From Byron to Babbage

Ada Lovelace's adventures in mathematics

ollowing the discovery of an unknown Percy Shelley letter (TLS July 9, 1999), several letters from the Byron family have come to light in the Brooks collection, which is owned by the Society of Antiquaries of Newcastle upon Tyne, and held at Northumberland County Record Office. Originally collected by the Newcastle shipowner John C. Brooks in the late nineteenth century, many of the letters can be traced to an auction at Sotheby's in March 1885.

One letter from Lord Byron, written from Missolonghi to Lord Holland, an influential member of the British Government, less than a month before his death, adds to several known letters of introduction he gave to a Greek emissary sent on a mission to London to gather support for their nationalist cause against the Turks. There are also several letters from the poet's wife, Lady Byron, one of which includes a handwritten copy of a poem she sent to her friend Mrs Henry Siddons, the actress Harriet Siddons (1783-1844), a friend of Lady Byron's family the Millbankes. She was the wife of the actor Henry Siddons (1774-1815) and the daughter-in-law of the Mrs (Sarah) Siddons of theatrical legend. The tone of condolence in the undated poem to her friend suggests that it may

CHRISTOPHER GOULDING

have been written after the death of Henry Siddons in Edinburgh in 1815:

To Mrs Henry Siddons

Sad! - and yet whose yerse no ear can

measure! From whence didst thou receive The gift alike in hours of pain and pleasure Mind-melodies of weather!

"The river gliding at its own sweet will" Whence did it learn its song?

Who can note down the music floating still Its winding path along?

The darkest shadow may embrown its stream, The sternest rock oppose;

Yet ear tun'd to love its course will seem, Blessing, wherein it flows -

The use of a slightly misquoted line from Wordsworth's "Upon Westminster Bridge" in the fifth line is acknowledged.

Several letters from Lady Byron to her daughter, Augusta ("Ada") Lovelace (1815-52), Byron's only legitimate child, deal with both domestic matters and scientific and poetic news. One, sent from Esher on November 5 (no year given), reads:

Would you like me to write an Epitaph for you every time you "died" - But I should not get further than "Here lies" before you would be up again, and retaliate "Thou liest": - (old joke) The Philosopher, so L. calls him, never leaves you more philosophical in my sense of the word and Muffon's (a modish collocation) for Philosophy is "Not harsh and crabbed . .

But musical as is Appollo's lute"

Lord Byron is just returned from the south, having seen a house sufficiently suitable to allow my spending the winter months there - I mean to go next week. There are two good servants left in the house, and known to Lord Byron by accident. Very convenient to me at present -

I send you an old Daily News that you may read 2 curious articles in it - one on Choppin [sic] the other on Mozart, and a new one shall go to-night - I don't know when they reach you (the newspapers)

What does Lovelace think of the Exmt about Keats?

The Lord Byron referred to must be the poet's successor, George Anson, 7th Lord Byron (1789-1868).

In a letter, dated November 13 (again, no year), Lady Byron reveals the supportive role she played while her daughter made her way in the world of mathematics:

Dearest Ada It is my part to be a calm observer of your courses, and to employ my sympathies in estimating rather than exalting you. You gave an admirable account of duty when you said that it consisted in your "putting and maintaining yourself in such a state, physical and mental, that God and his agents could use you" & c. The Hypothesis that you [illegible] a "Prophecy" in any sense beyond that which all intellectual beings may claim it, is to be established by proofs of your own insight into the natural and spiritual world - These must result from your union with the "All-knowing Integral" - from whom may nothing divert you! On the subject of love (the best kind of which towards man is said by Hartley as well as you to be "Theopathic") I will you father's lines -"For 'tis love's nature to advance or die He stands not still, but or decays or grows Into a boundless blessing, which may vie With the immortal light in its eternity.

And this is all I am able to say for the Kingston coach is in a hurry too as you may see-The handwriting towards the end of the letter is shaky, as if written in a moving coach. It is interesting that, despite Lady Byron's lifelong bitterness at having been deserted by her husband,

she is still prepared to quote his poetry (in this case, Childe Harold, III. iii. 963-66) as an example to their daughter.

On a more scientific note, Lady Byron writes to Ada about a visitor she has entertained: Esher

Aug 5th

Dearest Ada - I had a visitor who made me regret your absence - Mr D. Brewster - a most amiable and agreeable old man, who communicates his knowledge in the simplest and clearest manner - He told us of Wheatstone's new clock depending on polarized light in which the Morning & Evening Sun were distinguished by the respective colours of red and -(I am not sure of the E. S. ray) I also ellicited

from him some accounts of the optical courses which he intends to make to the Association one is a bold attempt to refute the theory that it is the retina which sees - & that the eye distinguishes near & distant objects only by experience. His zealousness seemed to me very conclusive, but I speak as one in Ignorance . . .

Sir David Brewster (1781-1868) was a Fellow of the Royal Society, noted for his research into the polarization of light (he is also credited with having invented the kaleidoscope). Sir Charles Wheatstone (1802-75) was a scientist, and the inventor of the "Polar Clock", which could tell the time of day by the direction of the sun's polarized light, even from an overcast sky. Among the letters from Ada are three addressed to Charles Babbage (1792-1871), mathematician and inventor of the earliest mechanical ancestors of the modern computer. One letter refers to her involvement in the development of punch cards for use with Babbage's machines:

Ockham Park Wedy Mory

8 o'clock

I have just received your letter about the Variable Cards and I hasten to send you these few lines which will be put into the twopenny post for you in Town this morning by means of an accidental opportunity.

I perceive nothing in what I sent yesterday. which is at all inconsistent with the explanations you gave. This is lucky. I hope that you may receive this in time to send me back the sheet I sent you yesterday, from which I wish to make one very trifling alteration in a part of it.

The letter reveals the extent of Ada's involvement in Babbage's work, and later hints at a peremptory attitude on Babbage's side in making corrections to her work, when she ends the letter, "I hope you unpasted what you had so cruelly eclipsed." Her relationship with Babbage seems at times to have been rather fraught. On one occasion, Babbage had advised Ada's husband William King, Earl of Lovelace and Baron Ockham, against taking a job. Ada replies angrily to Babbage:

Tuesday 5 o'clock

My dear Babbage - You cannot conceive the mischief you have done me by dissuading Lovelace from taking part in the proposed Central Railway scheme. It is the very thing which my mother & I had looked for him as an occupation calculated to occupy his restless mind which needs work and occupation. To my surprise and extreme distress, he has just come in saying that seeing you, you have pointed out to him he is not a man who can need an occupation

The least you can do for us after this mischief you have done is to suffer something in the place of what as I tell you had been looked to a God-send for our family quiet - you can have no conception of what my husband is like when his home alone occupies his irritable energies. So remember this.

A sombre late letter is full of the suffering Ada endured from cancer of the uterus before her death at the age of thirty-seven:

St James' Sq

Thursday Afternoon

4th April

My dear Babbage - It would be a pleasure for me to see you this evening, even if only for half and hour, but as long as you like would be preferable. Could you call in about eight or nine. I have been very ill really, & confined to my bed for some time.

It has been impossible for me to leave Ockham now for many weeks, as I have only now come (yesterday) to feel myself a little I have been desperately ill. I never had anything of this. I have escaped with my life.

Without saying what she wishes to see Babbage

