"SKEPTICAL" MISINFORMATION ABOUT NESSIE
A critique of "Nessie, the Loch Ness Monster", by Daniel Loxton
Chapter 4 in Abominable Science *(Columbia University Press, 2013)*

Abominable Science is a very bad book on a number of counts. The general deficiencies — about what science is and how to identify pseudo-science — are criticized elsewhere [1]. Roland Watson has pointed to many of the things that are wrong with the book's treatment of Nessie [2]; Watson's critique runs to more than 3000 words, yet there are even more faults to be found with Loxton's treatment. (By the way, I do not agree that the Surgeon's photo was faked or that Rines's underwater "gargoyle head" photo shows a tree stump, which Watson appears to accept.)

As in the rest of the book, Chapter 4 on "Nessie, the Loch Ness Monster" is full of misrepresentation, tendentious distortions, unsupported generalities, and illogical argument.

Loxton claims to be or to have been genuinely interested in cryptids and says that he "studied the famous cases" in "pulpy books on the paranormal". Since he writes of a time when the Loch Ness Investigation Bureau (LNI) was already defunct (p. 121), this cannot have been earlier than the 1970s, by which decade there were already available from respectable publishers entirely non-pulpy books by Rupert Gould [3], Constance Whyte [4], Tim Dinsdale [5], Roy Mackal [6], Nicholas Witchell [7], Dennis Meredith [8]. Instead of benefiting from those, Loxton relies heavily on the debunking works by Ronald Binns [9] (which is unreliable as to fact [10]) and Steuart Campbell [11] (which is unreliable as to interpretation [12]).

Loxton's attempt to ascribe Nessie's origin to legend is doubly flawed: First, he ignores the point that if Nessies are real, then they would surely have made their way into legends [13]. Second, perhaps he was unaware of Roland Watson's recent work [14] which showed that Loch Ness has been far more regularly associated with "legends" of water "monsters" than any other Scottish lake.

The assertion that the Loch Ness and Morar Project (LN&MP) is "respected" (p. 125) reflects only Loxton's wish that Adrian Shine's views be respected since his research is "always thorough" (p. 133). These assertions are instances of *argumentum ad adjectivum* [15] (a-a-a): trying to score positive or negative points by innuendo through deployment of favorable adjectives or of denigrating ones respectively. The LN&MP has been defunct for decades. Adrian Shine re-named his efforts "Loch Ness Project" in the mid-1980s, perhaps at about the time when he morphed from pursuing Nessies and Morags to debunking still-extant "Jurassic reptiles". Shine took custody from David James of the films and other material collected by the LNI and has refused access to them by other researchers [16].

Far more seriously misleading than such adjectival innuendo is the rank distortion of describing Alex Campbell (p. 127) as "a small-town, part-time reporter", neglecting to inform the reader that Campbell was for decades the water bailiff (game warden) at Loch Ness and therefore commanded virtually unparalleled experience in observing those waters. That he did submit news items to the *Inverness Courier* is no grounds for denigration; as to "small town", although Inverness was not and is not exactly large in absolute terms, it is nevertheless the acknowledged "capital" of the Highlands of Scotland.

Scotland is unlikely to hold cryptids because it is "well-populated" (p. 21). Has Loxton ever driven or hiked in the Highlands? Does he know how little of Loch Ness is visible through the trees that line the roads beside it? That very few buildings overlook Loch Ness, let alone Loch Morar? How could he describe Loch Ness as representative of "relatively small bodies of water" (p. 24)? It is about 20 miles long by about a mile wide and deeper than 700 feet in two large basins, and contains the largest volume of water of any loch, more than all the lakes of England and Wales combined [17].

Loxton has this bee in his bonnet: "Nessie was born in 1933, in the wake of *King Kong*" (p. 165). Following but going beyond Binns, he asserts that this film "directly inspired the Loch Ness monster" (p. 129). In support, he calls the early land sighting by George Spicer "the most influential Nessie report of all time" (p. 130), which would mean more influential than the 1960 Dinsdale film that brought the Loch Ness Investigation into being with its decade of organized searching; and more influential than the underwater photos of 1972 and 1975 that led to the publishing in *Nature* of an article giving Nessies the scientific name of *Nessiteras rhombopteryx*.

Spicer's report is asserted to have "[t]riggered . . . a wave of new sightings" (p. 134). And Spicer, of course, had been influenced by the sauropod dinosaur in *King Kong*. Not only that: "clear foreshadowings of the Nessie narrative" (pp. 137-8) were Philip Gosse writing on sea serpents in 1861, and Jules Verne's 1864 *Journey to the*

Center of the Earth, and an 1899 short story by Wardon Allan Curtis, "The Monsters of Lake LaMetrie", not to forget Arthur Conan Doyle's 1912 "runaway hit *The Lost World*", or that Rupert Gould [18] identified sea serpents as plesiosaurian (p. 138).

All this is nothing but a "just-so" story [19] cobbled together by Loxton. He does clear injustice to Gould's determinedly empirical approach: "To my mind, the evidence available at present" shows "the real existence of more than one type of creature not yet scientifically described. . . . a long-necked seal, . . . a gigantic turtle-like creature . . . and . . . a creature . . . much resembling in outline and structure the *Plesiosaurus* of Mesozoic times. I do not suggest that the last-named is actually a Plesiosaurus, but that it is either one of its descendants or has evolved along similar lines" [20].

Here's a different story, no less well-supported than Loxton's:

By the 1930s, a number of empirical descriptive works of natural history, including Gosse (1861) and Gould (1930), had brought a general understanding that large unidentified creatures extant in the oceans resembled in appearance some long-necked creatures known from fossil records. This common knowledge inspired such fiction as Jules Verne's 1864 *Journey to the Center of the Earth* and Arthur Conan Doyle's 1912 "runaway hit *The Lost World*" as well as models created for such films as the 1933 *King Kong*.

Non sequitur and lack of logic pervade Loxton's account. For instance, since Alex Campbell *once* realized that *one* of his *dozen-and-a-half Nessie sightings* had actually been cormorants, "the sheer implausibility of this coincidence seems to disqualify Campbell's testimony (and, by extension, all later plesiosaur sightings . . .) from serious consideration" (p. 140). That's quite an extension. And Loxton fails anywhere to mention the Smith film of 1977 of what looks like a very long and sturdy neck appearing and disappearing several times, something that is certainly no cormorant [21].

That Nessie was invented for tourist purposes is also alleged. As with the matter of legends, this proves nothing: if the creatures are real, they would undoubtedly be exploited commercially. Beyond that, more than one person has claimed credit for creating the legend [22, 23], which casts doubt on all of them, at least by Loxton's own type of logic.

The Hugh Gray photo is so ambiguous, Loxton states, that one book even printed it upside down (pp. 142-3). But he doesn't cite that book [24], which was written for children and hardly belongs to the canon of serious Nessie cryptozoology. In the (right-side up) photo, Loxton claims — following Harmsworth parroted by several other debunkers — "I confess I can see only one thing: a yellow Labrador retriever, swimming toward the photographer. Once this interpretation was pointed out to me . . . , I found it impossible to unsee it" (p. 143). So apparently the picture is no longer ambiguous? On the other hand, I've been unable to see that dog even though it was explained to me years ago in person by Harmsworth himself, and the "yellow" is Loxton's own remarkable addition to the fable, given that the photo is and always was black-and-white. Harmsworth himself had never seen "the dog" until a tourist visiting his Exhibition pointed it out to him; and Harmsworth's explanation, that one sees the dog best when the picture is made small enough [25], adds little to the credibility of that assertion. At any rate, the "dog" interpretation has been thoroughly demolished by Roland Watson [26]. Loxton goes further, implying that the Gray photo was a hoax (p. 144), when no one else in the intervening 80 years has ever questioned Gray's honesty and sincerity.

About the most famous photo of Nessie, the Surgeon's, Loxton cites "legendary" [a-a-a] Roy Chapman Andrews for recognizing that it's the dorsal fin of a killer whale, as well as others who "plausibly enough" [a-a-a] called it a diving otter or a water fowl (p. 146). An objective observer might note that when plausible and legendary commentators are in such disagreement, maybe it's an *unidentified* animal. Similarly, Loxton cites contradictory accounts of how the photo was supposedly faked, but not the detailed debunking by Karl Shuker of those claims of faking [27]. Loxton mentions only in a falsely dismissive footnote the second Surgeon's photo which Constance Whyte had uncovered and which shows the object at a different angle to the water, consistent with an animate object but not with the alleged faking methods. That several methods of mensuration suggest that the Surgeon's object was only about 4 feet high does not make that "obviously consistent with a small model, not with a dinosaur-size monster" (p. 149). For one thing, the claimed model on a toy submarine was supposed to have been only *one* foot high [28]. Familiar as he claims to be with Nessie matters, Loxton surely knows that there have been some eyewitness reports of several creatures seen at the same time; and it is universally agreed that Nessies, if they exist, must be a surviving *species*, a *family*, not a single creature — which means that some Nessies would be quite small. Indeed, it might be that what many observers dismiss as

cormorants or other long-necked water-birds seen at long distance might actually be Nessies, since lay people would be unlikely to think of Nessie unless what they saw was obviously and monstrously large.

Loxton misleads once again when he calls the Lachlan Stuart photo "[k]ey" to the "cryptozoological renaissance" in the 1950s. Rather, the key was an article in the *Kings' College Hospital Gazette* by then-medical-student Constance Whyte, followed by her 1957 book.

What really got things going, of course, was Dinsdale's 1960 film shown on BBC television. No Nessie debunker has previously questioned Dinsdale's integrity, and the obituary in *The Times (London)* [29] noted that respectfully. Yet Loxton manages to be snide and derogatory: The film "securing him a Nessie book deal and launching his new career as a Nessie researcher, author, and lecturer" (pp. 152-3). In truth [30], Tim Dinsdale made a living during years of monster-hunting by selling life insurance (as mentioned in his 1975 book, *Water Horse*), and Tim's always supportive wife, Wendy, also worked full-time in helping to support their family of four children. Loxton goes further with *ad hominem* denigration: "he sometimes let his imagination run away with him" and "was also given to flights of supernatural fancy" (p. 154) — all quite irrelevant to the plain objective evidence of the film. Then "there is the Dinsdale family's puzzling approach to stewardship of the film. As longtime Nessie researcher Tony Harmsworth complains, Tim Dinsdale long refused to allow researchers with Adrian Shine's reputable [***a-a-a***] Loch Ness and Morar Project to study the film" (p. 155). They did so because they did not trust Shine, for good reason. I have testified before that in 1985 Shine asserted to me personally that Dinsdale no longer believed in his own film. Tim had heard of this gambit of Shine's from others as well, and had even contemplated the possibility of taking legal action [31]. As to making evidence available: David James had turned over to Shine all the records of the Loch Ness Investigation (LNI), and Shine (and Harmsworth) for a time said they were making the material available to respectable researchers. Yet Shine in early 1985 refused me access to the several bits of film of possible Nessies that the LNI had obtained, that had been mentioned in their annual reports, and that had actually been shown at annual LNI meetings.

Loxton is quite wrong about the Dinsdale film itself (p. 153). He says that "the experts at JARIC [Joint Air Reconnaissance Intelligence Corps] found that Dinsdale's blob is consistent with a monster — or with a boat". *No*. They said it was consistent with a boat *in terms of speed* but pointed out that the object "is NOT a surface vessel [upper case emphasis in original]" because any observer would have recognized a boat, given that these are typically painted and readily visible; nor was it "any sort of submarine vessel" and therefore "probably is an animate object" [32].

Misleading into contemporary times, Loxton contrasts the finding by the Computer Science Department at my university that there is no boat visible above the water [33] with Adrian Shine's alleged finding of "frames of Dinsdale's film that suggest a manned boat". What Loxton neglects to say is that I have an authentic 16 mm copy of the film itself, whereas Shine had filmed an unspecified television documentary, in other words he worked with several transpositions from the original, with inevitable losses in quality and possible intrusions of artefacts; and his only "suggestion" of a manned boat was a tiny, film-grain-size blob that he called the head of a helmsman. Loxton also repeats Binns' ill-founded comment that, since there was a car traveling on the road beside the loch at the same time as the submerged object was throwing up a wake, if it had been something out of the ordinary the car would have slowed or stopped — and since it didn't, therefore the wake was from an ordinary object, namely, a boat (p. 154). With reasoning like that, one can prove just about anything.

Fortunately, the Dinsdale film is now available on the Internet for anyone to watch, posted in conjunction with the publication of the book by Tim's younger son, Angus [30]. If you can see a dog in the Gray photograph, perhaps you can also see the hump Dinsdale filmed as a boat.

More speculation masquerading as evidence comes as Loxton dismisses the plesiosaur hypothesis in part because they would die and leave bones: "Dredging and submarine searches have not found" them (p. 159). Perhaps because there have been the merest handful of such dredges and searches. Robert Rines did search the bottom with remote-controlled vehicles, and actually detected some humps that seemed deserving of further examination. But his attempts to bring the objects to the surface were cut short by his death, and no one else has stepped up to try the formidable and expensive task of searching about 20 square miles at depths exceeding 700 feet in many places.

Perhaps the most egregious misrepresentation of evidence by Loxton has to do with sonar. He asserts that plesiosaurs' "air-filled lungs would light up sonar like nobody's business — which fails to happen in survey after survey" (p. 159). He misrepresents completely (pp. 170-3) the many sonar contacts made with large underwater objects that were often moving and were definitely not shoals of fish. I find it difficult not to regard this as deliberate deceit when written by someone who claims familiarity with the literature. Mackal's book,

listed among Loxton's notes, has 12 pages detailing 16 sonar searches up to 1972, of which 9 delivered positive results: large moving objects, speeds up to 5 mph vertically and 17 mph horizontally; including the remarkable tracking in 1969 of an object that circled, and the 1972 Rines sonar contacts simultaneous with underwater photos of flippers. The 1983 "Official Report of the Loch Ness & Morar Project" (LNMP 1983) — "respected" (p. 125) because Shine's research is "always thorough" (p. 133) — remarks that "repeatable sonar contacts seem to confirm those of other expeditions" (p. 4) — "[t]eams from Oxford and Cambridge, Birmingham University and Vickers Oceanics have all recorded contacts of interest" (p. 9). At Loch Morar in the mid-1970s, "[s]onar made interesting contacts" (LNMP 1983, p. 14). Back at Loch Ness in 1982, 40 contacts (LNMP 1983, pp. 9, 16) were obtained by the LN&MP using two different sonars: "single targets and of considerable strength, compared to the larger identifiable fish echoes and to a 7½" spherical air volume. Some contacts appear to show vertical movement . . . . [I]f there are large creatures present, then this is how they would appear". These results were also described in some detail by Tony Harmsworth [34]. Operation Deepscan, organized by Shine in 1987, swept about 2/3 of the loch with Lowrance sonar fish-finders and made several contacts, at least one of them moving and described by Darrell Lowrance himself as larger than a shark but smaller than a whale and definitely not a shoal of fish [35,36]. Shine himself [37] acknowledged 3 non-fixed contacts by Deepscan, stronger than fish and deeper than fish or seals would be: "The contacts remain unexplained. It is still true that most sonar expeditions have reported echoes they do not understand, as we have" (p. 24). Shine speculates that the mystery creatures might be sturgeons, which satisfies the totality of the evidence less well than most other suggestions have to date; to my mind, something related to leatherback turtles or to plesiosaurs would fit the data far better.

Loxton devotes several pages to phenomena that can mislead observers, an exercise in speculation that is sometimes farfetched, e.g. that "[a]lone or in pairs, their [otters'] long sinuous necks and snake-like heads resemble those of plesiosaurs" (p. 161). I've seen a number of otter photos published by debunkers like Binns, and none of them look even remotely like a plesiosaur or like the Surgeon's "Nessie". Loxton mentions "Scotland's local porpoises and seals" as obvious suspects; seals are not only known to visit Loch Ness occasionally, they are also readily recognized as such, as would be porpoises which have only once been reported in the Loch, in 1914 after an unusual high flood of the River Ness. I've spent in total about a year-and-a-half at Loch Ness [38] and fairly soon learned to recognize the range of potentially misleading things: wave, wind, and boat-wake effects; birds and the wakes of individual birds and of groups of birds; mirage effects. One morning I saw a black head poke up out of the water, and had no trouble recognizing it as a seal. Alex Campbell, water bailiff for decades, will have learned more and better than I have, about possibilities for misperceptions, so his reported Nessie sightings should carry appropriate weight. Constance Whyte came to know many local people who had seen what they recognized as out of the ordinary, explicable only as a Nessie. My own conviction was shaped in part by getting to know well a couple of local people who told me — but only after we'd been friends for years! — of their own sightings. Dick M., a lifelong amateur fisherman, officer on a minesweeper during WWII, was once accompanied on Loch Ness by his 11-year-old nephew when an enormous "grey mass" rose from the water not far away from their boat; all Dick could think of was to row off to safety as fast as he could. That wasn't an otter or a seal or a bird or a sturgeon or a porpoise or a mass of vegetation. Monks at Ft. Augustus Abbey and other long-term residents who see Nessies should perhaps be given more credence than is granted the abstract speculations of "skeptics".

Loxton once more demonstrates unreliability in quoting a newspaper account [39] of the Linnaean Society meeting at which a film was shown: "the creature depicted was in all probability a member of the seal family, possibly a grey seal" (p. 163). Had Loxton relied not a newspaper but on the Report of the Linnean Society [40], he would have noted that Sir Sidney Harmer "*had no experience of living Grey Seals*, but . . . was inclined to think the animal might belong to that species [*emphasis added*]" and M. A. C. Hinton "had no doubt that the living creature shown in the film was a seal"; whereas "Dr. Stanley Kemp stated that he had never seen a seal swim in the same way as the creature shown in the film". Mr. Fraser thought it was seal; Captain Dollman was sure it was an otter and moved nothing like a seal; Sir Arthur Smith-Woodward was afraid the creature could not be identified unless a carcass became available; and the Kodak Company estimated the visible part of the creature as 8 feet in length. The experts were divided, in other words, as one might expect if the creature belonged to a species not readily identified and thereby plausibly not yet described scientifically.

Again relying on a newspaper, Loxton reports that Malcolm Irvine believed the creature he himself filmed in 1934 and 1936 to have been a seal. But Irvine's film has long been recognized as a fraud; a clue is the small

black object at the rear of the disturbed water that remains unchanged and in place in the wake throughout [41]. Moreover the motions are nothing like those of a seal.

Questioning rhetorically why Nessies were not reported before 1933, Loxton several times brushes aside the report by anglers published 3 years before that, finally denigrating it because of memory distortion (p. 164). He ignores completely the full explanatory discussion in Constance Whyte's book of cultural and historical facts and nuances that explain the mixed record of earlier stories and documentation, among them that the locals until quite recently had no reason to think of making a fuss about Nessies any more than about any of the other features of their environment.

"[A]lmost any imaginable scheme" to detect Nessies "has been tried — long ago and many times" (p. 165), Loxton writes. That's quite simply not true. It is also not true that there are no pre-1933 folklore or reports. He says the Mountain expedition of 1934 was a bust, yet it obtained the mentioned film of a creature over whose identity the experts could not agree. Loxton speaks of "informal coverage by thousands of camera-armed tourists" (p. 166), yet a single trip around the Loch would demonstrate that there are very few places where one gets any sort of clear view of the water from the road. I spent a few weeks there in each of 20 years (roughly 1985 to 2005), and was quickly and permanently surprised at how few people ever spent any time even looking over the water [38]. Loxton calls search by submarine "obvious, if expensive" (p. 167), while acknowledging that the very limited visibility makes live sighting or photography highly unlikely and ignoring that the submarines available outside the Navy are not fast enough to keep up with the sonar targets they detect, as once actually happened. Robert Rines had begun to use remote-controlled robots but no one since has had the organizing and fund-raising ability to do so. Loxton cites Binns again, that dredging ought to have brought up any carcasses or bones, because the bottom of the loch is so flat; but it's quite simply untrue to say that it has been sampled "extensively" with "dredges, scoops and core samplers".

Loxton also tries to debunk the underwater flipper photos, "apparently taken with the assistance of a dowser — a local psychic who 'detected' the monster using paranormal means and directed the camera placement" (p. 167). It's far from obvious why, if this were true, the non-psychic camera obtained those pictures at the same time as the non-psychic sonar recorded the presence of large moving objects. Moreover, Rines explained the non-psychic rationale for where he placed his sonar and camera: in an underwater trench leading toward a river, on the presumption that predatory "monsters" would be lying in wait there to feed on migrating salmon — and where in fact there had been earlier sonar contacts and sightings [42]. Furthermore, the photos were *not* "altered by an artist to depict an unmistakable flipper" (p. 168). Charles Wyckoff of Kodak, who collaborated with Rines, has pointed out that the original negative showed the flipper shape, and he attested that there was not "the slightest bit of 'retouching' or change"; the computer "enhancement" involved using various algorithms to scan the negative — under different color filters, and contrast-altering, and edge-enhancing — and superposing several such scans, none of which could produce something not present in the original [43]. Alan Gillespie, who did the actual computer work at the Jet Propulsion Lab, wrote: "Something unusual was in the image, and it was not an artefact of processing, and it has flippers of some sort"; and he described the later (1975) photos of body-neck and head photos as "spectacular" [44].

It is yet another canard that the head photo turned out to be of an underwater stump. I was present at the news conference in 1987 when Shine unveiled this claimed identification. The reporters and others present expressed astonishment that similarity let alone identity was being claimed. Reproductions of the stump, and of several attempts to re-touch it to make it more like Rines's "gargoyle head", are available on the Internet [45].

Loxton would have it that "the double-jackpot coincidence" that Rines obtained results twice although monitoring only "a handful of the loch's 261 billion cubic feet — and for very short periods" (p. 169) overlooks why that location had been chosen in the first place and that the success in 1972 only confirmed the desirability of continuing to go back there.

Loxton correctly concedes that Nessie's existence is "possible (if unlikely)" (p. 155); but he contradicts himself later with "eighty years" of serious research "with no sign of a monster" was an "inevitable" outcome (p. 174). There hasn't been all that much serious research, and Nessies remain unlikely but possible. The truth is that the Dinsdale film and Rines's underwater photos still await a satisfactory explanation, and even arch-debunker Adrian Shine acknowledges that those repeatably obtained sonar echoes originate from something that remains mysteriously unknown. Shine himself evidently believes that the ultimate explanation will be some large creature, since his own present best guess is "sturgeon" — a suggestion that few others have seen fit to endorse.

[1] Henry H. Bauer, "Cryptozoology and the troubles with 'Skeptics' and mainstream pundits", *Journal of Scientific Exploration*, in publication

[2] Roland Watson, review at amazon.com of *Abominable Science* by Loxton & Prothero

[3] Rupert T. Gould, *The Loch Ness Monster and Others* (Geoffrey Bles, 1934; reprint with new Foreword, University Books, 1969)

[4] Constance Whyte, *More Than a Legend: The Story of the Loch Ness Monster* (Hamish Hamilton, 1957)

[5] Tim Dinsdale, *Loch Ness Monster* (Routledge & Kegan Paul, 1961 [American ed., Chilton, 1962]; 2nd ed., Routledge & Kegan Paul, 1972; 3rd ed. 1976; 4th ed. 1982)

[6] Roy Mackal, *The Monsters of Loch Ness* (Swallow Press, 1976)

[7] Nicholas Witchell, *The Loch Ness Story* (Terence Dalton, 1974; 2nd ed., rev., 1976; Penguin, 1975; Book Club Assoc., 1979; Corgi, 1982; Corgi rev. ed., 1989)

[8] Dennis Meredith, *Search at Loch Ness* (Quadrangle [New York Times], 1977)

[9] Ronald Binns with R. J. Bell, *The Loch Ness Mystery Solved* (Open Books, 1983; Prometheus, 1984; Star [W. H. Allen], 1984)

[10] Henry H. Bauer, "Review of Ronald Binns, *The Loch Ness Mystery Solved*", *Nessletter* (ISSN 0264-7001), #70, June 1985; briefer in *Fortean Times*, #46 (Spring 1986) 68-70

[11] Steuart Campbell, *The Loch Ness Monster: The Evidence* (Aquarian Press, 1986; Aberdeen University Press, 1991; Birlinn, 1996; Prometheus, 1997)

[12] Henry H. Bauer, "Note about Steuart Campbell, *The Loch Ness Monster: The Evidence*", *The Explorer*, 3 (#2, October 1986)

[13] Dmitri Bayanov, "A note on folklore in hominology", *Cryptozoology*, 1 (1982) 46-8

[14] Roland Watson, *The Water Horses of Loch Ness* (self-published, 2011; www.lochnessmystery.blogspot.com; ISBN 978-1461178194)

[15] Henry H. Bauer, "Not even wrong about science and politics", *Journal of Scientific Exploration*, 27 (2013) 546-58

[16] I was personally refused access by Shine in 1985 when I visited him. See also "Nessie on land: Morphology and behaviour", http://lochnessmystery.blogspot.com/2014/08/nessie-on-land-morphology-and-behaviour.html

[17] http://www.scottish-places.info/features/featurefirst2397.html

[18] R. T. Gould, *The Case for the Sea-Serpent* (Philip Allan, 1930)

[19] The Wikipedia description is correct: "a just-so story, also called an *ad hoc* fallacy, is an unverifiable and unfalsifiable narrative explanation". The phrase is taken from Rudyard Kipling, *Just So Stories*, London: Macmillan (1902; and many later editions from various publishers)

[20] Gould 1930 [18], p. 277)

[21] Dinsdale 4th ed. [5] pp. 188-98; a description of the film is at http://www.thefrasers.com/nessie/cine1.html#26

[22] Henry H. Bauer, *The Enigma of Loch Ness: Making Sense of a Mystery* (University of Illinois Press, 1986) pp. 3-4

[23] http://www.cryptomundo.com/cryptozoo-news/nessie-italia

[24] Elwood D. Baumann, *The Loch Ness Monster* (Franklin Watts, 1972)

[25] Tony Harmsworth, *Loch Ness, Nessie, and Me* (self-published, 2010; http://www.loch-ness.com/bookindex.html) pp. 83-4

[26] "The Hugh Gray photograph revisited", 26 June 2011; http://lochnessmystery.blogspot.com/2011/06/hugh-gray-photograph-revisited_26.html

[27] Karl P. N. Shuker, *In Search of Prehistoric Survivors* (Blandford, 1995) pp. 86-8

[28] David Martin & Alastair Boyd, *Nessie: The Surgeon's Photograph Exposed* (self-published, 1999; ISBN 0-9535708-0-0) p. 43

[29] 17 December 1987

[30] Angus Dinsdale, *The Man Who Filmed Nessie: Tim Dinsdale and the Enigma of Loch Ness* (Hancock House, 2013); http://www.themanwhofilmednessie.com

[31] Personal communication, Tim Dinsdale to Henry Bauer, Gatwick Airport, 10 May 1985

[32] http://cryptozoo-oscity.blogspot.com/search?q=jaric; also at bottom of page on http://www.lochnessinvestigation.com/Remembered.html

[33] A few of the scanned and computer-examined frames are posted on my website, http://henryhbauer.homestead.com/DinsdaleFilm.html

[34] Anthony G. Harmsworth, *Loch Ness: The Monster* (Peter Gray, 1985) p. 24

[35] Henry H. Bauer, "Operation Deepscan**"**, *Nessletter* (ISSN 0264-7001), #84, October 1987

[36] M. Dash, "Operation Deepscan", *Fortean Times*, #50 (Summer 1988) 35-9

[37] Adrian Shine, *Loch Ness* (Loch Ness Project, 2006; ISBN 978-0-9553115-0-5)

[38] Henry H. Bauer, "Loch Ness Odyssey", *Snowy Egret*, 51 (#2, Autumn 1988) 8-15 http://henryhbauer.homestead.com/LochNessOdyssey.pdf

[39] "The 'Monster' — scientists' views after seeing film", *Scotsman*, 5 October 1934, p. 9.

[40] Sir Edward M. Mountain, "The Loch Ness 'Monster'", *Proceedings of the Linnean Society of London*, 1934, Pt. I: 7-12

[41] Search Google for videos with "Irvine Loch Ness". Several hits include Scottish Film Archive "'THINGS THAT HAPPEN NO. 1", in which the Loch Ness sequence starts at 8.20 minutes. If this was not a hoax, why did Irvine film for only 21 seconds?

[42] Robert H. Rines, "Sonar 'eyes' unmask Urquhart Bay", chapter 3, pp. 41-62, in Martin Klein et al., *Underwater Search at Loch Ness* (Academy of Applied Science [Belmont, MA], 1972)

[43] Letter of 27 August 1984 from Charles W. Wyckoff to Henry Anatole Greenwald, Editor-in-Chief, *Discover* magazine; http://henryhbauer.homestead.com/WyckoffToD2color.pdf

[44] Letter of 10 October 1980 from Alan Gillespie (Jet Propulsion Lab) to Dr. Roger W. Erich (Computer Science, Virginia Polytechnic Institute & State University)

[45] http://www.njan.org/files/Gargoyle%20Head%20Tree%20Stump%20Controversy.pdf; takes a long time to load, but shows both an un-retouched stump from http://www.loch-ness.org/underwaterpictures.html and the modifications made in attempts to have it actually look something like the Rines gargoyle, http://www.lochnessinvestigation.com/gust_at_sea.html