

## Introduction

- 1 Edwin Drake drilled a well in 1859 in Titusville, Pennsylvania, which is often credited as the world's first. The Drake well, however, produced very little oil.
- 2 With a less masculinist and more nationalist cast, Machel Montano sang the lyric with David Rudder in "Oil and Music" in Montano's *Flame On* album (2008). I am grateful to Marc White for his assistance in tracing the phrase.
- 3 "Este libro versa sobre una novela que no existe. Y no hay en ello ninguna hipóbole. No se da en Venezuela una novelística del petróleo, como, por ejemplo, está presente en el ámbito hispanoamericano una novelística de la revolución mexicana" (Carrera [1972] 2005, 27).
- 4 The photographer titles this section "Oil Wells, Kuwait." Oddly, the section titled "Oil, Baku, Azerbaijan" shows pipes, valves, rigs, and no oil at all.
- 5 "Cracha noir. . . C'est du charbon. . . J'en ai dans la carcasse de quoi me chauffer jusqu'à la fin de mes jours" (Zola [1885] 1968, 37).
- 6 "Greffes" (Zola [1885] 1968, 133).
- 7 "Bête mauvaise . . . la guele toujours ouverte, qui avait englouti tant de chair humaine!" (Zola [1885] 1968, 442).
- 8 Appel, Mason, and Watts (2015a, 10) refer to representations that reduce oil to a "mere metonym" for modernity, money, geopolitics, violence, and commodities.
- 9 "Oro se engendra en tierras estériles y adonde el sol tenga fuerza." Carta-Relacion del Cuarto Viaje de Cristobal Colon, Jamaica, July 7, 1503 (Pérez de Tudela et al. 1994, vol. 3 1527; cf. Gómez 2008, 400).
- 10 For a more materialist reason, Sharife (2011) refers to a contemporary "colonizing" of the atmosphere through carbon pollution.
- 11 Crutzen and Stoermer (2000) first coined the term in a less widely circulated publication.
- 12 I am grateful to an anonymous reviewer for suggesting this comparison.

## Chapter 1: Plantation Slaves, the First Fuel

- 1 From Joseph Gumilla to Gobernador y Capitán General, Guayana. Archivo General de Indias (AGI), Signatura Santo Domingo 632 (quoted in Gumilla 1970, xvii n3).

- 2 M. Roume de St. Laurent to Don Juan de Catilla, March 20, 1777 (reprinted in Borde 1882, 380–82).
- 3 “L'établissement de la Colonie de la Trinité et Moyens de la porter promptement à sa perfection.” Philippe Rose Roume de Saint Laurent, June 2, 1783, AGI Caracas 443 (cf. Besson 2010, 34).
- 4 Borde (1882, 382ff.) reprints the cédula.
- 5 “Libertar para siempre à los Esclavos de todo derecho de Importacion, atendiendo al aumento que el ello resultaría à la agricultura.” Francisco de Savaadra, June 30, 1784, AGI Caracas 443.
- 6 Josef Maria Chacón, Informe, November 22, 1784, AGI Caracas 444.
- 7 Reprinted from the *Trinidad Gazette*, June 1825, in Fraser (1971, 194).
- 8 Some other observers and other colonies clearly treated the labor force as a machine, a semidurable apparatus that itself consumed fuel. Slaves needed to eat. Roume, a planter himself, had articulated the need for estates to provide space for food crops. Jamaica took this thinking a step further; it imported breadfruit trees from Polynesia precisely to feed the enslaved population efficiently and cheaply (Newell 2010). In an even more machinelike way, a slave population might produce more slaves. The owners of Mount Airy, a tobacco estate in Virginia, bred humans like livestock (Dunn 2014). In effect, the female population functioned as a reproductive factory. Even when female and male slaves produced sugar, they functioned physically as “dehumanized cogs in a very inefficient machine” (Dunn 1972, 324). Through what Marx (1976, 283ff.) calls a social “metabolism,” they fashioned foodstuffs and the land itself into commodities.
- 9 “Acclimitasés.” Roume de St. Laurent to Secrétariat d'État de la Marine, February 3, 1785, Archives Nationales d'Outre-Mer, Col. C<sup>8A</sup> F° 344, <http://anom.archivesnationales.culture.gouv.fr/ark:/61561/zn401wqsrww0>.
- 10 “Ademas de estranar al clima . . . demas arboles de cavezuela menor descuida de los blancos que estan all . . . es beneno que los mata.” Josef Maria Chacón to Josef de Galvez, October 8, 1784, AGI Caracas 152.
- 11 “Nosotros no huvieramos podido cumplir lo pactado sin grandes perdidas se ella huviera introducido en los 4 ultimos meses los 4000 Negros que ofreció.” Josef Maria Chacón to Josef de Galvez (no. 8), February 22, 1785, AGI Caracas 152.
- 12 “Qualquier Casa de Comercio Europea que consiga vender annualmente 4 o 6000 Negros al contado al precio de 750 pesos cada uno; puede mui bien fiar el numero de 7000 Negros pagados al termino de un año.” Josef Maria Chacón to Josef de Galvez (no. 8), February 22, 1785, AGI Caracas 152.
- 13 “Es una de las tareas que me ocupan insesantemente. Los esclavos de la parte de la costa de Africa que frequentan los Portugueses son preferibles à los que nos traen los Ingleses, Franceses, y Americanos, asi por mas dóciles, como por mas haviles y robustos.” Josef Maria Chacón to Sr. Marques de Sonora (no. 87), March 10, 1787, AGI Caracas 152.

- 14 “Atraher Colonos que tengan Esclavos y fondos para hacer Casas, y dedicarse desde luego al cultivo de la tierra.” Circular sobre Poblacion de Trinidad, January 1, 1786, AGI Caracas 444.
- 15 Josef Maria Chacón, November 22, 1784, AGI Caracas 444.
- 16 “Que reemplasan el numero de los que han muerto.” Josef María Chacón to Sr. Marques de Sonora, March 10, 1787, AGI Caracas 152 and 444.
- 17 “Las enfermedades que causan las primeras exalaciones de unas tierras que no habian visto el Sol quizá desde que salieron de las manos del Criador.” Josef María Chacón, August 18, 1792, AGI Caracas 444.
- 18 “La perdida que han sufrido este año por falta de Mulas con que moler las cañas y atender a los demas trabajos de sus haciendas.” Josef Maria Chacón to Sr. Don Diego de Gardoqui (no. 79), June 19, 1796, AGI Caracas 153 and 444.
- 19 “Destruido enteramente el monton de Negros fugitivos . . . enteramente sosegada la Isla y los Esclavos con toda sugecion, y seguridad.” Josef Maria Chacón to Sr. Josef de Galvez (no. 10), [month illegible] 15, 1784, AGI Caracas 152.
- 20 “Acantonamientos . . . propuse à su Magestad el establecimiento de una Compania de Dragones . . . suficiente para attajar y coger los Negros fugitivos.” Josef Maria Chacón to Antonio Valdez, March 7, 1788, AGI Caracas 152.
- 21 “Los Ingeleses y Holandeces en la precision de reconocer Independentes los esclavos fugitivos, comprando à expensar de tratados bergonzosos una Paz que no havian podido conceguir con la fuerza, y en la que por consiguiente no pueden afianzar su confianza.” Josef Maria Chacón to Antonio Valdez, March 7, 1788, AGI Caracas 152.
- 22 Josef Maria Chacón to Antonio Valdez, March 7, 1788, AGI Caracas 152.
- 23 “Grave daño de sus Amos, y de si mismo pues una vez sacudida la Esclavitud, andan errantes, y entregados à la desidia y al vicio, de que siguen perniciosas Consequencias.” Francisco de Savaadra to Josef Maria Chacón, June 30, 1784, AGI Caracas 443.
- 24 How necessary was all this preparation? When combustible petroleum came, in the 1850s, elites would likely have embraced this dense energy package as supremely useful under any circumstances. It might have gained currency on this basis alone, unassisted by a prearranged cultural understanding. Still, the construction of other prototypes indicates a sense among planters that something new was required. The abolition of slavery in 1838 provoked a search for nonsomatic substitutes: “The great aim of the planter,” wrote the French creole Louis Antoine Aimé de Verteuil in 1848, “must now be a reduction in manual labour” (de Verteuil 1848, 2). In an essay commissioned by the governor, this first geographer of Trinidad considers the problem of exhausted soils. Yields were falling on Trinidad’s leading cane plantations. Before Emancipation—and especially with Chacón’s incentives—planters might have dispatched slaves to cut new plantations perilously from the forest. De Verteuil does not even mention this possibility. His “scientific principles of agriculture” call for chemical means of restoring extant fields (1848, 3). “The solid and liquid excrements of

animals,” de Verteuil details, “are the best manures of those plants upon which they have been fed,” including cane (1848, 56). The fuel is dense. Of course, dung had long fertilized fields, but de Verteuil applied newfound quantitative principles: a horse defecates 50 pounds per day, which, when distributed at 60–75 cartloads per acre, will raise yields from as little as 1,000 pounds to as much as 2,200 pounds of sugar per acre (1848, 58–60). Here is a whole scientific system of production, distribution, and application. Although issuing from the backside of an animal—rather than the topside of a well—manure performs the same job in the same way. So does bat guano, and much of the world participated in the guano rush in the mid-nineteenth century (Hager 2008). Loosely speaking, all these fuels substituted for bonded men in the farm field. Once invented, slavery/fuel constantly reinvented itself.

## Chapter 2: How Oil Missed Its Utopian Moment

- 1 “Le jeune Bastien, pour se reconnaître envers Celiante qui l’a obligé dans divers services, ne manquera guère de lui offrir la preuve de gratitude qu’un jeune homme de vingt ans peut offrir à une dame de cinquante” (Fourier 1840, 7).
- 2 C. F. Stollmeyer, “Satellite,” *Morning Star*, October 11, 1845, emphasis in original.
- 3 “The Second Tropical Emigration Society,” *Morning Star*, October 18, 1845.
- 4 “Tropical Emigration Society Report of the Directors, Read and Adopted at the Annual Meeting Held January 4th, 1846,” *Morning Star*, January 17, 1846.
- 5 Excerpted in “Review,” *Morning Star*, May 3, 1845.
- 6 “Review,” *Morning Star*, June 7, 1845. Although printed entirely in quotation marks, this passage appears to have adapted, paraphrased, and expanded upon Hall (1827, 103–4).
- 7 “Review,” *Morning Star*, June 7, 1845. Again, quotation marks indicate that Duncan attributes this passage to Hall, but Hall’s text contains nothing resembling it.
- 8 Excerpted in “Review,” *Morning Star*, July 12, 1845.
- 9 James Elmslie Duncan, “On Climate, Particularly of Venezuela and the Tropics,” *Morning Star*, May 31, 1845.
- 10 From Thomas W. Carr and Charles Taylor to the Directors of the Tropical Emigration Society, October 20, 1845; printed in the *Morning Star*, November 29, 1845.
- 11 From Thomas Carr to C. F. Stollmeyer, March 4, 1846, printed in the *Morning Star*, April 18, 1846.
- 12 From W. E. Prescod to the Directors of the Tropical Emigration Society, March 7, 1846, printed in the *Morning Star*, April 18, 1846.
- 13 C. F. Stollmeyer to the Secretary of the Tropical Emigration Society, January 20, 1846, printed in the *Morning Star*, February 28, 1846.
- 14 *Gazette* (Port of Spain), May 5, 1846, reprinted in “The Tropical Emigration Society,” the *Morning Star*, August 1, 1846.

- 15 *Gazette* (Port of Spain), May 5, 1846, reprinted in “The Tropical Emigration Society,” the *Morning Star*, August 1, 1846.
- 16 Charles Stillwell, “On Climate; Particularly of Venezuela and the Tropics,” *Morning Star*, June 14, 1845, emphasis added.
- 17 C. F. Stollmeyer to the Secretary of the Tropical Emigration Society, January 20, 1846, printed in the *Morning Star*, February 28, 1846.
- 18 *Gazette* (Port of Spain), May 5, 1846, reprinted in “The Tropical Emigration Society,” the *Morning Star*, August 1, 1846.
- 19 From Thomas W. Carr to C. F. Stollmeyer, March 4, 1846, printed in the *Morning Star*, April 18, 1846.
- 20 Thomas Powell to the Editor, May 21, 1846, printed in the *Morning Star*, July 4, 1846.
- 21 C. F. Stollmeyer to W. E. Gladstone, Secretary of State, Port of Spain, February 20, 1846, Public Records Office, London, CO 295/151, 22, emphasis added. I am grateful to Selwyn Cudjoe for sharing this document.
- 22 “Numancia,” *Trinidadian*, December 1, 1852, emphasis in original.
- 23 “Emigration to Venezuela,” *Trinidadian*, November 6, 1852.
- 24 “A few Words on Emigration to Venezuela,” *Trinidadian*, December 8, 1852.
- 25 “Manufacture of Fuel from Bitumen,” *Trinidadian*, August 10, 1853.
- 26 “The Future Prospects of Trinidad,” *Trinidadian*, February 16, 1853.
- 27 “Immigration and the Prospects of Trinidad,” *Trinidadian*, January 22, 1853.
- 28 Conrad F. Stollmeyer to Arthur Craig, December 1855. I am grateful to Steven Stoll for sharing this document, which is in his private possession.
- 29 “Most Violent Assault upon the Editor of the The *Trinidadian*,” *Trinidadian*, August 6, 1853.
- 30 C. F. Stollmeyer vs. J. Kavanaugh, Supreme Civil Court, Port of Spain, reprinted in *Port of Spain Gazette*, October 7, 1853.
- 31 “Most Violent Assault upon the Editor of the The *Trinidadian*,” *Trinidadian*, August 6, 1853.
- 32 “The End,” *Trinidadian*, December 24, 1853.
- 33 For example, *Trinidadian*, March 9, 1853.
- 34 Conrad F. Stollmeyer, “Raw Asphalt as Auxiliary Fuel with Megass, Wood, or Stone Coals,” November 1871, Cochrane Family Papers, Box 8, Duke University Library Archive, Durham, North Carolina.
- 35 That country contained enough petroleum—from which kerosene could also be distilled—to serve illuminative and mechanical purposes.
- 36 Conrad F. Stollmeyer to the Editor, *Trinidad Chronicle*, August 7, 1866.
- 37 Quoted in de Verteuil (1994, 100). Anthony de Verteuil, who is a descendent of L. A. A. de Verteuil, gives no further information on the letter or on its original language.
- 38 Conrad F. Stollmeyer to Arthur Craig, December 1855. I thank Steven Stoll for sharing this document with me.
- 39 Conrad F. Stollmeyer to James McAlley, November 8, 1871, Cochrane Family Papers, Box 8, Duke University Library Archive.

- 40 *Creole Bitters*, May 3, 1904.
- 41 There are, in fact, many ways in which to calculate this figure. For a discussion, see de Sousa (2008).
- 42 “La machine est la rédempteur de l’humanité, le Dieu qui rachètera l’homme des sordidœ artes et du travail salarié, le Dieu qui lui donnera les loisirs et la liberté” (Lafargue [1880] 1994, 59).

### Chapter 3: The Myth of Inevitability

- 1 The scientific term for tar sands—also known as oil sands—is bituminous sands.
- 2 Lately, however, the exploitation of shale gas in the United States has provoked a reevaluation.
- 3 The figures are 2,795 versus 565 gigatons of CO<sub>2</sub>. The former number includes oil, gas, and coal (McKibben 2012). Bridge and Le Billon (2013, 65–66) give a figure of 620 gigatons of CO<sub>2</sub> for proven oil and gas reserves, still higher than the climate boundary. See McGlade and Elkins (2015) for the most thorough analysis.
- 4 Scott (1998) has provoked much debate on bureaucratic, improvement-oriented, and homogenizing ways of seeing. Ferguson (2005) argues that oil companies, by contrast, see territory in a way that emphasizes heterogeneity. I write of oil “producers” so as to distinguish the same actors’ view of underground resources from their models of aboveground risk.
- 5 Coll (2012, 541) quotes an offended advisor to President Obama on energy issues.
- 6 I borrow the terms *traverse* and *columnar* from Rudwick (1976, 164).
- 7 Krishna Persad, conversation with the author, La Romaine, Trinidad, January 5, 2012.
- 8 Krishna Persad, “Future Hydrocarbon Prospects in Trinidad and Tobago’s Explored Basins,” presentation to the Energy Conference, Port of Spain, Trinidad and Tobago, February 6–8, 2012.
- 9 The Society of Petroleum Evaluation Engineers and the Society of Exploration Geophysicists also coauthored the document (Society of Petroleum Engineers, et al. 2011).
- 10 Larry McHalfey, remarks at the release of the National Gas Reserves Audit, Port of Spain, July 13, 2010. See Breglia (2013, 62–63) for a similar account from Mexico.
- 11 Renuka Singh, “Ten Years Left,” *Express*, July 14, 2010.
- 12 David Renwick, conversation with the author, Port of Spain, July 12, 2010.
- 13 “Energy Chamber to Govt on Falling Gas Reserves: Take Action Now,” *Express* (Port of Spain), July 21, 2010.
- 14 Philip Farfan, remarks at the Understanding Reserves workshop, Energy Conference, Port of Spain, February 8, 2012.

- 15 In fact, Neanderthals went extinct, except to the extent that they interbred with modern humans.
- 16 Farfan, conversation with the author, Port of Spain, January 7, 2013.
- 17 For recent mentions of this term, see Bridge and Le Billon (2013, 21) and Moors (2011, 11).
- 18 Prior to 2010, in fact, the group was known as the South Trinidad Chamber of Industry and Commerce.
- 19 Thackwray Driver, conversation with the author, New York, April 4, 2012.
- 20 Driver, conversation with the author, Maracas Beach, Trinidad and Tobago, January 6, 2013.
- 21 Krishna Persad, presentation to the workshop Business Opportunities from Green House Gas Mitigation Measures, Port of Spain, January 27, 2013.
- 22 Persad, conversation with the author, Port of Spain, January 27, 2013.
- 23 Persad, conversation with the author, La Romaine, February 24, 2010.
- 24 Clyde Abder, conversation with the author, St. Augustine, Trinidad and Tobago, April 26, 2010.
- 25 Shiraz Rajav, conversation with the author, Port of Spain, April 22, 2010.
- 26 Selwyn Lashley, remarks at the launch of the Carbon Reduction Strategy Task Force, Port of Spain, April 28, 2010.
- 27 Port of Spain, May 11, 2010.
- 28 Abder, conversation.
- 29 Persad, conversation with the author, Port of Spain, June 3, 2010; emphasis in original.
- 30 Carolyn Seepersad-Bachan, remarks at the Green Business Forum, Port of Spain, March 23, 2011. She did not mention Persad by name.
- 31 Persad, conversation with the author, San Fernando, January 5, 2012.
- 32 Persad, La Romaine, February 24, 2010.
- 33 Vincent Pereira, remarks at the Energy Conference, Port of Spain, February 6, 2012.
- 34 Persad, conversation with the author, Port of Spain, January 7, 2012.
- 35 Peter Wyant, conversation with the author, Port of Spain, January 8, 2012.
- 36 Persad, La Romaine, February 24, 2010.

#### Chapter 4: Lakeside, or the Petro-pastoral Sensibility

- 1 “Se hundió una mancha de tierra por donde estaba el camino, y luego en su lugar remaneció otro estanque de Brea, con espanto y temor de los vecinos, recelos de que quando menos piensen, suceda lo mismo dentro de sus Poblaciones” (Gumilla [1745] 1945, 47).
- 2 Arthur Forde, conversation with the author, La Brea, February 11, 2010.
- 3 Ethelbert Monroe, conversation with the author, La Brea, March 2, 2010.
- 4 Errol Jones, conversation with the author, Port of Spain, June 10, 2010.
- 5 Conversation with the author, La Brea, March 7, 2010. I never got his name, and, if I had, I would be using a pseudonym anyway.

- 6 Virginia Piper, conversation with the author, La Brea, January 28, 2010.
- 7 Joshua Logan, conversation with the author, La Brea, February 11, 2010.
- 8 Noah Premdas is a pseudonym.
- 9 Conversation with the author, Union, Trinidad, October 27, 2009.
- 10 The reading taken downstream from the reservoirs, at the mouth of the Vessigny River, showed 87.0 mg/L, as compared with Trinidad and Tobago's limit of 10 mg/L. The U.S. Environmental Protection Agency stipulates only 0.01 mg/L as the threshold for safe drinking water (Institute of Marine Affairs 2003, 41). See Agard (1988) for data regarding petroleum pollution in the Gulf of Paria.
- 11 Noah Premdas, conversation with the author, Union Village, October 27, 2009.
- 12 Isaac Gregory, conversation with the author, La Brea, October 28, 2009. Isaac Gregory is a pseudonym.
- 13 Adam Chalant, conversation with the author, La Brea, November 16, 2009. Adam Chalant is a pseudonym.
- 14 Alfred Antoine, "Why They Arrest Here," handwritten calypso lyrics, 2010.
- 15 Conversation with the author, La Brea, 19 May 2010.
- 16 Xante, "The wanderer," track 10 on "Jump Start" compact disc, no date.
- 17 Roger Achong, conversation with the author, La Brea, March 15, 2010.
- 18 Wendy Kalicharan, conversation with the author, San Fernando, January 15, 2010.
- 19 Ayana Kalicharan, conversation with the author, San Fernando, January 25, 2010.
- 20 "Ivan Kalicharan MAS 2010" [brochure], n.d.
- 21 Molly Gaskin, conversation with the author, Pointe-a-Pierre, January 13, 2010.
- 22 Reeza Mohammed, conversation with the author, Point Lisas, February 12, 2010.
- 23 Douglas de Freitas, conversation with the author, Freeport, April 29, 2010.
- 24 Conversation with the author, Port of Spain, January 25, 2010.
- 25 Chalant, conversation, November 16, 2009.
- 26 Burton Sankeralli, conversation with the author, Port of Spain, September 16, 2009.
- 27 Conversation with the author, Port of Spain, February 4, 2010.
- 28 Wayne Kublalsingh, conversation with the author, Arouca, September 18, 2009.
- 29 Kublalsingh, remarks at the Republic Day Conference of Civil Society Organizations, Port of Spain, September 24, 2009.
- 30 Wayne Kublalsingh, "The Avatar Threat to La Brea, Claxton Bay," *Trinidad and Tobago Guardian*, January 13, 2010, A25.
- 31 Dennis Pantin, conversation with the author, St. Augustine, December 17, 2009.
- 32 Norris Deonarine, conversation with the author, St. Augustine, June 16, 2010.
- 33 Deonarine, remarks at Trinitrain Public Consultation, Tunapuna, April 8, 2010.
- 34 Tim Gopeesingh, quoted in the transcript of the Trinitrain Public Consultation, Port of Spain, April 6, 2010.



- 35 Remarks at Trinitrain Public Consultation, Chaguanas, April 7, 2010.
- 36 Stephan Kungal, remarks at Trinitrain Public Consultation, Chaguanas, April 7, 2010.
- 37 Anderson Wilson, remarks at Trinitrain Public Consultation, Chaguanas, April 7, 2010.
- 38 Many may have confused the 1-kilometer-wide study area with the eventual rail corridor, sure to be a fraction of that width.
- 39 Kublalsingh, conversation with the author, Trincity, February 5, 2010.
- 40 Pantin, personal communication, St. Augustine, January 30, 2010.
- 41 This notice was distributed widely via e-mail.
- 42 Cathal Healy-Singh, speech at the People's Democracy rally, Woodford Square, Port of Spain, November 22, 2009.
- 43 Cathal Healy-Singh, interviewed by Gideon Hanoomansingh, *Issues and Perspectives*, Heritage Radio 101.7 FM, Port of Spain, January 19, 2010.
- 44 According to publicized projections, the train would reduce national CO<sub>2</sub> emissions by 414,000 Mt annually (Trinitrain 2010, 6), 1.1 percent of the country's emissions of 38.0 million Mt in 2008 (International Energy Agency 2008, 46). The per capita figure would fall from 28.37 to 28.06 Mt. However, the projections applied to 2032, the anticipated completion date of the entire rail system. Regarding the smelter, the corporation building it (Alutrinc) projected its daily consumption of natural gas as 121 mcf (in public presentations at Vessigny on December 13 and 17 and March 5 and 11, 2007, and at Couva on December 17, 2007; Rapid Environmental Assessments 2006). At that rate, the plant would generate 2.5 million Mt of CO<sub>2</sub> per year, a 6.5 percent addition to the 2008 national output. The per capita figure would rise to 30.21 Mt. When completed in late 2011, the power plant was only running at 35 percent capacity (250 of 720 MW). Therefore, the increase in carbon emissions at that point amounted to 2.3 percent.
- 45 Annabelle Davis, remarks at Meet the Candidates forum, St. Ann's Cascade Hololo Community Group, Chinese Association, St. Ann's, May 18, 2010.
- 46 Wayne Kublalsingh, "The Correct Way to Stop the Smelter," *Trinidad and Tobago's Newsday*, June 20, 2010.
- 47 Kublalsingh, conversation with the author, St. Augustine, March 26, 2011.
- 48 Kublalsingh, conversation, March 26, 2011.
- 49 Goldstein (2012, 35), citing oral comments by Charles Hale.
- 50 Healy-Singh, interview by Hanoomansingh. He was speaking of myself and Simone Mangal.
- 51 "Texaco était ce que la ville conservait de l'humanité de la campagne" (Chamoiseau 1992, 360, my translation).
- 52 "La ville . . . saccade des pollutions de l'insécurité; elle . . . menace les cultures et les différences comme un virus mondial" (Chamoiseau 1992, 443–44; my translation).
- 53 Julian Kenny, conversation with the author, Port of Spain, March 24, 2011.

## Chapter 5: Climate Change and the Victim Slot

- 1 “Les deux golfes [Paria and Cariaco, to the west of the peninsula] doivent leur origine à des affaissemens et à des déchiremens causés par des tremblemens de terre” (Humboldt and Bonpland 1816, III, 231).
- 2 “Dans l’état actuel des choses, on voit s’agrandir, en gagnant sur la mer, les plaines humides” (Humboldt and Bonpland 1816, III, 232).
- 3 Lincoln Myers, conversation with the author, Gran Couva, Trinidad, July 2, 2011. Cf. Griffith and Oderson (2009, 21–86) and Leggett (2001, 24–27).
- 4 Leo Heileman, conversation with the author via Skype, July 19, 2011.
- 5 Heileman, conversation with the author, Gran Couva, January 4, 2013.
- 6 All quotations are from Angela Cropper, conversation with the author, Port of Spain, January 7, 2012.
- 7 Eden Shand, conversation with the author, Newark, Delaware, June 20, 2011.
- 8 Declaration of Barbados, Part One, Article III, Clause 2.
- 9 “Draft Protocol to the United Nations Framework Convention on Climate Change on Greenhouse Gas Emissions Reduction,” submitted on May 17, 1996, as Paper No. 1 by Trinidad and Tobago on behalf of AOSIS for consideration by the Ad Hoc Group on the Berlin Mandate, fourth session, Geneva, July 9–16, 1996, <http://unfccc.int/resource/docs/1996/agbm/misc02.pdf>.
- 10 Surprisingly, in this period, the government invoked none of the available arguments, such as off-shoring, historical debt, or the distinction between subsistence and luxury emissions (cf. Agarwal and Narain 1992, 24ff.).
- 11 “Port of Spain Climate Change Consensus: The Commonwealth Climate Change Declaration,” Port of Spain, November 28, 2009, Clause 13.
- 12 Cropper, remarks at the Commonwealth People’s Forum, opening plenary session, Port of Spain, November 23, 2009.
- 13 Emily Gaynor Dick-Forde, remarks at the Heath, Safety, Security, and the Environment Conference, Port of Spain, September 29, 2009. The origins of the quotation are unclear.
- 14 Dick-Forde, remarks at the Commonwealth People’s Forum, opening plenary session, Port of Spain, November 23, 2009.
- 15 Cropper, conversation with the author, Port of Spain, January 7, 2012.
- 16 Patrick Manning, conversation with the author, San Fernando, June 29, 2010.
- 17 Government of the Republic of Trinidad and Tobago, “Draft National Climate Change Policy for Trinidad and Tobago,” 2010, 7.
- 18 The government held four meetings in total.
- 19 Shand, remarks at the National Consultation on Climate Change Policy, Port of Spain, March 23, 2010.
- 20 John Agard, remarks at the National Consultation on Climate Change Policy, Port of Spain, March 23, 2010.
- 21 Agard, conversation with the author, St. Augustine, Trinidad, January 29, 2010.

- 22 Agard was summarizing chapter 9 of a large report (UNEP 2007). He had been one of three lead coordinating authors of that chapter.
- 23 John Agard, "Environment in Development: From Plantation Economy, Biodiversity Loss and Global Warming towards Sustainable Development," lecture at the University of the West Indies, St. Augustine, February 25, 2010.
- 24 Remarks at Public Consultation on Climate Change Draft Policy, La Romaine, April 6, 2010.
- 25 Shyam Dyal, remarks at Public Consultation on Climate Change Draft Policy, La Romaine, April 6, 2010.
- 26 As presented by Garret Manwaring to the Health, Safety, Security and the Environment Conference of the American Chamber of Commerce of Trinidad and Tobago, Port of Spain, September 29, 2009.
- 27 Dyal, conversation with the author, Pointe-a-Pierre, March 3, 2010.
- 28 Remarks at Public Consultations on Climate Change Draft Policy, La Romaine, April 6, 2010.
- 29 Akilah Jaramogi, personal communication, Port of Spain, April 6, 2010.
- 30 Winston Rudder and Keisha Garcia, conversation with the author, Port of Spain, July 2, 2010.
- 31 Rudder, conversation with the author, Port of Spain, January 4, 2012.
- 32 Cropper, conversation with the author, Port of Spain, January 7, 2012.

## Conclusion

- 1 She is quoting Svante Pääbo.
- 2 Remarks at the National Consultation on Climate Change Policy, Sangre Grande, April 20, 2010.
- 3 Johnny Stollmeyer, remarks to author, Port of Spain, January 5, 2010.
- 4 Dax Driver, remarks at the Green Business Forum, Port of Spain, March 24, 2011.
- 5 Joth Singh, remarks at the Green Business Forum, Port of Spain, March 24, 2011. Emphasis in original.
- 6 "Thousands Fill NYC Streets for Climate March," *Fox 5 News*, September 21, 2014, <http://www.myfoxny.com/story/26588335/thousands-fill-nyc-streets-for-climate-march>.
- 7 See Meadows (1998) for an earlier version of this argument.
- 8 All the energy statistics derive from Hermann (2006) and Hermann and Simon (2006). He uses the term *exergy* "as a common currency to assess and compare the reservoirs of theoretically extractable work we call energy resources" (Hermann 2006, 1685).