraq; a Study in Political Development: A Study in Political Development”, *Russell & Russell*, 1970, 146.

James Paul, Nahory Céline

“War and Occupation in Iraq”, *Global Policy Forum*, 2013, Chapter 9: Corruption, Fraud and Gross Malfeasance, 90.

Jones Gareth

“The British Government and the Oil Companies 1912-1924: The Search for an Oil Policy”, *The Historical Journal*, 1977, vol. 20, n° 3, 666.

Josephson Paul

Industrialized nature: Brute force technology and the transformation of the natural world (Washington D.C.: Island Press, 2002).

Kaldor Mary, Lynn Karl Terry, Said Yahia

Oil wars (London: Pluto Press, 2007).

Kelly Katherine

“Declaring War on the Environment: The Failure of International Environmental Treaties During the Person Gulf War” *Am. UJ Int'l L. & Pol'y* 7, vol. 7, n° 4, 1991, 921-950.

Kelly Michael

“The Anfal trial against Saddam Hussein” *Journal of Genocide Research*, vol. 9, n° 2, 2007, 235-242

Knights Michael, Mello Alexander

“Defeat by Annihilation: Mobility and Attrition in the Islamic State's Defense of Mosul” *CTC Sentinel*, vol. 10, n° 43. 2017.

LeBaron Bowen Richard

“The pearl fisheries of the Persian Gulf”, *Middle East Journal* vol. 5, n° 2, 1951, 161-180.

Levy Barry, Sidel Victor

“The Iraq War” in Levy Barry, Sidel Victor (eds.), *War & Public Health* (Oxford: Oxford University Press, 2008), 260.

Mahmood Freije Afnan

“Heavy metal, trace element and petroleum hydrocarbon pollution in the Arabian Gulf” *Journal of the Association of Arab Universities for Basic and Applied Sciences*, vol. 17, n° 1, 2015, 90-100.

Marks Susan

“Law and the production of superfluity”, *Transnational Legal Theory*, vol. 2. n° 1, 2011, 1-24.

Marr Phebe

The modern history of Iraq (Oxfordshire: Routledge, 2018).

HENNESSY PICARD, BEIGI | STAINS OF EMPIRE: ACCUMULATION BY CONTAMINATION IN THE GULF

McBrien Justin

“Accumulating extinction: Planetary catastrophism in the Necrocene”, *Anthropocene or Capitalocene*, 2016, 116-137.

McKale Donald

War by revolution: Germany and Great Britain in the Middle East in the era of World War I (Ohio: Kent State University Press, 1998).

Meilinger Phillip

“Trenchard and ‘Morale Bombing’: The Evolution of Royal Air Force Doctrine Before World War II” *The Journal of Military History*, 60, n° 2, 1996, 243.

Miller Judith, Mylroie Laurie

“The Rise of Saddam Hussein” *The Iraq war reader: History, documents, opinions*, 2003, 18-29, 28.

Mlodoch Karin

“The Indelible Smell of Apples: Poison Gas Survivors in Halabja, Kurdistan-Iraq, and Their Struggle for Recognition”, in Friedrich Bretislav, Hoffmann Dieter, Renn Jürgen, Schmaltz Florian, Wolf Martin (eds.), *One Hundred Years of Chemical Warfare: Research, Deployment, Consequences* (New York: Springer, 2017), 349-362.

Moore Jason. W.

Capitalism and the Web of Life: Ecology and the Accumulation of Capital (London: Verso, 2015). Haraway Donna, “Anthropocene, capitalocene, plantationocene, chthulucene: Making kin” *Environmental humanities* vol. 6, n° 1, 2015, 159-165.

Nasirian Hassan, Irvine Kim

“Odonata larvae as a bioindicator of metal contamination in aquatic environments: application to ecologically important wetlands in Iran”, *Environmental monitoring and assessment*, vol. 189, n° 9, 2017, 436.

Neocleous Mark

“War on waste: Law, original accumulation and the violence of capital”, *Science & Society*, vol. 75, n° 4, 2011, 506-528.

Nixon Rob

Slow Violence and the Environmentalism of the Poor (Cambridge: Harvard University Press, 2011).

Omissi David

“Britain, the Assyrians and the Iraq Levies, 1919-1932”, *The Journal of Imperial and Commonwealth History*, vol. 17, n° 3, 1989, 301-322.

O'Rourke Dara, Connolly Sarah

“Just oil? The distribution of environmental and social impacts of oil production and consumption” *Annual Review of Environment and Resources*, vol. 28, n° 1, 2003, 587-617.

Paredis Erik

The concept of ecological debt: its meaning and applicability in international policy (Cambridge: Academia Press, 2009).

Perito Robert

“Reforming the Iraqi Interior Ministry, Police and Facilities Protection Service” US Institute of Peace, February 2007;

Polanyi Karl

The great transformation (Boston: Beacon press, 1944).

Rava Zolnikov Tara

“The maladies of water and war: addressing poor water quality in Iraq” *American journal of public health*, vol. 103, n° 6, 2013, 980-987.

Sadiq Muhammad, McCain John

The Gulf War Aftermath: An Environmental Tragedy (Dordrecht: Kluwer Academic Publishers, 1993)

Sedra Mark

“Security sector reform in Afghanistan and Iraq: exposing a concept in crisis”, *Journal of Peacebuilding & Development*, vol. 3, n° 2, 2007, 7.

Serres Michel

Malfeasance: Appropriation Through Pollution? (Stanford: University Press, 2010).

Silverfarb Daniel

Britain's Informal Empire in the Middle East. A Case Study of Iraq, 1929-1941 (Oxford: Oxford University Press, 1986), 33-47

Singh Shweta, Kennedy Chris

“Estimating future energy use and CO2 emissions of the world's cities”, *Environmental Pollution*, vol. 203, 2015, 271-278.

Sjostedt Britta

The Role of Multilateral Environmental Agreements: A Reconciliatory Approach to Environmental Protection in Armed Conflict (London: Bloomsbury Publishing, 2020).

Sluglett Peter

Britain in Iraq: Contriving King and Country, (New York: Columbia University Press, 2007)

Smith Gar

The War and Environment Reader (Washington: Just World Books, 2017).

Steffen, Will, et al.

“The Anthropocene: from global change to planetary stewardship” *Ambio*, vol. 40, no° 7, 2011, 739.

Stern Jessica, Berger John

ISIS: The state of terror (New York: Harper Collins, 2015).

Tessier Joseph

“Shake & Bake: Dual-Use Chemicals, Contexts, and the Illegality of American White Phosphorus Attacks in Iraq”, *Pierce L. Rev.* 6, 2007, 323.

Thomas Martin

“Bedouin Tribes and the Imperial Intelligence Services in Syria, Iraq and Transjordan in the 1920s”, *Journal of Contemporary History*, vol. 38, n° 4, 2003, 539.

Tilly Charles

“War making and state making as organized crime”, *Collective Violence, Contentious Politics, and Social Change*, Routledge, 2017, 121-139.

HENNESSY PICARD, BEIGI | STAINS OF EMPIRE: ACCUMULATION BY CONTAMINATION IN THE GULF

Tripp Charles

A History of Iraq (Cambridge: Cambridge University Press, 2007).
Tucker Richard, Russell Edmund, (ed.), *Natural enemy, natural ally: toward an environmental history of warfare* (Oregon: Oregon State University Press, 2004).

Walker Amanda

1989, "Recessional and Gulf War impacts on port development and shipping in the Gulf States in the 1980s", *GeoJournal*, vol. 18, n° 3, 273-284.

Warlenius Rikard, Pierce Gregory, Ramasar Vasna

"Reversing the arrow of arrears: The concept of "ecological debt", and its value for environmental justice", *Global Environmental Change*, vol. 30, 2015, 21-30.

Weiss Michael, Hassan Hassan

ISIS: Inside the Army of Terror (New York: Regan Arts, 2015).

Williams Phil

Criminals, militias, and insurgents: organized crime in Iraq (US Army War College: Strategic Studies Institute, 2009).

Woodward Llewellyn (ed.)

Documents on British Foreign Policy, 1919-1939 (London: HMSO, 1946-1986)

Yaphe Judith

"Until They Leave: Liberation, Occupation, and Insurgency in Iraq" in Baram Amatzia, Rohde Achim and Zeidel Ronen (eds.), *Iraq Between Occupations* (New York: Palgrave Macmillan, 2010).

Yates Michelle

"The human-as-waste, the labor theory of value and disposability in contemporary capitalism", *Antipode*, vol.43, n° 5, 2011, 1679-1695.