

## Notes & Errata Provided by the Author, Benerson Little (May 25, 2009)

### *The Buccaneer's Realm*

Notes on content, based on research and discovery subsequent to publication, are provided below. Critical typos are also noted. Copyright Benerson Little 2008, 2009.

#### Errata

Page 27, 3rd paragraph, typo, change “returned to briefly to Cartagena” to “returned briefly to Cartagena.”

Page 30. Strictly speaking, the Spanish Inquisition persecuted "*Conversos*," that is, Jews who pretended or professed to be Catholics. Jews were expelled from Spain by order of Ferdinand and Isabella, and the faith was prohibited. (My thanks to Professor Philip P. Boucher, Distinguished Professor of History at the University of Alabama in Huntsville. Professor Boucher is the author of *France and the American Tropics to 1700* and *Cannibal Encounters*. <http://www.philipboucher.com/>.)

Page 35, 1st paragraph, typo, change “of profitably and of honorable vengeance” to “of profitable and honorable vengeance.”

Page 40. Father Dutertre was, like Father Labat, a Dominican, not a Jesuit. (My thanks to Professor Boucher.)

Page 43. Although English texts of the period use the word "planters" to describe the settlers or inhabitants of Saint-Domingue, the word today conveys a sense of large scale agriculture. In the 1670s, most Saint-Domingue "planters" were small scale, and "settlers" or "habitants" better describes them. (My thanks to Professor Boucher.)

Page 44, second paragraph, last sentence number of cartridges from 20 pounds of powder. Revise to read, “two shots per day if they stayed a year...and six to eight per day, depending on powder quality and musket caliber, if they stayed three to four months...” However, if larger charges than conventional were used, these quantities would be reduced. (For some reason I calculated from 40 pounds instead of 20.) See also “Page 64” and “Page 65” in *The Sea Rover's Practice* notes and errata.

Page 49, 2nd paragraph, replace “as he moved closer” with “as he did”.

Page 62, second paragraph, endnote 28 on page 280: replace “Anonymous” with “Weiss.”

Page 62, third paragraph, typo. Replace “the retreat of the corsains” with “the retreat of the corsairs”.

Page 66, 2nd paragraph, 5th sentence should read: “Rum-punch-women,” prostitutes, and others, with reputed names such as Unconscionable Nan and Salt-Beef Peg, were known in taverns with tame names like The Green Dragon, The Catt and Fiddle, and The Sign of the Mermaid, and were commonly observed engaging in “*Swearing, Drinking, and Obscene Talk*.”

Page 113, second paragraph, typo. Add a parenthesis mark after “Shellbacks,”.

Page 125, 2nd paragraph, editing oversight, delete “a roughly equal diameter throughout, and” as it is redundant to a phrase later in the sentence.

Page 185, 1st paragraph, 4th sentence, the reference to Rodrigo should read "Rodrigo's *Fantasia para un gentilhombre*..." and not "Rodrigo's *Concierto de Aranjuez*...." Some music scholars do suggest that Gaspar Sanz's music influenced the *Concierto*, although his themes are actually heard in the *Fantasia*. This error, however, was a case of the author thinking one thing, writing another, and overlooking it during the review process.

Page 191, third paragraph, comte de Forbin, should read, “...when he disemboweled an attacking dog. He later mortally wounded...”

Page 192, third paragraph, last sentence should read, "...even a barber come to shave a man." Additional word apparently added by editor, altering the meaning: even barbers wore rapiers.

Page 196, last paragraph, typo, replace "known in New" with "known in the New".

Page 197, 1st paragraph, the final parenthesis mark should be placed after "[or against the many]".

Page 213, destruction of the small fort near New Providence. Captain George *Lenham*, not Needham, attacked the pirates. (*CSP 1685-1688*, no. 1555.)

Page 218, 2nd paragraph, typo. Replace "John Banister" with "Joseph Banister."

Page 261, illustration caption should read, "Examples of Merchants' Marks."

Page 278, endnote 52, should read, "nos. 2, 1360, 1425."

Page 297, endnote 13, should read "Cook" not "Look".

Endnotes. Juan Juarez Moreno should be cited as Juarez Moreno according the correct usage and citation of Spanish names, as opposed to simply Moreno. (My thanks to Mary E. Crouch for directing my attention to this.)

Endnotes and bibliography. Saint-Méry should have been cited as Moreau de Saint-Méry. In the bibliography, his full name should have been given as Moreau de Saint-Méry, Louis-Élie. (My thanks to Professor Boucher.)

### Notes, Comments, and Observations

Pages 14-15, regarding the *barcalonga*. Early 19th century sources indicate that the Spanish *barcalonga* was rigged with a lug sail on each mast (for example, see J. J. Moore, *The Midshipman's or British Mariner's Vocabulary*, London: Vernor and Hood, 1805), and an earlier, probably 17th century illustration in the Museo Naval de Madrid (reprinted in Apestegui's *Pirates of the Caribbean* and Konstam's *The Pirate Ship*) indicates a "virga al tercio" or lug spar for a lug sail. This sail plan would make the *barcalonga* an excellent vessel for chasing or escaping to windward.

Page 15, 3rd paragraph, note on sails. Ships of this period never carried sails (later called royals) above the topgallants, and only exceedingly rarely carried topgallants on the sprit and mizzen. Captain Kidd's *Adventure Galley* would do so in 1697, and from 1673 is a report of a Spanish ship carrying topgallants on the mizzen and sprit. (See Barlow, *Journal*, 2:484, and *Mariner's Mirror* 4, no. 3 (1914), 288, query 59.)

Page 17, 4th paragraph, and page 251, 1st paragraph, treasure chests. In 1655 soldiers of the English conquest of Jamaica "found soe greate and strong an iron chest that it could neither be remov'd nor broken by such of the soldiery as attempted it." Opening it required "more forcible meanes." (See "Letters Concerning the English Expedition into the Spanish West Indies in 1655." In Firth, C. H., ed. *The Narrative of General Venables*. New York: Longmans, Green, and Co., 1900, page 129).

Page 22, Spanish pirates. The greater part of the crews of Spanish *guardas costas* and pirates was typically "mulatto," probably taken to indicate a crew of various white, black, and Native American mixed blood. Some of the ships carried crews as large as 150, with 20 to 30 guns. (*CSP 1685-1688*, no. 678iv.)

Page 40, third paragraph, jerked meat. According to According to John Taylor, a visitor to Jamaica in 1687, Jamaicans referred to smoked pork (i.e. boucan) as "jerck't hog." This usage appears to have originated from the local usage of "jerk" for sun-dried beef ("jerk'd beef") and hog. (See John Taylor. *Jamaica in 1687*. Edited by David Buisseret. Kingston: University of West Indies Press, 2008, pages 83, 135.)

Page 41, 2nd paragraph, mosquito netting. According the anonymous author of a pamphlet on making war against the French and Spanish in the New World, *boucaniers* and others who traveled through the "woods or such like places" had "his pavilion to sleep under, and defend him from gnats...This pavilion is made of thin canvas, in such a form that, being spread and supported upon some sticks planted in the ground, a man lies under it, the canvas falling

like the curtains of a bed, and so leaves no room for gnats to get in. The man has his fusee [flintlock musket] between his legs, and lies upon some grass or leaves, and in a march carries his pavilion like a shoulder-belt....This is the buccaneers fashion, and by these means their incampments are soon made and soon raised." Esquemeling's French edition (cited in the book) also describes the netting: "They have with this [belt] a small tent (pavilion, awning) made of fine *"toile"*...which they carry with them like a bandoleer" (i.e. they wear it across the shoulder like a bandoleer). *Toile* is generally translated as linen, sailcloth (usually of linen), or canvas in general. However, it can also be other materials. The 1609 edition of the dictionary of the *Academy francaise* indicates cloth that could be of any sort, usually defined (*toile de lin*, etc), while the 1694 edition (closer to our era) states that *toile* is cloth of linen or hemp. The *boucanier's* netting was most likely of fine (probably meaning light or thin) but relatively sturdy linen or hemp. *Fine* in French can mean fine, thin, slender, delicate, and so forth. (See Anon. "Proposals for Carrying on an Effectual War in America, Against the French and Spaniards." London: n.p., 1702, in *The Harleian Miscellany*, vol. 9. London: Robert Dutton, 1810, pages 517-518.)

Page 44, second paragraph, range of the *fusil boucanier* or "buccaneer gun." An eighteenth century source states that "*Boucaniers* are assured of killing at 300 paces with this musket [*fusil boucanier*], and of piercing [passing through?] a cow at 200." A pace or *pas geometrique* is equal to five French feet, equal to 5.33 US/Imperial feet, thus 300 *pas* equals 1599 feet or 533 yards, and 200 *pas* equals 1066 feet or 355 yards. However, the text may be referring to the *pas commun* or *pas ordinaire* of 2.5 French feet, which would halve these numbers, and frankly make them more reasonable—killing at 266 yards, piercing a cow at 177 yards. One should view the aforementioned distances, if accurate, as effective ranges, and not as the actual ability to aim and hit a target at these longer distances. There are other reports of buccaneer and similar long-barreled muskets killing at long range: American Revolutionary War veteran Joseph Plumb Martin witnessed a fellow soldier "rest his old six feet barrel across a fence" and hit a British soldier in a tree at half a mile. The shot was taken for fun, and no one expected it to hit its target, yet it did, and by all accounts killed the man. (See M. Le Blond. *Traité de la défense des places*. 3rd ed. Paris: Alex. Jombert jeune, 1783, sv. "ARMES boucaniers"; and Martin, Joseph Plumb. *A Narrative of a Revolutionary Soldier*. New York: Signet Classic, 2001, page 29. See also "Pages 136, 252" in *Sea Rover's Practice* below.)

A similar issue is associated with the statement that filibusters and *boucaniers* could hit a piece of eight (actually an *ecu*) at "100 *pas*." This distance is roughly either 90 or 180 yards (almost certainly the former), depending on the *pas* used. Nonetheless, in either case, a buccaneer gun with an un-patched ball is not accurate enough to hit the piece of eight at this range, except occasionally and largely by accident—the error of dispersion is broader than a piece of eight, which is roughly the size of a silver dollar. Modern MLAIC world record scores with smoothbore flintlock muskets with patched ball (which was apparently not used by sea rovers and *boucaniers*) fired at 50 meters indicate a majority of shots, perhaps 8 or 9 out of 13, within a roughly three inch bulls-eye ("10 ring"), which is twice the diameter of a piece of eight. And this is under optimum conditions, and at slightly more than half the range of the purported piece of eight shot. It would be a very difficult, but by no means impossible, shot even with a very accurate Pennsylvania long rifle and expert rifleman at 90 yards, and even then the expert rifleman would not hit it every time. (See MLAIC typical and world record scores, for example.) For that matter, a piece of eight is very difficult to see at 90 yards with the naked eye. The perception of accuracy may in part be factual, however. A heavier long gun is easier to hold on target, assuming the shooter is strong, than a lighter one. Further, the longer barrel of the buccaneer gun, with its front sight farther out than on a conventional military firearm, would theoretically at least make it slightly easier and more accurate aim. (Only very rarely was a rear sight fitted, and perhaps not at all during the period under study.) If the buccaneer gun was loaded with a larger charge than usual for its caliber and if it actually did significantly increase muzzle velocity, this may have made it more accurate as well by diminishing the elevation required for long range shots (see below), may have given the gun its reputed killing power, as described in the previous paragraph, and may have given it its reputed range as well. But this is still somewhat speculative, at least for the moment. Readers should note that after a certain point, a powder charge wastes powder, increases kick, provides very little relative increase in velocity, and may actually diminish accuracy.

The question remains as to whether *fusils boucaniers* had a greater range than guns with shorter barrels. Certainly they were perceived to have had greater range. The general belief was that longer barrels permitted powder to burn completely, and thus propel a projectile farther. By the mid to late-18th century, however, the belief that longer barrels shot a ball farther had changed, based on studies that demonstrated that barrels of three and six feet, each loaded with the same size charge, threw a ball the same distance. However, it was acknowledged that duck guns, for example, which were very similar to *fusils boucaniers*, had greater range. This was believed due to the larger charge--two to three times that of a similar caliber sporting gun. Was the buccaneer gun loaded with a larger charge

than average for its caliber? Labat, in reference to *fusils boucaniers*, describes what could only be a field expedient powder measure used by *boucaniers*, that of pouring powder over a musket ball in the palm of the hand until it covered the ball (also described by Gaya). Based on my own tests, this is roughly the same amount of powder as was used in a conventional French military musket of the same caliber, although the amount of powder can vary significantly depending on how the palm is held, and cannot be considered accurate, or even a reflection of how much powder was typically used. The question, unfortunately, remains unanswered. My own suspicion is that *fusils boucaniers* were loaded with charges somewhat larger than average, at least when longer range was required. (Colonial rifleman varied the charge in their long guns depending on range, for example.) A conventional charge may have been used at ranges up to 100 yards, although a larger charge may have made the *fusil boucanier* more accurate--i.e. easier to aim--at this range by reducing the elevation required. If this is correct, that charge size varied, the number of charges that could be made from 20 pounds of powder would have to be revised. Appropriate testing should resolve the issue. Also, see "Page 44" under the errata section above, and "Page 68" under *Sea Rover's Practice* notes below. These paragraphs are there as well. (For references, see *An Essay on Shooting*, 2nd ed. London: T. Cadell, 1791, 72-94, and *Gaya Traité des Armes*. Paris: Sebastien Cramoisy, 1678.)

Page 57, oranges. According to John Taylor, a visitor to Jamaica in 1687, both the Seville and China oranges were grown at Jamaica. (See Taylor, *Jamaica in 1687*, 208.)

Page 80, attacks on the "hulke." Coxon and company captured not only the storehouses, but also the "hulke" at Honduras, according to Beeston's diary: "[T]he hulk and store-houses at Honduras were taken by the privateers, and much indigo, and other goods, cocoa, hides &c." The hulk may have been unladed (empty) when captured, probably without much of a fight. (From "A journal kept by colonel Beeston, from his first coming to Jamaica," in *Interesting Tracts, Relating to the Island of Jamaica*. St. Jago de la Vega: Lewis, Lunan, and Jones, 1800, page 298. This is the only account I have seen which states that the "hulke" was also captured during this raid. The raid is noted in *Buccaneer's Realm* on pages 101, 128, and 216.)

Page 80, 2nd paragraph, explosives and incendiaries. *Saucissons* or "sausages," mentioned by Esquemelin as being thrown by Spaniards defending against L'Ollonais's attack on the "Hulke" (the "Honduras ship"), were "pipes made of tarred cloth, filled with powder, and rolled up in the form of a gut, about 2 inches in diameter." They were normally used as large fuses to fire mines under fortifications in siege warfare, but could also be used as an incendiary against an enemy. "Torches," also mentioned, were probably exactly that, torches lit and thrown upon the attackers decks in hopes of setting fire to their vessel, or of igniting great gun and small arms cartridges. (See Anon. *Miscellanies, or a Miscellaneous Treatise, Containing Several Mathematical Subjects*. London: J. Nourse, 1776, page 280, and Esquemelin, *Flibustiers*, 139.)

Page 91, 2nd paragraph, black and mulatto pirate and privateer captains. Strictly speaking, the reference to black pirate captains in the Caribbean is limited to the period 1674 to 1688. If there were black pirate or privateer captains during this period, as opposed to mulatto, they probably originated in the Spanish colonies. Mulatto captains were quite common among the Spanish privateers and *guardas costas* of the Caribbean, and the known mulatto captains among the buccaneers and filibusters originated in the Spanish colonies. Although a racially stratified society, people of color had more opportunity and freedoms in the Spanish Americas than in the English, French, and Dutch colonies.

Page 91, 2nd paragraph, Captain Francis. In the endnote to the paragraph, I suggest that Captain Francis, a mulatto privateer sailing under a Dutch commission, might be the Spanish privateer "Don Francisco." I have no evidence for or against the proposition, other than the similarity of their names. We do know that the Dutch sometimes protected Spanish privateers and pirates, and probably employed them at times as well. "Capt. Francisco Galesio, commander of the *St. Nicholas de Tolentino*" was commissioned by "Don Pedro Bayona y Villa Nueva, Captain-General of the province of Paraguay and Governor of the city of St. Jago of Cuba" in 1667, and attacked the English for several years afterward. See *CSP 1669-1674*, no. 149.

Page 125, 2nd paragraph. Diving bells were often referred to as "diving engines." See for example Luttrell, *A Brief Historical Relation of State Affairs* (Oxford: University Press, 1857), vol. 3:510.

Page 126, 2nd paragraph, diving disease. The potential for decompression sickness (DCS) from arduous breath-hold diving has been long recognized, and recent studies have found that indeed divers in such circumstances are

susceptible to DCS. As I note in the text, it may be that Native American breath-hold divers realized that their symptoms subsided when they dove back under water, as symptoms of DCS typically do, and thus developed the habit of ducking back under the water lest the “land air...destroy them.” Recompression—putting the diver back under pressure—is the standard treatment for DCS, and for omitted decompression as well. (Strictly speaking, returning to the water for decompression after surfacing is considered in-water recompression.) We don't know the depth to which the divers descended, however, nor whether such practice actually reduced the incidence of decompression sickness. As for the divers on the Phips expedition, whose sickness I speculate might be due in part to DCS, we also don't know how much may have been due to the stresses of diving, physical labor, or smallpox or other diseases, or to a combination of them. Physical stress, fatigue, and disease do increase susceptibility to DCS.

Page 129, 2nd paragraph, sea turtles. To endnote 4 (page 291) on primary sources describing sea turtles and turtle fishing, add Taylor, *Jamaica in 1687*, 151-155, and Hans Sloane, *A Voyage To the Islands Madera, Barbados, Nieves, S. Christophers and Jamaica*. London: B. M. for the Author, 1707. Vol. 1:xvii-xviii, lxxxviii.

Page 158, Lancelot Blackbourne. The physical evidence for Blackbourne's presence in the Caribbean is based on two documents, including one dated December 31, 1681, that paid him 20 pounds “bounty” for travel to Antigua, probably to serve as a chaplain. He is listed as a “clerk.” The common speculation that he was engaged in “secret services” derives from the fact that his funds were paid from those used to pay for “secret services,” which were in fact any funds paid by the crown to private citizens for any sort of service to the crown, including clergy serving in foreign plantations. In January 1684 was awarded his M.A. degree at Christ Church College, Oxford, “by convocation,” as he was “engaged in an employment in His Majesty's service in one of the foreign plantations.” (He had earned his B.A. in 1680 and was ordained in 1681). The modern speculation that he was a buccaneer comes largely from an idle comment in Horace Walpole's *Memoirs of the Reign of King George the Third*. Biographical entries and brief biographies of Blackbourne do not cite primary sources regarding his buccaneer history. There is no direct evidence of his ever having sailed with buccaneers, not even as a chaplain aboard one, although tradition has it that he did. He is commonly believed to have been in Nevis in 1683, but I have not yet found a document placing him there. In 1682, some of the buccaneers who had accompanied Bartholomew Sharp to the South Sea landed in Antigua, others in Nevis, making it likely that Blackbourne may have had some interaction with them.

Page 175, 2nd paragraph, types of musket shot. According to the sieur de Gaya writing circa 1678, a projectile called a “*balle ramée*”—two musket balls attached by half an inch of small iron rod—was occasionally used by infantry. (See Gaya *Traité des Armes*. Paris: Sebastien Cramoisy, 1678.) Sir Henry Mainwaring hints at another shot, probably similar to a cross-bar shot for a great gun (a round shot with an iron bar through its middle and projecting a few inches out each side). These were “armed” with rope yarn and such so that the exposed leading end of the bar would not catch on “flaws” in the barrel. He writes: “We also use to arm some small shot for muskets, like our cross-bars.” (See Henry Mainwaring, *The Seaman's Dictionary*, sv. “arm.”)

Page 175, 2nd paragraph, types of musket shot. According to *A Military Dictionary* by William Duane (Philadelphia: William Duane, 1810), known poisoned bullets were made either of a concoction including “mealed powder,” pitch, rosin, other chemical substances, and poison, or of “glass, small pieces of iron, &c. and were said to be concocted of together by means of a greasy composition which was impregnated with poisonous matter.” (See Duane, *A Military Dictionary*, sv. “Balls: Poisoned Balls.”)

Page 179, 3rd paragraph, sack of Campeche. The commanders of the 1678 attack were “Spuire” (probably George Spurre) and Nevil. (See “A journal kept by colonel Beeston,” 296.)

Pages 179-180, 182-185, the attacks on Campeche and Veracruz. According to Raynald Laprise, the attacks had the tacit support of the French government, and were diversions intended to distract Spain from France's real intention, that of founding a substantial colony on the Gulf Coast of North America. See Raynald Laprise, “The Privateers of Saint-Domingue and Louis XIV's Designs on Spanish America, 1683-1685,” in *Terrae Incognitae* (vol. 39), 2007, 68-82.

Pages 193, last paragraph, to 194, smallsword. According to the sieur de Gaya, in France circa 1678 the smallsword was referred to as the *epee de rencontre*. He gives the average blade length as 32 *pouces* (French inches), equivalent to 34.1 inches, almost the blade length of a modern foil or epee (35.4 inches, 90 centimeters). (See Gaya. *Traité des Armes*. Paris: Sebastien Cramoisy, 1678.)

Page 195, third paragraph, cut versus thrust. There is a strong argument to be made that the thrust is best performed on flat, relatively stable ground. A cut is easier to make on rough or crowded ground or decks, and is also more likely to strike something than is the thrust, which passes through a much more restricted path.

Pages 216-17, brief bio of Bartholomew Sharp. After publication, I discovered that Captain Sharp had also commanded a company of men under Captain-General Codrington in the Caribbean, 1689-1690, during one of the English expeditions against the French. (See Spencer, Thomas. *A True and Faithful Relation of the Proceedings of the Forces of their Majesties, King William and Queen Mary, in Their Expedition Against the French in the Caribbee Islands, in the West Indies*. London: 1691. Reprinted in *The Harleian Miscellany*, vol. 9. London: Robert Dutton, 1810, page 522.)

Page 218, 2nd paragraph, Captain Yanky's death. After publication I learned that Yanky was wounded in early 1688 during an attack on Spanish storehouses in the Bay of Honduras. This wound may have been the cause of his death later that year. The Spanish attempted a counterattack, but were badly beaten. Soon after attacking the storehouses, Yanky recruited men to attack "Spanish ships" in the area, doubtless the "Hulk" and her consort, the former of which he succeeded in capturing. With Yankey was Captain Jacob; they were joined by Captain Jones in the attack on the hulk. (See Duke of Albermarle to Lord Dartmouth, March 8, 1688, in *The Manuscripts of the Earl of Dartmouth*. London: Eyre and Spottiswoode, 1887, vol. 1:136, and *CSP 1685-1688*, no. 1877.)

Page 219, 3rd paragraph, Captain Laurens's daughter Marie-Catherine by Marie-Anne Dieuleveult. According to Vaissière, she was eleven or twelve in 1705. Her father died May 24, 1704, almost certainly on Saint-Domingue, and his estate was settled on December 9, 1705, thus Marie-Catherine may have been as young as ten, or conceivably even nine, at the time of his death. (Vaissière, *Les origines de la colonisation*, 46-47.)

Pages 224-227, shares and outfitting. Buccaneers, filibusters, pirates, and many privateers were required to provide their own arms. According to Captain Thomas Larimore in Boston in 1695, "the person fitted out always allows to the person fitting out One full Quarter part of a whole share of whatsoever is gained on the voyage." The records of the privateer *Revenge*, out of Rhode Island in 1741, provide "½ of a ¼ Share for a Gun and Cartouch" and "¼ of ¼ of do. [one share] for a pistoll." This practice was almost certainly in place prior to 1695, and it is likely that many buccaneers and filibusters contracted in such a manner with local suppliers, investors, or bankers for the arms and powder required. Raveneau de Lussan was advanced funds for personal arms and outfitting by M. de Franquesnay in Petit Goave in 1684, although de Lussan does not mention the terms of repayment. (See "Deposition of Thomas Larimore, October 28, 1695," in Jameson, *Privateering and Piracy*, 152-153; "Abstract of the Shares of the *Revenge*" in Jameson, *Privateering and Piracy*, 417; and de Lussan, *Journal of a Voyage*, 36.)

Page 231, officers. In 1686 Bartholomew Sharp, commanding the *Josiah* frigate, formally lists Paul Abney as the "lieutenant" of the *Josiah*, an officer seen aboard men-of-war and privateers, but not usually among pirates. The three officers listed in the legal document are commander, lieutenant, and master—but not quartermaster. Sharp, a buccaneer, had recently committed piracy at Campeche and on the sea, and was assisting the governor of Bermuda in dealing with an insurrection, under authority of an almost certainly invalid commission to capture Indians and pirates. (*CSP 1685-1688*, nos. 532, 841iv. )

Page 232, musician. Pirate captains John Banister and Howel Davis also had a trumpeters aboard in 1687 and 1719, respectively; the practice was common for centuries. (See Taylor, *Jamaica in 1687*, 49, and Snelgrave, William. *A New Account of some parts of Guinea and the Slave Trade*. 1727. Excerpted in *Captured by Pirates* ["The Bloody-Minded Villain Came on to Kill Me"]. Edited by John Richard Stephens. Cambria Pines by the Sea, CA: Fern Canyon Press, 1996, page 172.)

Page 233, 1st paragraph, French *page*. A *page* aboard a French ship was not necessarily a midshipman in the usual sense of an officer-in-training, but among his several duties he was tasked, like a midshipman, to carry or pass orders from the master and other officers. He was also tasked with making announcements. See [Cleriac], *Us, et coutumes*, 13.

Page 236, *Beare, John*. Add the following: In 1687 commanded the 400 ton, 30 gun *Golden Fleece*. After losing it, the Spanish at Havana built him another ship. (See Taylor, *Jamaica in 1687*, 108.)

Page 236, *Conway, Jeremiah*. Conway's first name is also given as Edward. (*CSP 1685-1688*, no. 1135.) Also, add the following: In 1687 Conway commanded the *Philip and Martha*, carrying logwood from Campeche. (See Taylor, *Jamaica in 1687*, 29, and 29 note 15.)

Page 239, *La Garde*. Add the following: In 1687 commanded the small vessel "*La Chavale*" (*Le Cheval?*) in consort with Banister. (See Taylor, *Jamaica in 1687*, 48-49. In an illustration Taylor shows the vessel as a small ship.)

Page 241, *Van Horn*. In French, the *Mary and Martha* would be *la Marie-et-Marthe*.

Page 245, "1686." The first (1686) French edition of Esquemelin's work was reportedly translated by Frontignères under the direction of the author.

Page 250, 3rd paragraph, shorthand for piece-of-eight. In John Cox's published journal (*Adventures*, 80) the shorthand for "2,200 pieces-of-eight" is written as follows, indicating pieces of eight reales:

2200 ps.  $\frac{8}{8}$

Pages 253-254, places sacked. The Spanish sacked the small English colony on Anguilla around 1687, but were repulsed. The Spanish did destroy an intruding English colony on Crab Island (Vieques) off Puerto Rico at roughly the same time, and carried off the inhabitants, probably prior to 1687. (Source: Sir Hans Sloane, *A Voyage to the Islands Madera...and Jamaica*, London: B. M., 1707.)

Page 256, 1st paragraph, "Buff Hides." According to *A Military Dictionary* by William Duane (Philadelphia: William Duane, 1810), buff leather was made from buffalo hide. (See Duane, *A Military Dictionary*, sv. "Buff-Leather.")

Page 267, "Terms Relating to Vessel Types." Occasionally in the eighteenth century, a ship was affectionally referred to as a "stout sea boat." To otherwise refer to a ship as a boat was and is entirely incorrect. (A sea boat is a boat built for and able to sail well upon the open sea, such a launch or long boat.)

Page 299, note 36, regarding damp powder. Eighteenth century research suggested that damp powder burned twice as slow as dry, and that dry powder would shoot a ball twice as far as damp. (See Anon., *Miscellanies*, 283-284.)

## Notes & Errata Provided by the Author, Benerson Little (May 25, 2009)

### *The Sea Rover's Practice*

Notes on content, based on research and discovery subsequent to publication, are provided below. Critical typos are also noted. Copyright Benerson Little 2008, 2009.

#### Errata

Page 4, last paragraph, typo, "Peter Drake" should be "Francis Drake." The reference is correct in the index.

Page 35, last paragraph, second line, delete the comma after *corsaire*. M. Merrien is a maritime historian, although he probably would not mind being referred to as a *corsaire*.

Page 65, second paragraph, powder loads. Revise to read, "500 to 650, or even more, depending on powder quality and musket caliber" as opposed to "1000 to 1300"; and "one and a half to two shots" as opposed to "three shots." (For some reason I calculated from 40 pounds instead of 20.) However, if larger charges than conventional were used, these quantities would be reduced. See below, "Page 61," "Page 64" and "Page 65" for more details.

Page 141, 1st paragraph, chambers for chamber-loaded swivel guns. Chambers were *not*, as I stated, loaded with powder and shot, but only with powder and a tompon or wooden cylinder if the powder load did not fill the chamber entirely. The shot, whether round shot or a form of case shot, was pushed into the barrel, then the chamber was loaded into the swivel gun. (See section below, "Page 141," for more information.)

Page 244, Captain Uring convalesced in Virginia, not North Carolina.

#### Notes, Comments, and Observations

Page 31, 3rd paragraph, ship's officers. In 1686 Bartholomew Sharp, commanding the *Josiah* frigate, formally lists Paul Abney as the "lieutenant" of the *Josiah*. Sharp, a buccaneer, had recently committed piracy at Campeche and on the sea, and was assisting the governor of Bermuda in dealing with an insurrection, under authority of an almost certainly invalid commission. (*CSP 1685-1688*, nos. 532, 841iv.)

Page 31, 3rd paragraph, ship's officers. Pirate officers listed by Captain Snelgrave in 1719 included quartermaster, boatswain, surgeon, trumpeter, master, and carpenter. Other sources list these officers and gunner as well. Commissions against pirates often list pirate officers other than captain as "lieutenant, master, quartermaster, carpenter, boatswain, gunner, and inferior officers." (See Snelgrave, "Bloody Minded Villain," 127-174; Johnson, *History of the Pirates*, 13, 51, 54, 274.)

Page 33, shares and outfitting (repeated from *Buccaneer's Realm* notes). Buccaneers, filibusters, pirates, and many privateers were required to provide their own arms. According to Captain Thomas Larimore in Boston in 1695, "the person fitted out always allows to the person fitting out One full Quarter part of a whole share of whatsoever is gained on the voyage." The records of the privateer *Revenge*, out of Rhode Island in 1741 provide "½ of a ¼ Share for a Gun and Cartouch" and "¼ of ¼ of do. [one share] for a pistoll." This practice was almost certainly in place prior to 1695, and it is likely that many buccaneers and filibusters contracted in such a manner with local suppliers, investors, or bankers for the arms and powder required. Raveneau de Lussan was advanced funds by M. de Franquesnay in Petit Goave in 1684, although de Lussan does not provide the terms. (See "Deposition of Thomas Larimore, October 28, 1695," in Jameson, *Privateering and Piracy*, 152-153; "Abstract of the Shares of the *Revenge*" in Jameson, *Privateering and Piracy*, 417; and de Lussan, *Journal of a Voyage*, 36.)

Page 53, regarding the *barcalonga*. Early 19th century sources indicate that the Spanish *barcalonga* was rigged with a lug sail on each mast (for example, see J. J. Moore, *The Midshipman's or British Mariner's Vocabulary*, London: Vernor and Hood, 1805), and an earlier, probably 17th century illustration in the Museo Naval de Madrid (reprinted in Apestegui's *Pirates of the Caribbean* and Konstam's *The Pirate Ship*) indicates a "virga al tercio" or lug spar for a lug sail. This sail plan would make the *barcalonga* an excellent vessel for chasing or escaping to windward.

Page 53, 4th and 5th paragraphs, regarding the snow. The snow's name probably referred originally to its hull form. In the late 17th century and early 18th century it was two-masted and of conjectural rig. It was said to have been smack-rigged with larger sails, and so was probably square-rigged on each mast, with courses and topsails, but no trysail mast, trysail, or other fore and aft sail except perhaps a head sail or other staysail. At some point, probably in the early 18th century, a trysail mast and trysail were added. The snow was rarely seen in the Caribbean until the 1690s when it became fairly common there, although one did accompany the comte d'Estrees in 1678-1679, and was noted as being unique to the region. (See *CSP 1677-1680*, no. 1118, and Moore, Alan. "The Snow." *Mariner's Mirror* 2, no. 1 (1912), 38-43.)

Page 61, 4th paragraph, page 62, 2nd paragraph, also page 251, range of the *fusil boucanier* or "buccaneer gun." An eighteenth century source states that "*Boucaniers* are assured of killing at 300 paces with this musket [*fusil boucanier*], and of piercing [passing through?] a cow at 200." A pace or *pas geometrique* is equal to five French feet, equal to 5.33 US/Imperial feet, thus 300 *pas* equals 1599 feet or 533 yards, and 200 *pas* equals 1066 feet or 355 yards. However, the text may be referring to the *pas commun* or *pas ordinaire* of 2.5 French feet, which would halve these numbers, and frankly make them more reasonable—killing at 266 yards, piercing a cow at 177 yards. One should view the aforementioned distances, if accurate, as effective ranges, and not as the actual ability to aim and hit a target at these longer distances. There are other reports of buccaneer and similar long-barreled muskets killing at long range: American Revolutionary War veteran Joseph Plumb Martin witnessed a fellow soldier "rest his old six feet barrel across a fence" and hit a British soldier in a tree at half a mile. The shot was taken for fun, and no one expected it to hit its target, yet it did, and by all accounts killed the man. (See M. Le Blond. *Traité de la défense des places*. 3rd ed. Paris: Alex. Jombert jeune, 1783, sv. "ARMES boucaniers"; and Martin, Joseph Plumb. *A Narrative of a Revolutionary Soldier*. New York: Signet Classic, 2001, page 29. See also "Pages 136, 252" in *Sea Rover's Practice* below.)

A similar issue is associated with the statement that filibusters and *boucaniers* could hit a piece of eight (actually an *ecu*) at "100 *pas*." This distance is roughly either 90 or 180 yards (almost certainly the former), depending on the *pas* used. Nonetheless, in either case, a buccaneer gun with an un-patched ball is not accurate enough to hit the piece of eight at this range, except occasionally and largely by accident—the error of dispersion is broader than a piece of eight, which is roughly the size of a silver dollar. Modern MLAIC world record scores with smoothbore flintlock muskets with patched ball (which was apparently not used by sea rovers and *boucaniers*) fired at 50 meters indicate a majority of shots, perhaps 8 or 9 out of 13, within a roughly three inch bulls-eye ("10 ring"), which is twice the diameter of a piece of eight. And this is under optimum conditions, and at slightly more than half the range of the purported piece of eight shot. It would be a very difficult, but by no means impossible, shot even with a very accurate Pennsylvania long rifle and expert rifleman at 90 yards, and even then the expert rifleman would not hit it every time. (See MLAIC typical and world record scores, for example.) For that matter, a piece of eight is very difficult to see at 90 yards with the naked eye. The perception of accuracy may in part be factual, however. A heavier long gun is easier to hold on target, assuming the shooter is strong, than a lighter one. Further, the longer barrel of the buccaneer gun, with its front sight farther out than on a conventional military firearm, would theoretically at least make it slightly easier and more accurate aim. (Only very rarely was a rear sight fitted, and perhaps not at all during the period under study.) If the buccaneer gun was loaded with a larger charge than usual for its caliber and if it actually did significantly increase muzzle velocity, this may have made it more accurate as well by diminishing the elevation required for long range shots (see below), may have given the gun its reputed killing power, as described in the previous paragraph, and may have given it its reputed range as well. But this is still somewhat speculative, at least for the moment. Readers should note that after a certain point, a powder charge wastes powder, increases kick, provides very little relative increase in velocity, and may actually diminish accuracy.

The question remains as to whether *fusils boucaniers* had a greater range than guns with shorter barrels. Certainly they were perceived to have had greater range. The general belief was that longer barrels permitted powder to burn completely, and thus propel a projectile farther. By the mid to late-18th century, however, the belief that longer barrels shot a ball farther had changed, based on studies that demonstrated that barrels of three and six feet, each loaded with the same size charge, threw a ball the same distance. However, it was acknowledged that duck guns, for example, which were very similar to *fusils boucaniers*, had greater range. This was believed due to the larger charge—two to three times that of a similar caliber sporting gun. Was the buccaneer gun loaded with a larger charge than average for its caliber? Labat, in reference to *fusils boucaniers*, describes what could only be a field expedient powder measure used by *boucaniers*, that of pouring powder over a musket ball in the palm of the hand until it covered the ball (also described by Gaya). Based on my own tests, this is roughly the same amount of powder as was

used in a conventional French military musket of the same caliber, although the amount of powder can vary significantly depending on how the palm is held, and cannot be considered accurate, or even a reflection of how much powder was typically used. The question, unfortunately, remains unanswered. My own suspicion is that *fusils boucaniers* were loaded with charges somewhat larger than average, at least when longer range was required. (Colonial rifleman varied the charge in their long guns depending on range, for example.) A conventional charge may have been used at ranges up to 100 yards, although a larger charge may have made the *fusil boucanier* more accurate--i.e. easier to aim--at this range by reducing the elevation required. If this is correct, that charge size varied, the number of charges that could be made from 20 pounds of powder would have to be revised. Appropriate testing should resolve the issue. Also, see "Page 44" under the errata section above, and "Page 68" under *Sea Rover's Practice* notes below. These paragraphs are there as well. (For references, see *An Essay on Shooting*, 2nd ed. London: T. Cadell, 1791, 72-94, and *Gaya Traité des Armes*. Paris: Sebastien Cramoisy, 1678.)

Page 63, 2nd and 3rd paragraphs. Multiple shot is confirmed by John Cox's late seventeenth buccaneer journal, and other sources as well. Cox describes "small shot" as a paper cartridge containing powder, one musket ball, and seven or nine "swan shot." I test fired a dozen such cartridges at ranges of ten and twenty yards. Patterns were on average nine and eighteen inches in diameter, respectively, and if projected would give patterns of twenty-seven and thirty-six inches at thirty and forty yards, respectively. However, the patterns varied widely. Some were tall and narrow, some broad and flat, and some were roughly circular with a shot or two thrown wide. (See [Cox], *Adventures of Capt. Barth. Sharp*, 56. See also *The Buccaneer's Realm*, chapter 18, for additional details on buccaneer land warfare. My test firings are cited in note 36 to chapter 18.)

Page 63, fourth paragraph, types of musket shot. According to the sieur de Gaya writing circa 1678, a projectile called a "*balle ramée*"—two musket balls attached by half an inch of small iron rod—was occasionally used by infantry. (See *Gaya Traité des Armes*. Paris: Sebastien Cramoisy, 1678.) Sir Henry Mainwaring hints at another shot, probably similar to a cross-bar shot for a great gun (a round shot with an iron bar through its middle and projecting a few inches out each side). These were "armed" with rope yarn and such so that the exposed leading end of the bar would not catch on "flaws" in the barrel. He writes: "We also use to arm some small shot for muskets, like our cross-bars." (See Henry Mainwaring, *The Seaman's Dictionary*, sv. "arm.") For information on deformed or "chewed" musket balls used in order to increase injury, see *Buccaneer's Realm*, page 175, 2nd paragraph. On poisoned musket balls, see the same, and also above under the *Buccaneer's Realm* notes and errata, "Page 175."

Page 64, fourth paragraph, powder charges. Again according to the sieur de Gaya, a musket (matchlock) or fusil (flintlock) of a caliber of 16 balls to the pound is loaded with "*une demie once & un gros de poudre de magazin*" (half an ounce plus one eighth of an ounce) or roughly .67 ounces (US, avoirdupois) of powder. (Modern blackpowder arms use a much smaller charge, due to the much higher quality of modern corned blackpowder.) A 16 caliber (French system) musket ball, smaller than muzzle diameter, weighs roughly 1.079 ounces (US, avoirdupois), and is roughly .68 to .70 inch in diameter, or even smaller. Gaya also notes the method of powder measuring (powder over a musket ball in the palm) described by Father Labat as used by the *boucaniers*.

Page 64, cartridges (cartouches). According to Falconer's *New Universal Dictionary of the Marine* (1815), "The ball-cartridges, for wall-pieces, muskets, carabines, and pistols, are made of whited-brown paper, on formers of wood."

Page 65, powder quality. Some researchers have suggested that cartridges were made up only immediately prior to use in order to prevent tropical humidity from spoiling the powder, but period documents dispute this, as do tests I ran, exposing corned black powder to conditions of high heat and humidity for several weeks, and testing it daily. The powder burned quickly and cleanly each time, as long as a sharp flint was used. (Powder corns were coated with "black lead" [graphite], which not only helped hold the corns together, but also provided some protection from humidity.) Eighteenth century research suggested that damp powder burned twice as slow as dry, and that dry powder would shoot a ball twice as far as damp. (My tests are cited in *The Buccaneer's Realm*, note 30 to chapter 4. See also Anon. *Miscellanies, or a Miscellaneous Treatise, Containing Several Mathematical Subjects*. London: J. Nourse, 1776, pages 283-284.)

Page 65, powder charges. Using Gaya's description above of a half-ounce plus an eighth ounce of powder for a musket of 16 balls to the pound, a *boucanier* would get roughly only 512 shots out of twenty pounds of powder. Using a powder charge of half the ball's weight would give 640 shots. Using his and Labat's rough measure in the

palm, as many as 800 or more charges might be made from 20 pounds of powder. Powder would go farther with smaller calibers as well, for example 720 or more for a gun of 18 balls to the pound. High quality powder would also require a smaller charge. Some 18th and early 19th century references provide for smaller charges, for example “6 drachms” (6 drams, or 6 16ths of an ounce) for an English .75 bore with a 1.06 ounce (avoirdupois) ball. This would give roughly 850 charges per 20 pounds.

Page 69, last paragraph. Although Spanish and Portuguese soldiers and sailors had an affinity for the rapier, Spanish seamen, including sea rovers, are also noted in primary sources as using cutlasses as well. (See *The Buccaneer's Realm*, chapter 19, for additional details on period swordplay.)

Page 72, 4th paragraph, slow match. Match for lighting grenades could also be carried in one's hat, typically with the burning end encased in a metal match box or case. (See Villehuet, Jacques Bourdé de. *Le Manœuvrier, ou essai sur la théorie et la pratique de mouvements du navire et des évolutions navales*. Paris: H. L. Guerin and L. F. Delatour, 1765, page 236.)

Pages 72-73, fireworks. Subsequent research into grenades and firepots, as well as practical work with the Middlealdercentret (Medieval Center) in Nykøbing, Denmark, provides additional detail. In the Age of Sail, clay pots were used as fragmentation grenades, as smoke pots, and as true firepots designed to set vessels aflame. Some firepots had both an iron grenade and blackpowder inside. Fusing was typically slow match, or a wooden tube filled with a fuse mixture, or both. In some cases, quick match was used. (Johnson, *History of the Pirates*, 54.) In a test, a firepot with a typical two pound charge of blackpowder, broken as it would be if tossed on deck, appeared to explode, in spite of not being entirely contained, and produced significant flame as well as some probably non-deadly fragmentation. Anyone within ten feet would certainly have been severely burned, and any cannon cartridges or musket cartouche boxes would likely have ignited. Father Labat describes the use of one such firepot: it “grilled seven or eight Englishmen in such a horrible fashion that they immediately asked for quarter.” (Labat, *Voyages aux isles*, vol. 1:99.) Several firepots armed with a hot-burning mixture were also tested, and would easily have set fire to anything combustible—and did. Indeed, the fire's brightness reminded me of thermite. We also considered the question as to whether some firepots may have been lit with a central fuse and thrown with line attached to the “ears.” The answer, as I later discovered, is both. The cords were indeed both match and a sling of sorts: “This pot being thrown by a handle of match...” notes *A Military Dictionary* published in 1778 in London for G. Robinson, sv. “firepot.” Further research located a seventeenth century description: “Two lengths of match are crossed over the top and lit, then the pot is thrown with a handle made of match.” Although the crossed match, tied to the “ears” of the pot as shown in the illustration, could probably serve as a handle, a period illustration shows an additional length of match tied to the firepot in the manner of a simple basket handle, most likely from an ear to its opposite. No mention is made as to whether this match was also lit, but there would be no reason for it not to be. See Mallet, *Les travaux de Mars* (Paris, 1691), vol 3:164-167. It is also certain that some of these grenades were “double primed” (to use a modern term) with attached matches as well as a fuse set in the cover. The latter would ensure that the grenade still detonated in case it did not break. An empty firepot recovered from La Salle's late 17th century *La Belle* has both ears for match as well as a central fuse, making it likely that these were double-primed with both match attached to the ears to light the powder when the device broke on impact, and with a central fuse in case the it failed to break. (My thanks to Jens Christiansen and Peter Vemming Hansen of the Middlealdercentret for the opportunity to have hands-on experience with these devices.)

Pages 72-73, fireworks. *Saucissons* or “sausages,” mentioned by Esquemelin as being thrown by Spaniards defending against L'Ollonois's attack on the Hulk (the “Honduras ship”), were “pipes made of tarred cloth, filled with powder, and rolled up in the form of a gut, about 2 inches in diameter.” They were normally used as large fuses to fire mines under fortifications in siege warfare, but could also be used as an incendiary against an enemy. “Torches,” also mentioned, were probably exactly that, torches lit and thrown upon the attackers decks in hopes of setting fire to their vessel, or of igniting great gun and small arms cartridges. (See Anon. *Miscellanies*, 280, and Esquemelin, *Flibustiers*, 139.)

Page 88, 1st paragraph, clothing. There are some distinct period references to “white shirts” worn by the early 18th century Anglo-American pirates, for example: “who obliged all the prisoners to come upon deck in white shirts, to make a show of force [as if they were pirates],” and “most of them with white shirts.” This may have been the preferred shirt of the pirates, as opposed to the checked shirts of seamen. (Johnson, *History of the Pirates*, 145, 209.)

Page 114, fabric of colors. A reader inquired as to the source of the statement that most ensigns were made of wool: see Wilson, *Flags at Sea*, 85. Typically, ensigns, jacks, and pendants during the period under study were made of a loose, coarse wool fabric called “bewpers” or “bunting.” Linen was used in some navies, such as Spain’s, because their ensigns were often elaborately painted.

Page 126, 4th paragraph, rowing in a chase. At close ranges—“half a ship’s length of us,” for example—the chase might be able to shoot “all her [the pursuer’s] oars to pieces” and escape. (Johnson, *History of the Pirates*, 89.)

Pages 136, 252, the ranges of “musket shot” and “pistol shot.” In general, “musket shot” as I determined it was a rough or general range of 600 to 800 feet. However, based on subsequent research, seven to eight hundred feet might be a more accurate assessment of “musket shot” range among the English, and 700 to 1000 feet among the French, with the higher end probably “*portée de fusil boucanier*.” Originally I had thought pistol and half-musket to be equivalent, given that I found several instances that seemed to equate them. In fact, the instances appear to have been used together as a rough range. Gaya in his *Traité des Armes* (see below) gives “40 pas [paces]” as pistol *portée*. A *pas géométrique* is equal to five French feet, thus pistol shot is roughly 213 feet or 71 yards. However, if a *pas commun* is used, “pistol shot” is half that. (See James, sv. “pas,” below. A *pas commun* is only 2.5 French feet.) “Carbine shot” or “caliver shot” would logically lay between pistol and musket shot distances. Research into the question is detailed in the next paragraph.

Research details on firearm ranges used as an indication of distance. Locating specific period documentation of ranges was difficult, and early on I had to rely to some degree on inferences. For example, in 1669 Philip Staynred in *A Compendium of Fortification* noted that 720 feet was *within* musket shot. William Hutchinson writing of mid-eighteenth century privateer tactics in *A Treatise of Naval Architecture* describes half-musket shot or “half a cables length,” that is, sixty fathoms (360 feet) in his day (*Falconer’s Dictionary of the Marine*, 1780), making musket shot range 720 feet if it is equivalent to a half cable. However, there are period references to cables as being of 100 fathoms in the seventeenth century, which would make musket shot roughly 600 feet if it were described as a half cable’s length. (See for example “E. S.,” *Britain’s Buss*. London: Nicholas Bourne, 1615, page 279.) A footnote in *An Essay of Naval Tactics* (3rd ed., John Clerk, 1827) defines pistol shot or half-musket shot as 400 yards, an apparent typo for 400 feet, making musket shot a distance of 800 feet. Later on I found other specific references. Blondel, quoted in Charles James’s *A New and Enlarged Military Dictionary* (2nd ed., 1805), gives 140 *toises* as the longest range of musket shot (a *toise* is equal to 6 old French feet or 1.949 meters, roughly 6.4 feet), equal to 895 feet. James also defines *portée de fusil* (range of a musket) as a various distance ranging from 120 to 150 *toises* (767 to 960 feet). The most specific references I eventually located (unfortunately after publication) were Gaya, *Traité des Armes* (Paris: Sebastien Cramoisy, 1678) which gives 120 *toises* for a regular musket or fusil, and 140 to 150 for those “*renforcé*”; St. Remy, *Memoires d’Artillerie* (1697), 120 to 150 *toises*; and *A Military Dictionary* published in 1778 in London for G. Robinson, in which musket shot is defined as “about 120 fathom (720 feet, 240 yards) and almost all the military architecture is regulated by this rule.” Major Frances J. Day, describing ranges of past centuries, concluded in 1887 that musket shot was approximately 250 yards, pistol shot 120 to 150 yards, half-musket 150 to 200 yards, and half-pistol 60 to 80 yards. (See Day, Frances J. *Professional Papers of the Corps of Royal Engineers*. vol. 13. Chatham: W. & J. Mackay & Co., 1888. )

Pages 141 to 145, making a ship clear for engaging. Villehuet, writing in the mid-18th century, provides other details. Woven plattings or mats should be nailed between the gunports to help prevent splinters from striking the gun crews. (This should be done at the beginning of a cruise.) Spare sails should be on hand below, made up and ready to be sent aloft as necessary. Spare stoppers, blocks, tarred marline, and other cordage and rigging should be on hand on deck. Booms should be laid out for defending against fireships or boarding. Sails not intended for use during the action could be secured with rope yarns instead of gaskets, so that they could be set quickly. (See *Sea Rover’s Practice*, 182-183.) Water for fighting fires must be available, as well as to wet the sails if the breeze is light, and two pumps should be available as well. The master should have all he needs at hand to navigate and keep track of the vessel’s course while engaged. Hatchets or boarding axes should be distributed throughout, and also hung from each mast. Water should be available to quench the crew’s thirst, and should be carried to each gun and other quarters so that the men do not have to leave their stations. (See Villehuet, *Le Manœuvrier*, pages 221-227.)

Pages 141 to 145, making a ship clear for engaging. Covil’s diary notes that seamen’s “chests and lumber” were stowed in the ship’s boat or by the main chains “or elsewhere” out of the way in time of action. (See Covil’s diary in *Early Voyages and Travels in the Levant*. Edited by J. Theodore Bent, London: Hackluyt Society, 1893.)

Page 141, 1st paragraph, chambers for chamber-loaded swivel guns. Chambers were *not*, as I stated, loaded with powder and shot, but only with powder and a tompon or wooden cylinder if the powder load did not fill the chamber entirely. The shot, whether round shot or a form of case shot, was pushed into the barrel, then the chamber was loaded into the swivel gun. Breech-loading swivels were considered more dangerous than their muzzle-loading counterparts, given that gases tended to blow back from the breech into the gunner's face; Sir Henry Mainwaring, the early 17th century pirate, notes in his dictionary that he has seen many men hurt with them, and that they are dangerous to the eyes, which probably made them less accurate if the gunner turned away to shield his eyes. In test shots, at sixty yards a wrought iron breech-loading swivel gun with a three inch bore shot a pattern six feet in diameter, of scrap metal bits roughly one half to three quarters of an inch square. By projection, the pattern would be an estimated diameter of ten feet at 100 yards. (My thanks to Jens Christiansen of the Middlealdercentret (Medieval Center) in Nykøbing, Denmark, for demonstrating the loading and firing with shot of a hand-forged iron swivel gun. This and other information on swivel guns is noted in *The Buccaneer's Realm*, pages 266-267.) See also Mallet, *Les travaux de Mars* (Paris, 1691), vol 3:133, 154-155, and "Page 251" below.

Page 142, 2nd paragraph, making a ship clear for engaging. "Seaman's bedding" (hammocks and blankets) was noted in 1686 as being used by a merchant crew to fortify the quarterdeck in action. This was common in the 18th century, but references to this practice in the 17th century are few. (See Wright, Edmond. *A True & Exact account of an Engagement maintained by the Ship Caesar, Capt. Edmd. Wright Comandr. Against Five Shipps (being Pyrates) in sight of ye Isleand St. Iago on Sunday, The Last Day of Octobr 1686*, reprinted in Horsley, John Mayo. *Medals and Decorations of the British Army and Navy*. Westminster: Archibald Constable and Co., 1897, page 63.)

Page 142, 3rd paragraph, cartridges and budge barrels. Great gun cartridges were often carried individually in "latten" (brass) cases. (Mainwaring, *The Seaman's Dictionary*, sv. "cartridge," and Mountaine, *Boteler's Dialogues*, 202.) Only as many cartridges as were needed at the moment were carried on deck. Some budge barrels were made of latten as well. (Mainwaring, sv. "budge barrel.")

Page 144, gun crews and quarter bills. Guns up to sakers (slightly more than five pound shot) and six pounders were often managed with four men per gun, although a crew of six was probably preferred, if the vessel's crew were large enough. In the late 17th century the English Navy provided for two men per each 3 pounder, three men per each minion (sometimes only two), saker, and demi-culverin (9 pound shot), and four per each 12 pounder and culverin (18 pound shot). In other words, a 3 pounder would have a crew of four, and a saker a crew of six when fighting only one side. The late 17th century sixth rate *Lark* of 18 guns (16 sakers, 2 minions), roughly the size of a typical three-masted pirate or privateer of the period, had a crew of eighty-five. In battle, fifty-two would serve the guns (forty-eight for the sakers, four for the minions), four boys would carry powder, two men would fill and pass powder, the surgeon and two assistants would be in the hold, the carpenter (no mates) would be prepared to stop holes and make repairs as necessary, eleven men would be tasked for "small shot" (muskets and swivels), and a dozen would sail the ship, including the captain, master, and other officers. (See Tanner, J. R., ed. *A Descriptive Catalogue of The Naval Manuscripts in the Pepysian Library at Magdalene College, Cambridge*. London: Navy Records Society, 1903, vol. 1, page 239, and Hutchinson, *Treatise on Naval Architecture*, 224-226.)

Page 146, 2nd paragraph, loading great guns. A period account of an encounter in 1686 at the Cape Verde Islands between a merchantman and five pirate ships of twenty to thirty guns each, first under French colors then under the red "*sans quartier*," notes that "their men lading their great guns w<sup>th</sup> out board (as is ye custom of these West India Gunn<sup>r</sup> Pyrates) were cut of as fast as they appeared to doe their duty, and this was y<sup>e</sup> reason they fired but few great guns when they bore down on us for w<sup>ch</sup> wee are beholden unto o<sup>r</sup> small firearmes." This does not suggest that gunners stood on outboard platforms and loaded as William Dampier scornfully reported some South Sea Spaniards doing in the 1680s (if pirate gunners did this he would not have disdained the Spanish for doing it), but rather that they loaded with their ports open, probably with wooden rammers. The reason these French pirates, purportedly from the West Indies, loaded this way is unknown. The common method, even among merchantmen of the period, was to close the gunport after firing and load behind its protection, using a rope rammer, although wooden rammers were still common. The pirates had crews large enough to man their guns, so there was no need to prevent the guns from recoiling in order manage them with very small crews. Firing guns that are prevented from recoiling also puts great strain on a vessel. Perhaps some of the pirates' guns were too long to recoil and so were lashed or wedged, but this seems unlikely in the case of all of the guns among the five ships. It may be that the pirates' prey was usually too weak to put up much of a fight, and the pirates had not so far had reason to load their great guns within board, or even to use them often. In most cases, heavy musket fire, followed by boarding if necessary, was sufficient to capture their prey. (See Wright, Edmond. *A True & Exact account of an Engagement maintained by the Ship*

*Caesar, Capt. Edmd. Wright Comandr. Against Five Shippes (being Pyrates) in sight of ye Isleand St. Iago on Sunday, The Last Day of Octobr 1686*, reprinted in Horsley, John Mayo. *Medals and Decorations of the British Army and Navy*. Westminster: Archibald Constable and Co., 1897, pages 63-64. The issue is discussed without solid conclusion in Carr Laughton, L. G. "Gunnery, Frigates, and the Line of Battle." *Mariner's Mirror* 14, no. 4 (1928), 339-363. Two associated notes are printed in *Mariner's Mirror* 15, no. 1 (1929), 74-75. Dampier's comment is found in Dampier, *New Voyage*, 135-136.)

Page 147, 2nd paragraph, weather versus lee gage. There were drawbacks to the weather gage other than exposed decks, although this was the principal disadvantage. Cannon might roll forward after recoil, and would need to be hauled inboard again for loading, thus slowing the time to load and fire. If the weather vessel were taking a beating, escape to windward was more difficult than escape to leeward—and for the vessel with the weather gage, a lee escape was blocked by the enemy. Breaking off to windward was also dangerous, as it exposed the stern to raking fire longer than would breaking off to leeward. Some recommended fighting close hauled on the weather gage to (1) prevent the enemy from gaining the weather gage, and (2) because "ships being less in the trough of the sea, and steadied more the canvas, roll less, therefore fire with greater accuracy." (Ward, *Naval Tactics*, 8) This being said, the minimal sail carried in battle (topsails, perhaps the foresail, mizzen, and a head sail) limited ships to sailing no more than seven points from the wind. On the other hand, some believed that sailing "right afore y<sup>e</sup> wind" was "abolutly y<sup>e</sup> best man<sup>r</sup> soe to ingage." (Wright, *True & Exact Account*, 64.) This was probably because, as noted in *Sea Rover's Practice*, vessels steered more easily large, no matter how damaged their sails and rigging were. An advantage of the weather gage I did not note was that the wind might carry burning wads into the rigging and sails of the adversary. The lee gage, however, could be advantageous in single ship actions, particularly if the wind blew strong and the sea ran high. Withdrawing to leeward was also easier. (See Hoste, P. Paul. *A Treatise on Naval Tactics*. 1691. Reprint, translated by J. D. Boswall. Edinburgh: Bell and Bradfute, 1834, pages 21-22, 25-28; Villehuet, *Le Manœuvrier*, 274-278; and Ward, James H. *A Manual of Naval Tactics*. New York, D. Appleton & Company, 1859, page 8.)

Page 153, 4th paragraph, disabling powder chests. Although Father Labat states that powder chests were disabled by piercing them with pistol shots so that they would have little effect if fired, further evaluation indicates that he may have been mistaken. Firing a pistol into a powder chest would do little more than perforate it, leaving it still dangerous, or detonate it (especially via the pistol's hot gases), and the detonation of a powder chest might injure or kill anyone close enough to shoot the chest with a pistol. Rather than "*coups de pistolet*," "*coups de sabre*"—cutlass blows—might have been meant. Fuses, if exposed, could be cut, or the chest could be broken apart. Even so, two or three pounds of loose powder can be deadly if ignited, even if uncontained, and the spark from a cutlass striking iron shrapnel within the chest could ignite it. (Cited in *The Buccaneer's Realm*, note 22 to chapter 6.)

Page 154, 3rd paragraph, grappling hooks. At least in the latter days of the age of sail, grappling hooks were not thrown by hand from the ends of yardarms, but were suspended from them via several feet of chain attached to a line, with the line belayed on deck where seamen could ease it or haul on it, as required. It is possible that light grappling hooks could have been thrown from the yard ends, but probably they were not. Grappling hooks were normally thrown from deck into the adversary's shrouds, and also onto his decks in order to catch on the rails when heaved taut. Grappling hooks were also used to tear down boarding nettings. A mid-18th century French privateer, *Le duc de Mazarin* of 150? tons and 14 guns, was provisioned with three grappling hooks. (See J. Lafay. *Aide-mémoire d'artillerie navale*. Paris: Librairie Militaire, Maritime et Polytechnique, 1850, page 291; Daniel, R. P. [Gabriel Daniel]. *Histoire de la Milice Française et des Changements qui s'y sont faits depuis l'établissement de la Monarchie dans les Gaules jusqu'à la fin du Règne de Louis le Grand*. 2 vols. Paris: Jean-Baptiste Coignard, 1721, page 743; Villehuet, *Le Manœuvrier*, pages 132, 223-224; and Mainwaring, *The Seaman's Dictionary*, sv. "nettings"; Henri Malo. *Les Corsaires: Mémoires et Documents Inédits*. Paris: Mercure de France, 1908, page 382.)

Page 155, 2nd paragraph, laying alongside. Flutes were noted as being difficult to board, given their bulging hull and the tumblehome above, making the distance between the attacker's deck and his prey's greater than usual. (See Daniel, *Histoire de la Milice Française*, pages 720-721, and Guillet, Georges. *Les Arts de L'Homme d'Epée, ou Le Dictionnaire du Gentilhomme*. Paris: Gervais Clouzier, 1678, pages 158-159.)

Page 157, 1st paragraph, tactics to prevent boarding. A ship intending to board (or a fireship) might be fended off with booms or, if small, boathooks. (See Guillet, *Les Arts de L'Homme*, 743, and Villehuet, *Le Manœuvrier*, 224.)

Page 157, second paragraph, number of boarders. Villehuet suggests that no more than three quarters of the crew be assigned to boarding, and that the principal company of boarders be composed of the “most vigorous and most intrepid.” Officers leading a boarding action should have “*de l’ardeur & de l’intrépidité.*” (See Villehuet, *Le Manœuvrier*, 235.)

Page 160, Closed Quarters. Another tactic to defeat boarders, effective but seldom used because it was extremely dangerous to the boarded ship, was to literally “blow up” a deck, typically the quarterdeck or forecastle, or both. The tactic is mentioned in Smith’s *Sea-man’s Grammar and Dictionary* (page 57), and Luttrell notes that it was used in 1695 by an English East India ship to defeat a 36 gun French privateer who boarded her three times: “and after several hours dispute, and a 3d boarding, blew up her deck, with 70 French men, and so gott off.” See Luttrell, *A Brief Historical Relation of State Affairs* (Oxford: University Press, 1857), vol. 3:505.

Page 208, 1st paragraph, tattoos. The reference to Ned Ward is taken from a secondary source, which may have cited Ward in error. (I have been unable to identify the reference to the Jerusalem cross, or tattooing in general.) The reference to Dampier is primary, however, and there exist plenty of other period references to “pricking” (tattooing).

Page 223. Insert the following: *écumeur de mer*: (Fr.), a pirate or *corsaire*.

Page 226. Add to *grommet*: Also referred to as a *powder monkey*, at least from the mid 17th century.

Page 229. Add the following to *barca longa*: Spanish *barcalongas* were rigged with lug sails.

Page 230. Add the following to *barque longue*: In the French navy of the late seventeenth and early eighteenth centuries, a *barque longue* was also a category of “small frigate” used for coastal transport and lightering duties. It was three-masted and “ship rigged.” La Salle’s *La Belle*, lost off the Texas coast and recently excavated, was a *barque longue* of this type, as was another *La Belle* lost in 1683 at Petit Goave. A *barque en fagot* was a *barque longue* shipped in pieces and assembled at its destination.

Page 231. Add the following to *dogger*: (Fr. *dogre*, Dut. *dogger*). Also *doggerboot*, *dogre-bot*.

Page 232. Add the following to *fluyt*: the flute began to be replaced in the last quarter of the 17th century by the *hackboat* or *hagboat* when the narrow upper decks of the flute were no longer required. However, the term *fluyt* remained in use for some time afterward to indicate a moderate to large cargo vessel with round bow and stern.

Page 233. Add the following to *hackboat*, *hagboat*. The *hagboat* is descended from the *fluyt*, and is essentially a flute without the narrow upper deck and sharp tumblehome.

Page 234. Insert the following: *hourcre* (Fr.): an *urca* or *hagboat*.

Page 234. Insert the following: *Hulk*: Also *Hulke*. The English term for the rich Spanish *urca* of 700 to 800 tons which called on Honduras, often as a *navio de registro*. The French referred to it as the *hourque*, *houcre*, or *ourque*, also terms used in the 18th century for *hackboat* or *hagboat* (from the Dutch *hoek-boot*). A *hulk* is also an old ship used as a platform or machine in a shipyard, for example to set up masts or aid in careening.

Page 237. Insert the following: *well boat*: In general, any fishing boat with partitions in the hull for holding catch. The term was often used in the late 17th century in reference to fishing boats, usually French, converted to privateers.

Page 238. Add the following to *yacht*: In the New World, yachts were seen most often at New York and in the Dutch colonies, and occasionally at Jamaica and St. Thomas.

Page 248, black strap beer. The Sieur de Diéreville, a traveler to Acadia in the late 17th century, describes this beer as a “decoction” of the tips of fir trees, yeast, and molasses fermented for two or three days. The heavier ingredients settle, and the “light coloured Liquor” at the top is drunk. (See de Diéreville, *Relation of the Voyage*, 91, 256. The text is in both French and English.)

Page 251, add to *swivel*: maximum range 150 *toises* when charged with 2.5 pounds (French) powder; maximum effective range 150 *pas* (probably *commun*), equivalent to 960 feet/320 yards and 400 feet/133 yards respectively. (See Le Blond, *l'Artillerie Raisonnée*. Paris: 1761, 215-218.)

Page 251, modified ranges. Musket shot: 700 to 800 feet (among the English), 700 to 1000 feet (among the French). Buccaneer gun (*fusil boucanier*): 800 to 1000 feet. Pistol shot: poorly defined, may range from half-musket to 210 feet, and possibly even to 105 feet.

Page 252, measures and distances. The length of a French cable was 100 *toises* (six French feet) or 120 *brasses* (French fathom of five French feet = 1.62 meters = 5.329 feet), roughly 639.5 English feet.