

# ArtScience: The Essential Connection

## RONALD ROSS: RENAISSANCE MAN

After Sir Ronald Ross (1857–1932) died, the British Poet Laureate Sir John Masefield noted in *The Times*, “He was an extraordinary man, for he made himself famous as a poet, and was an eminent mathematician, a clever painter, and a skilled musician” [1]. Indeed, Ross published numerous books of poetry that won the praise of famous poets; several well-received novels and plays; and many mathematical treatises, including a book on solving complex equations by iteration; he also painted (Fig. 1) and composed throughout his life [2]. Amazingly, this is the same Ronald Ross who earned a medical degree and won the Nobel Prize in Physiology or Medicine in 1902 for his discovery of the life cycle of the malaria parasite.

Ross’s wide range of talents emerged early. Ross was born in India to a father who was a British military officer of more than average talents in painting and music. The elder Ross would begin nearly every day by painting a scene of India [3], and in the evenings he would sing and composed music “to which Ronald would set piano accompaniments” [4]. Ronald was sent to British public schools in England when he was eight. These schools were unusual for the time in offering “extras” such as playing piano, singing, drawing and painting in addition to the standard literary and mathematical education [5]. Ross excelled. At 14, he won the school prize for mathematics. At 15, he took trips to the Isle of Wight and to Ireland, where someone (probably one of his many artistically inclined relatives) gave him watercolor lessons. A sketchbook from this trip shows an incredibly swift progression from the skill of an outright novice to good mastery of the technique in what must have been mere months. He attributed his swift progress to “watching my father make his admirable water-colour drawings” [6]. His mastery was confirmed when, at 16, he was “bracketed first in all England for drawing at the Oxford and Cambridge

Local Examination—my success being due to a pencil copy of Raphael’s Torchbearer, which, as I remember perfectly, was done in a few minutes and was almost exact” [7]. The next year he announced that he intended to become an artist. His father forbade it, insisting that Ross become a military physician, a career for which Ross had no inclination or desire. Nonetheless, Ross acquiesced, recognizing that “it would give me experience of life in India, with shooting and riding, and also a knowledge of biology and considerable leisure for any other hobbies I might have a mind for” [8].

Ross’s concept of “leisure” was idiosyncratic. He set himself “a definite though audacious programme” of education in addition to his medical studies: “I should seek every possible experience and try my hand at every possible art” [9]. Thus, he continued to draw and paint, and took up clay sculpting, the flute, piano,

musical composition, playwriting and writing verse, filling in the remaining spare time with extended excursions into mathematics [10]. One of the products of these years was the poem “Ambition” on the subject of his polymathic goals, which begins:

I live to buy in every mart;  
To try the hand at every art;  
In every science take a part;  
With every passion prove the heart. [11]

Because Ross carried out this audacious scheme, it would be easy to view him as a dilettante, but he had higher ambitions. Even as a very young man, he recognized, perhaps through discussions with his father, that “the same laws of form appertain to all great arts, from the *Iliad* and the pediments of the Parthenon to Shakespeare, Massinger, Raphael, and Beethoven, and these must all be studied together if they are to be studied ef-

Fig. 1. Ronald Ross, *At Ryde*, watercolor, 1872. (© David Ross. Courtesy of the Archives, London School of Hygiene and Tropical Medicine, London.) A sailing ship painted in 1872 by Ronald Ross when he was 15 years old.



fectively at all" [12]. That he also treated his science and mathematics as forms of art is beyond dispute. In a lecture on art and science to the Royal Institution on 4 June 1920, he summed up his discourse by arguing that "Science and Poetry dwell together. We shall reach Truth by seeking Beauty, and Beauty by seeking Truth. Nor shall we attain one without the other, for they live hand in hand on those far-fired pinnacles" [13].

It is equally clear that his course of study was effective. Witness the fact that he succeeded at a professional level as a physician, medical researcher, poet, novelist and mathematician. Moreover, these were integrated endeavors rather than separate or parallel diversions. For example, he illustrated his own medical reports and scientific papers and invented novel statistical approaches to the data while writing poetry and songs about the frustrations and excitement

that the research entailed. As art historian Martin Kemp has written, "Ross was not simply a doctor who wrote poetry; his science and art manifest the imaginative fire that governed his creative life in all its aspects" [14].

One wonders whether Ross was intrinsically so creative that his imagination spilled over into everything he did, or whether his mastery of so many different skills created the breadth of his imagination. One wonders equally whether observational acuity made him extraordinarily sensitive to nature and art, or whether training his aesthetic sensibility made him unusually observant as a scientist. These are problems worthy of anyone who studies such Renaissance types.

ROBERT ROOT-BERNSTEIN  
Department of Physiology  
Michigan State University  
East Lansing, MI 48824, U.S.A.  
E-mail: <rootbern@msu.edu>

## References

1. Masefield, J. *The Times* (London), 22 August 1933.
2. G.H.F.N. Sir Ronald Ross 1857–1932. *Obituary Notices of the Royal Society* 1933; 1 (2): 108–115.
3. Ross, R. *Memoirs*. London: John Murray, 1923, pp. 23, 27, 41.
4. Megroz, R.L. *Ronald Ross. Discoverer and Creator*. London: George Allen & Unwin, 1931, p. 32.
5. Nye, E.R. and Gibson, M.E. *Ronald Ross: Malariologist and Polymath. A Biography*. London: Macmillan; New York: St. Martin's Press, 1997, p. 11.
6. Ross [3] p. 24.
7. Ross [3] p. 24.
8. Ross [3] p. 29.
9. Ross [3] p. 36; Megroz [4] p. 35.
10. Ross [3] pp. 31–53.
11. Ross, R. Ambitions. In: *Poems*. London: Elkin, Matthews, and Marrot, 1928.
12. Ross [3] p. 31.
13. Megroz [4] p. 101.
14. Kemp, M. A feverish imagination. *Nature* 2008; 451: 1056.