



# Campaigners for Camouflage: Abbott H. Thayer and William J. Dakin

*Ann Elias*

**I**n 1942 William J. Dakin (1883–1950), a zoologist in charge of Australian camouflage operations in the Second World War, was intrigued but concerned by the ingenuity of Japanese methods of concealment in the New Guinea region. His job was to instruct the troops on effective jungle camouflage techniques. Rather than providing a scientific account, he explained the principle of concealing coloration by quoting Rudyard Kipling.

“I can smell giraffe, and I can hear giraffe, but I can’t see giraffe.”  
And that about represents the situation in a New Guinea or Malay rain forest if a yellow or light coloured individual is looking for a man of more sombre hue [1].

If Dakin had known the work of Abbott H. Thayer and if he had read a copy of Thayer’s book *Concealing-Coloration in the Animal Kingdom* (1909), then he would have read a footnote on page 135 wherein Thayer acknowledges the brilliance of Rudyard Kipling’s story “How the Leopard Got His Spots,” a story that also suggests the influence of Thayer’s theories and experiments with camouflage on Kipling [2]. But Dakin did not cite Thayer’s name at any time in his career.

My aim in this article is to look more closely at the connections between Abbott Thayer and William Dakin, since their stories are so similar. Both were zealous in their mission to convince government and military organizations about the importance of their ideas on military camouflage, developed from studies of animals. Thayer’s passion is described as “frenzied” [3]. Dakin was more fortunate than Thayer because he did not have an opponent as powerful as Theodore Roosevelt. He instead locked horns with skeptics in the Australian Army and wrote letters of self-pity to the prime minister, John Curtin, complaining that his “only sin” was being a civilian [4]. Dakin was loud and volatile and, like Thayer, he was impatient for war camouflage to be taken seriously [5].

## PROFESSIONAL CAMOUFLAGE

There is little chance that Dakin was unaware of the impression that Abbott Thayer had made on naturalists in Britain and the United States. The preface to Thayer’s book states that by 1909 he had installed demonstration models of protective coloration in museums in Oxford and Cambridge. England was Dakin’s birthplace, and he was still living there as a zoology researcher at the University of Liverpool when Thayer made

his early visits [6]. Later, in 1915, Thayer again visited Liverpool to explain his theories on military camouflage to “college professors and naturalists” [7], carrying with him a suitcase containing a portable demonstration of the principle of disruptive patterning [8]. By this time Dakin was living in Australia. Dakin stayed in close professional contact with zoologists at the University of Liverpool and returned there to take a position as professor of zoology in 1920, when Thayer’s visit would still have been very fresh in local memory. Therefore it is unlikely to have been a mere coincidence that, at the outbreak of the Second World War, William Dakin also had the idea of building a portable “museum” of camouflage to aid his campaign of raising awareness of this modern approach to warfare [9].

Dakin’s books reveal more. In 1918, nine years after Abbott and Gerald Thayer published *Concealing-Coloration in the Animal Kingdom*, Dakin published a nature-study book for schoolchildren entitled *Elements of Animal Biology*, with a sub-section on “Animal Coloration: Protective Resemblance and Mimicry” [10]. The name “Thayer” is not cited in the book, although it was typical of Dakin to omit references to key theorists of camouflage. In 1941, when he was technical director of camouflage and advisor to the Australian military, he compiled a book titled *The Art of Camouflage* [11]. Not only is the name “Abbott H. Thayer” omitted from this study but also the names of Edward B. Poulton (whom Thayer had conscientiously cited as one of his sources) and Hugh B. Cott (whom Nelson C. White accused of not properly acknowledging Thayer as a source) [12].

Despite these omissions, there is an uncanny resemblance between Dakin’s illustrations of counter-shading using a shadow box and model birds and Thayer’s earlier illustrations of counter-shading (“obliterative coloration”), also using model birds (Figs 1–3). In addition, Dakin’s book includes photographs of incorrectly camouflaged guns and of fish in various degrees of visibility and invisibility, all of which illustrate the principle of “disruptive coloration” and are identical in subject and purpose to diagrams published by Cott in *Adaptive Coloration in Animals* (1940) (Figs 4–5). Dakin’s omission of a citation to Cott’s research becomes all the more conspicuous with the presence of a citation to Dakin’s research on evolutionary biology in Cott’s bibliography [13]. These coincidences, I would argue, are proof that these ideas were a part of the same international network of scholars.

## ABSTRACT

The author makes a comparative study of American naturalist Abbott H. Thayer and Australian zoologist William J. Dakin, two civilian campaigners for military camouflage in two different wars who nevertheless share strikingly similar stories.

Ann Elias (art historian, teacher), Locked Bag 15, Rozelle, NSW 2039, Australia. E-mail: <A.Elias@sca.usyd.edu.au>.

**Article Frontispiece. William Dakin camouflage experiment, c. 1942. (Photo: G.C. Purcell) The National Archives of Australia.**

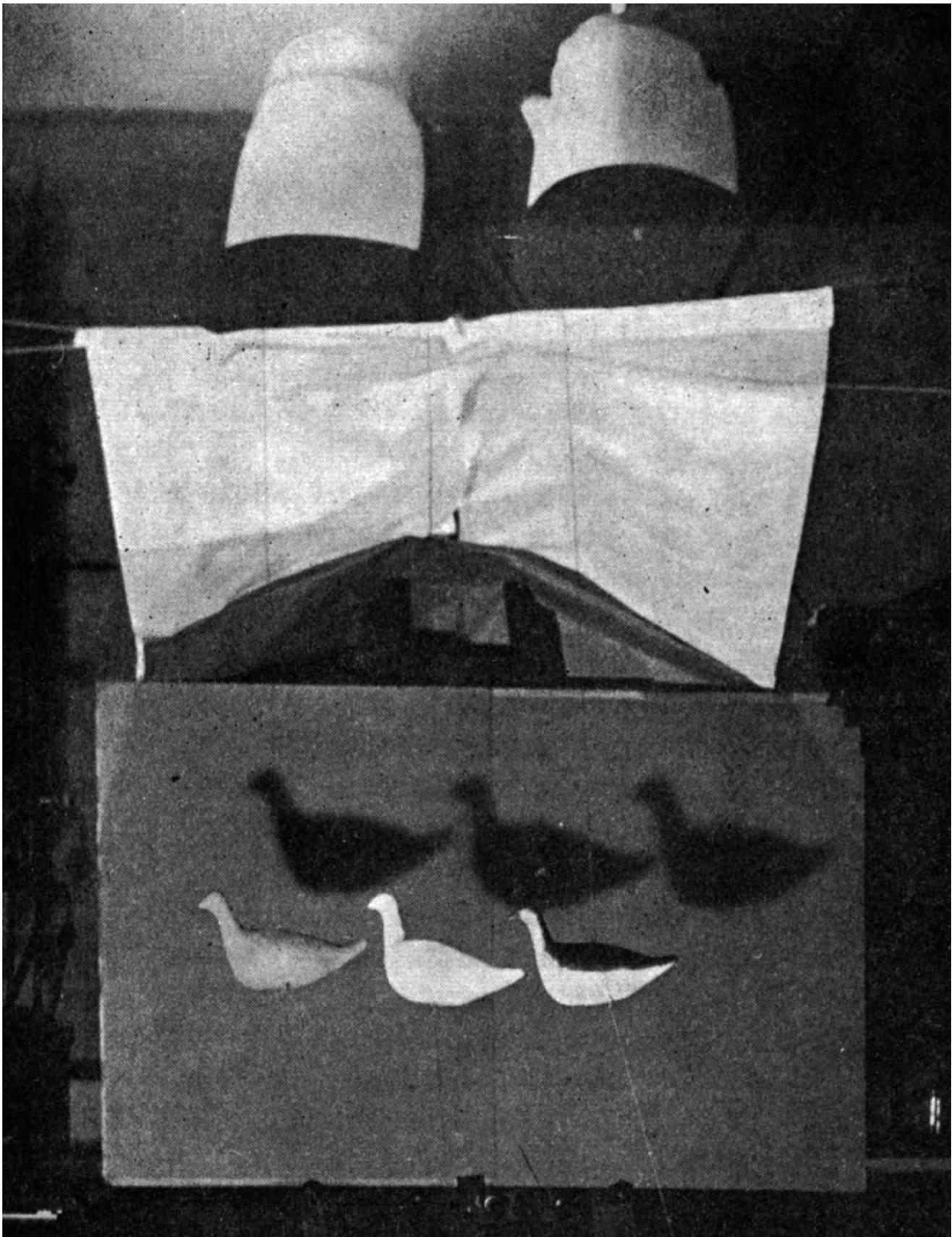


Fig. 1. William J. Dakin: example of countershading from *The Art of Camouflage*, 1942. Australian Department of Defence.

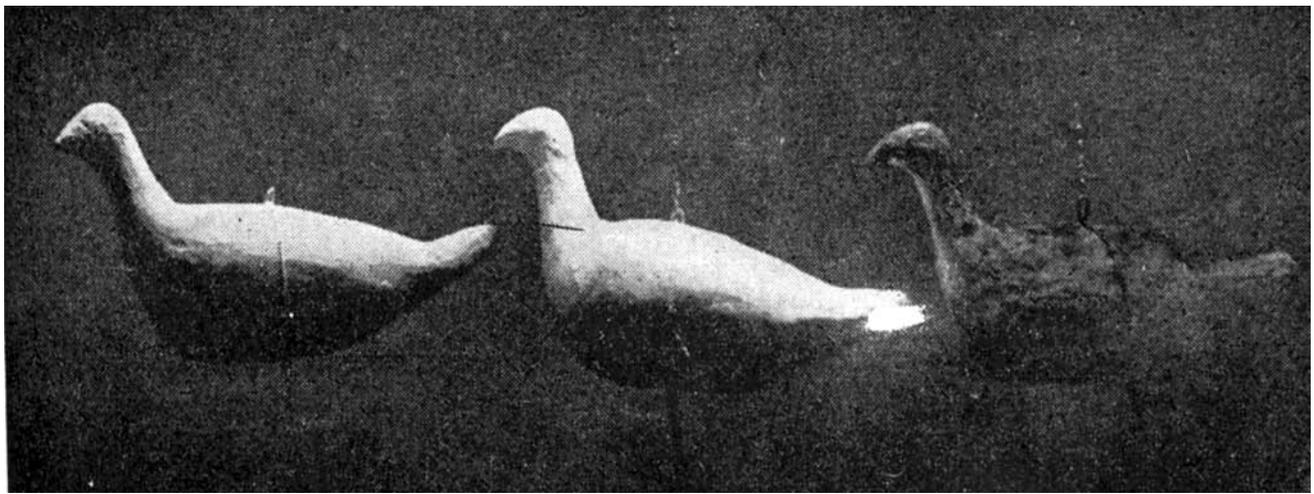


Fig. 2. William J. Dakin: example of countershading from *The Art of Camouflage*, 1942. Australian Department of Defence.

### BEATING THE OPPONENT

The omissions outlined above are not intended to infer that Dakin concealed the fact that scientists before him were important in the development of camouflage warfare. His forward to *The Art of Camouflage* proudly states that “the only works on Camouflage (although not then known by that name) before the last war were by Zoologists!” [14] Still, he did fail to name the men whose work his own was built on, and the name Abbott Thayer is the most significant omission, because it was in World War II that the widespread use of camouflage demonstrated the

soundness of many of Thayer’s theories [15].

In attempting to explain why Dakin may have intentionally concealed his professional sources, it is worth reading a characterization of masculinity that is appended to a book he co-authored in 1918 titled *Sex Hygiene and Sex Education*. This publication urges men in civilian life to stand out from the background and beat other men at work:

[Keep] fit and strong, because, if you have any of the ambitions of a real man, you want to be a leader of men, you want to be the best man, to beat the other fel-

low at running, swimming, football, in fact at everything, and in later life you want to beat him at work. You want to come out on top all the time [16].

The emphasis placed on beating other men takes on a special meaning in relation to professional ethics and also explains Dakin’s fanaticism about the science of camouflage warfare, because it was a modern means of beating the enemy by outwitting him through superior intelligence. In fact Dakin believed that the survival of the British Empire depended upon the “imperative that we let no nation surpass us in physique, in-

Fig. 3. Abbott H. Thayer: example of countershading from *Concealing-Coloration in the Animal Kingdom*, 1909.

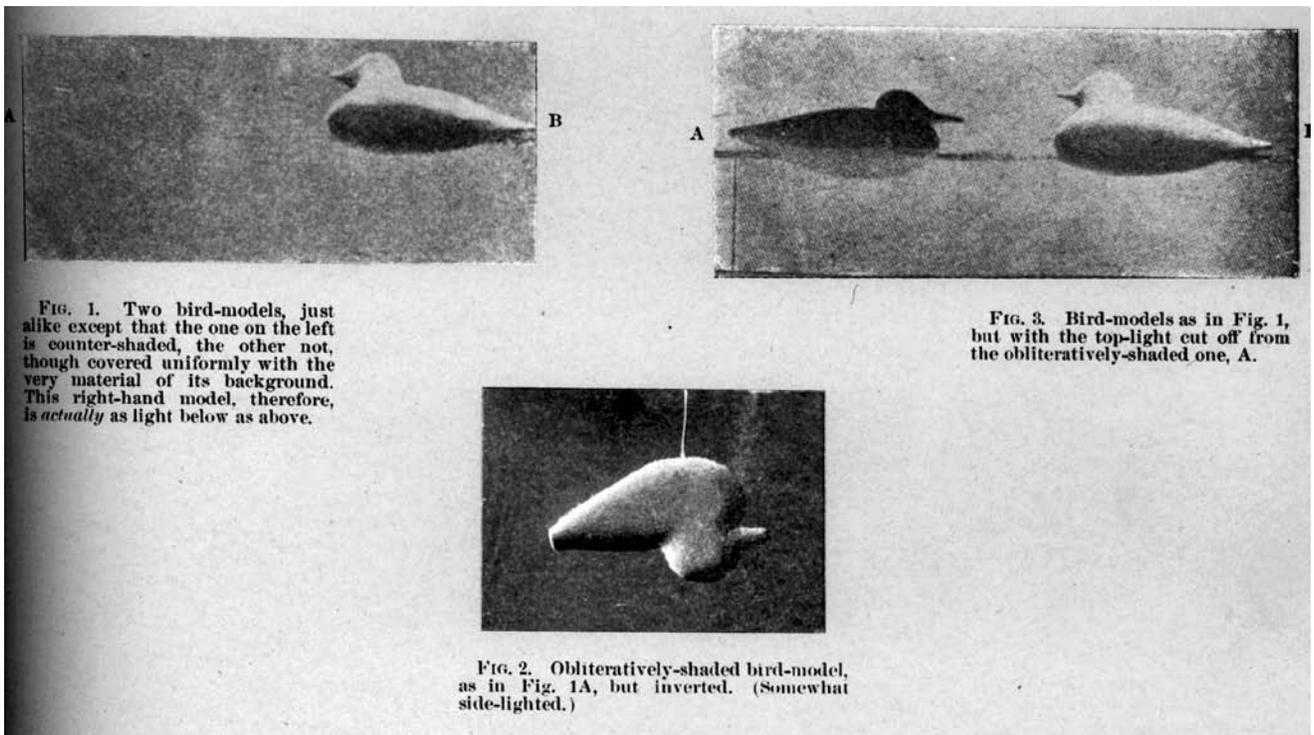


FIG. 1. Two bird-models, just alike except that the one on the left is counter-shaded, the other not, though covered uniformly with the very material of its background. This right-hand model, therefore, is actually as light below as above.

FIG. 3. Bird-models as in Fig. 1, but with the top-light cut off from the obliteratively-shaded one, A.

FIG. 2. Obliteratively-shaded bird-model, as in Fig. 1A, but inverted. (Somewhat side-lighted.)

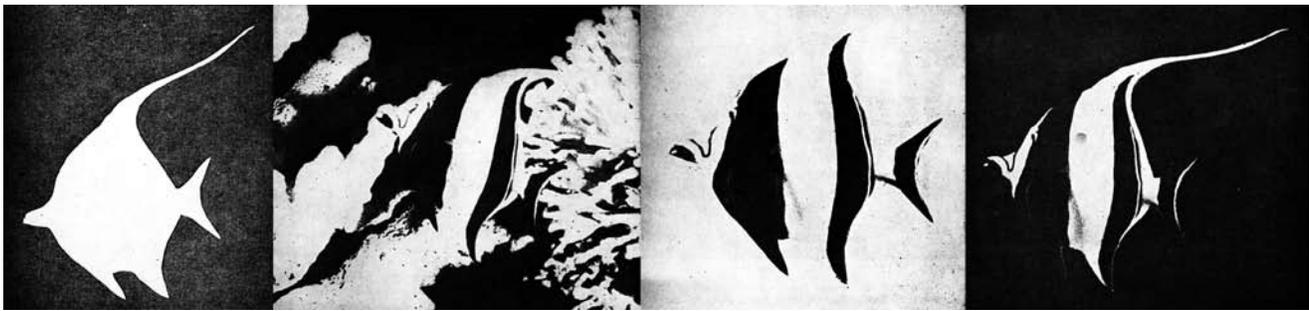


Fig. 4. William J. Dakin: example of disruptive coloration from *The Art of Camouflage*, 1942. Australian Department of Defence.

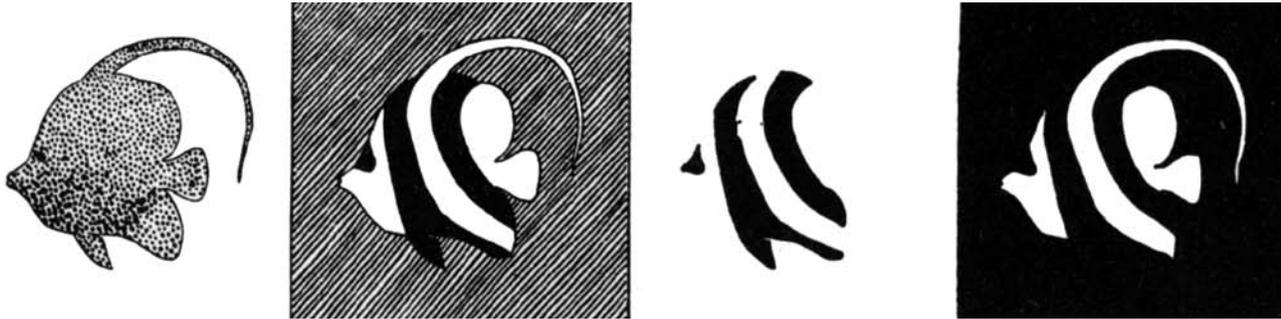


Fig. 5. Hugh B. Cott: example of disruptive coloration from *Adaptive Coloration in Animals*, 1940.

telligence, and morality” [17]. One way to beat the opponent in war is to conceal one’s strength and use the element of surprise. Consequently, while in civilian life, Dakin admired men who stood out from the background, in war the converse was true. The man who was most likely to beat other men in war was the one who blended in. Many of Dakin’s experiments with camouflage techniques, like those of Abbott Thayer, sought the effect of disappearance. Indeed, both men studied this effect by experimenting with the viewpoints of the hunter and hunted.

Dakin’s advice to the soldier was to return to a primitive and instinctual masculinity by smudging the body, crouching in the shadows and learning “proper crawling with almost the whole body in contact with the ground” [18]. He experimented with the effects of countershading, also known as “Thayer’s Law,” so-named because in 1896 Thayer had claimed it is universally true that animals often go unnoticed due to gradations of light and shade on their bodies leading to what he described as the effacement of themselves as “opaque solid objects” [19]. Dakin likewise talked about “making objects of importance less conspicuous. *They lose their solidity by this counter-shading*” [20]. Dakin and his assistants painted their skin and clothes with light and dark shades to effect their virtual disappearance (Article Frontispiece). They crouched in the shadows of the undergrowth in a man-

ner that recalls early reports of Thayer “crouching in the dust,” putting his own body in the position of a predator in relation to its prey [21].

### ARTISTS, CAMOUFLEURS AND MASCULINE ANXIETY

Dakin’s and Thayer’s obsession with concealment in warfare conflicted with a view that manly warfare is about being aggressively visible. When considering why Theodore Roosevelt was so critical of Thayer’s Law, Nemerov concludes: “What could be more conspicuously unmanly, after all, among a race proud of its martial virtues, than failing to show up?” [22] Dakin faced a similar criticism, namely that camouflage is “stuff for children,” a claim that also emasculates because it signifies immaturity and naivety [23]. Furthermore, Dakin used the French term *camoufleur* when addressing camouflage specialists. This was probably unwise given the macho nature of military life. The term originated in France during the First World War with the establishment of “the first *section de camouflage* in military history” [24]. Outside France at that time the word “camouflage” and its derivatives caused unease. Paul Fussell tells how the English in 1915 were “embarrassed to pronounce the new stylish foreign word *camouflage*” [25]. When Roy Behrens discusses the formation of the American Camouflage Corps he

reveals that even its members satirized the very idea of camouflage in a journal titled *The Camoufleur* [26]. Camouflage seemed somehow too effeminate. This perception of its unmanliness was further complicated by the view, expressed first by Abbott Thayer and later by Dakin, that the best minds for camouflage in warfare belong to artists rather than scientists and the military. This conclusion conflicted with a more commonly held view: that while art is pleasing to the senses, it is unnecessary for survival. Skeptics had to be convinced.

Thayer’s appeal in 1917 for Theodore Roosevelt to establish an advisory board of artists to work on camouflage was characteristically impassioned. Thayer based his request on the argument that he himself had been “studying the principles of concealing coloration for nearly a quarter of a century”:

I entreat you to believe me that only a picked board of artists, and the more scientific minded ones, at that, are at all competent to test any scheme. The eyes of other men are not trained to degrees of visibility [27].

Dakin used the opposite tactic. He put together an advisory group of artists (the Sydney Camouflage Group) and then approached the government to second its members for military work. Nevertheless, he used an argument quite similar to Thayer’s, claiming that he had “been

interested in camouflage for more than 25 years.”

You can't do anything without aerial photographs and without the close cooperation of men who [know] exactly what objects look like on the ground—not through having seen them once or twice, but whose job it is to constantly look at objects on the ground [28].

## CONCLUSION

Abbott Thayer died in 1921, three years after the end of the First World War. William Dakin died in 1950, five years after the end of the Second World War. Both men had worn themselves out by the sheer effort of their mission to deploy camouflage to protect their nations and citizens from defeat and death. Both men also encountered many rejections. Their work was frustrated by certain preconceptions: Concealment is a sign of weakness in the soldier; artists know nothing about science and war; art has no practical value; and the behavior of animals is an inappropriate model for the behavior of humans. To be sure, Dakin did not cite the work of Abbott Thayer, the man known as the “Father of Camouflage” [29]. Nor did he simply mimic the more brightly colored Thayer in order to distinguish himself in Australia. The record also shows that Dakin disagreed with the universalizing principles of Thayer's ideas on animal coloration and claimed in a posthumously published book that “the color of an animal quite often seems to have no particular significance” [30].

Theodore Roosevelt shared this view. In 1910, he appended an essay titled “Protective Coloration” to *African Game Trails* to refute Abbott Thayer's claim that large animals are colored for concealment, citing the example of a giraffe. The idea of a giraffe disappearing into its surroundings had earlier intrigued Roosevelt's friend Rudyard Kipling [31], who had published a comical story in 1902 of a giraffe that changed the color of its skin to avoid detection by a leopard. Abbott Thayer was later delighted by “How the Leopard Got His Spots” despite believing that Kipling had misunderstood the “magic” of camouflage, namely the concept of countershading in the “costumes”—that is, the outer

skins—of animals [32]. And, as the first paragraph of this article shows, 33 years later, in 1942, when Australian and American troops were fighting to win the war in the Southwest Pacific, the story of the vanishing giraffe reappeared, as William Dakin tried his best to endear the concept of camouflage to Australian troops so that they would take a good hard look at the colors of their own costumes.

## References and Notes

*Unedited references as provided by author.*

1. William J. Dakin, “Camouflage Bulletin No. 7,” October 9, 1942, *Camouflage Report 1939–1945*, AWM 81 [77 Part 4], Australian War Memorial, Canberra, p. 7.
2. Kipling was casually associated with Thayer's circle through the Dublin Art Colony when he lived in Vermont between 1892 and 1896: “Your Membership Supports Our Mission,” *Dublin Art Colony* Vol. 4, No. 3, 3 (Fall 2002). His sister-in-law Josephine Balestier (Mrs. Theodore Dunham) was a sitter for Thayer in 1896, the last year that Kipling lived in Vermont: Thomas B. Brumbaugh research material on Abbott Thayer and other artists, 1876–1994, Smithsonian Institution Research Information System, <<http://siris-archives.si.edu/ipac20/ipac.jsp?uri=full=3100001~121591310&term>>, accessed July 9, 2007.
3. Nelson C. White, *Abbott H. Thayer: Painter and Naturalist* (Hartford, CT: Connecticut Printers, 1951) p. 158.
4. William J. Dakin to Australian Prime Minister John Curtin, September 30, 1942, Series Number C1707, File 19, National Archives of Australia, Canberra, p. 2.
5. Roy R. Behrens, *False Colors: Art, Design and Modern Camouflage* (Dysart, IA: Bobolink Books, 2002) p. 55.
6. For biographical information on Dakin see Ursula Bygott and K.J. Cable, “Dakin, William John (1883–1950),” *Australian Dictionary of Biography* Vol. 8 (Melbourne, VIC: Melbourne University Press, 1981) pp. 190–191.
7. White [3] p. 159.
8. Behrens [5] p. 55.
9. Frank C. Hinder diaries, Private Papers, ID Number PR88/133, Australian War Memorial, Canberra.
10. William J. Dakin, *Elements of Animal Biology: A Text-Book Adapted for Use in Australia* (1918; repr. London, England: Macmillan, 1948) p. 128.
11. The first edition of *The Art of Camouflage* was published in 1941 with acknowledgement of Dakin as compiler in collaboration with “The Sydney Camouflage Group”; the second edition was published in 1942 with sole authorship attributed to Dakin. The second edition is referred to in this text.
12. White [3] p. 131.
13. The citation reads: “Dakin, W.J. 1921. Some Visual Organs and Their Bearing Upon Evolutionary Biology (An Inaugural Lecture). Liverpool, University Press, pp. 3–20,” in Hugh B. Cott, *Adaptive Color-*

*ation in Animals* (London, England: Methuen, 1940; repr. 1957) p. 444.

14. William J. Dakin, *The Art of Camouflage* 2nd ed. (Canberra, ACT: Department of Defence, 1942) p. 4.

15. Sharon Kingsland, “Abbott Thayer and the Protective Coloration Debate,” *Journal of the History of Biology* Vol. 11, No. 2, 223–244 (Fall 1978).

16. Reginald E. Atkinson and William J. Dakin, *Sex Hygiene and Sex Education* (Sydney, NSW: Angus and Robertson, 1918) p. 138.

17. Dakin [10] p. 284.

18. William J. Dakin, “Concealment and Camouflage of the Individual in Warfare,” 1944, *Camouflage Report 1939–1945*, Appendices K–N, AWM 81 [77 Part 3], Australian War Memorial, Canberra, ACT, p. 48.

19. Abbott Thayer, “The Law Which Underlies Protective Coloration,” *Auk* Vol. 13, No. 2, 124–129 (April 1896).

20. Dakin [14] p. 9.

21. Behrens [5] p. 44.

22. Alexander Nemerov, “Vanishing Americans: Abbott Thayer, Theodore Roosevelt, and the Attraction of Camouflage,” *American Art* Vol. 11, 50–81 (Summer 1997).

23. Dakin [18] p. 48.

24. Behrens [5] p. 67.

25. Paul Fussell, *The Great War and Modern Memory* (Oxford, England: Oxford University Press, 1975) p. 29.

26. Behrens [5] p. 64.

27. Abbott Thayer to Franklin D. Roosevelt, September 3, 1917, *Selections from the Archives of American Art*, Smithsonian Institute, <<http://www.aaa.si.edu/exhibits/pastexhibits/presidents/rooseveltfthayer.htm>>, accessed May 30, 2007.

28. William J. Dakin, “Notes of Conference Held at Premiers Department,” 1940, Series Number SP1048/7, Control Symbol S10/1/329, National Archives of Australia, Canberra, p. 5.

29. See Roy R. Behrens, “The Theories of Abbott H. Thayer: Father of Camouflage,” *Leonardo* Vol. 21, No. 3, 291–296 (1988).

30. William J. Dakin, *Australian Seashores* (Sydney, NSW: Angus and Robertson, 1952) p. 74.

31. According to Patrick Brantlinger, by 1898 Kipling and Roosevelt were friends. See Patrick Brantlinger, “Kipling's ‘The White Man's Burden’ and Its Afterlives,” *ELT* Vol. 50, No. 2, 172–191 (2007).

32. Gerald H. Thayer, *Concealing-Coloration in the Animal Kingdom: An Exposition of the Laws of Disguise Through Color and Pattern: Being a Summary of Abbott H. Thayer's Disclosures* (New York, NY: Macmillan, 1909) p. 135.

Manuscript received 17 July 2007.

*Ann Elias is a senior lecturer in visual arts at Sydney College of the Arts at the University of Sydney, Australia. She writes about Australian art and researches the impact of war on artists.*