

OCCASIONAL PAPER

John Ruskin's relapsing encephalopathy

P. A. Kempster and J. E. Alty

Neurosciences Department, Monash Medical Centre, Melbourne, Australia

Correspondence to: P. A. Kempster, Neurosciences Department, Monash Medical Centre, 246 Clayton Road, Clayton, Victoria 3168, Australia

E-mail: peter.kempster@southernhealth.org.au

John Ruskin (1819–1900) is chiefly remembered for his works on painting and architecture, and for his powerful and original prose style. In middle age, he suffered recurring episodes of delirium with visual hallucinations and delusions. At about the same time, his writing developed a disjointed polemical character, with cryptic and intemperate elements that disorientated some readers. The nature of Ruskin's 'madness' is a key to understanding his later writing career but the psychiatric explanations given by many of his literary biographers seem unsatisfactory. Ruskin left numerous clues about the illness in his diaries, correspondence and publications. It is likely that he had a relapsing-progressive neurological disorder with neuropsychiatric manifestations. It could have been a fluctuating metabolic or immunological encephalopathy, but the diagnosis that best fits the time course of his illness and the prior history of mood disorder and of migraine with aura is Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy (CADASIL). Whatever the pathology, its first effects on frontal lobe function may have actually enhanced Ruskin's creative energy for a long time before stepwise cognitive impairment degraded his ability to write.

Keywords: encephalopathy; visual hallucinations; migraine with aura; CADASIL

Received December 2, 2007. Revised January 13, 2008. Accepted January 24, 2008. Advance Access publication February 20, 2008

Introduction

John Ruskin (1819–1900) is usually introduced as an art critic and social commentator, although the description oversimplifies his large and varied literary output. He was born in the same year as Queen Victoria, to doting, well-to-do parents who soon recognized the precocious talents of their only son. His father, a sherry merchant, encouraged his early interests in botany, geology and drawing, while his mother instilled into him her evangelical Christianity and an intricate knowledge of the Bible. On leaving university at Oxford, Ruskin embarked on his five-volume work of art criticism, *Modern Painters*. He became a widely read author, and his opinions on art and architecture were important influences on Pre-Raphaelite painting, Gothic Revival building and the Arts and Crafts movement. His long writing career produced a series of original ideas, with a process of evolution that took some radical directions.

In 1871, Ruskin, then aged 52 and 2 years into his appointment as Slade Professor of Fine Art at Oxford, had an attack of delirium with visual hallucinations. Recurring episodes over subsequent years left him with severe cognitive disability by the last decade of his life. Many of

his biographers assume that his 'madness' was a psychiatric disorder (Wilenski, 1933: 10, Hunt, 1982: 18, Batchelor, 2000; Hutton, 2000: xix). There is extensive documentation of the various phases of the illness, both by Ruskin and by other witnesses. It is likely that he had a relapsing-progressive neurological condition with neuropsychiatric manifestations. The purpose of the article is to examine the evidence for this assertion, to propose a diagnosis, and to reach a better understanding of the relationship between the illness and his unusual late writing.

The works of John Ruskin

Ruskin liked to write in a first person voice, directly addressing his readers, and often adopting the role of a teacher. Some of his judgements about art and architecture appeared to be based on subjective and emotional responses, a point that is usually made by his critics. Ruskin thought that all of his writing had a common purpose: to establish the principles that discerned good things from bad, in works of art and later, in the workings of a society.

He had a powerful command of English expression. Long sentences are nowadays associated with the unattractive heaviness of Victorian literature, but Ruskin knew how to balance long sentences and set them together in flowing prose. He used his visual sensibility (he was an accomplished draughtsman and water-colourist) to enliven descriptive passages. He could construct an argument with eloquence and conviction.

Modern Painters developed from a study of his idol, J.M.W. Turner, into an elaborate theory of beauty in painting and its relationship to the natural world, theology and artistic imagination. Next came his books on architecture, *The Seven Lamps of Architecture* (1849) and *The Stones of Venice* (1851–3), which began to explore the notion of good buildings as an embodiment of the shared values of the societies that have them built.

By the 1860s, Ruskin's books had made him an authority on taste in matters of art and architecture, but it annoyed him that the public seemed to ignore his conception of the moral basis of taste, and the link between the production and appreciation of good art and the organization and quality of life of a society. *Unto This Last* (1862) tackled these issues more directly. Like Marx, he saw the devaluation of honest work by industrialization, though he analysed the problem in moral rather than political terms. His rebuttal of the 'science' of political economy and its conclusion that general prosperity should follow the pursuit of profit and accumulation of capital was distilled down to a briefly stated principle: 'there is no wealth but life'. Ruskin had little time for political ideology or organizations, but later politicians looked back to these writings when framing policies that created social equity and publicly funded welfare and health services.

Fors Clavigera

In 1871 Ruskin started to publish *Fors Clavigera*, his monthly open letters addressed 'To the workmen and labourers of Great Britain'. They continued, with some interruptions, until 1883 and were a major part of his literary work over the years that his illness developed. They are strange, non-linear writings, with a free-wheeling epistolary style. Readers were baffled by the heavy concentration of cryptic quotations and allusions. Their title was a riddle, never fully explained, but translated as fate or fortune bearing nails, and evoking the idea of a life fastened to its course by a series of choices and the play of chance. Many of the letters are concerned with social and economic issues, but they also contain artistic and historical themes, opinions about contemporary events, personal reminiscences, and many other things. Some seem playful, like *The Penny Tract* (Yorkshire Goose Pie) *Fors* (Ruskin, 1907b: 448) and its heroic regional cuisine ('then turn the hare, turkey, and goose upside down, and lay them in your pie, with the ducks at each end, and the woodcocks on the

sides'). Others included fulminations against the modern industrialized world:

'producing iron plates, iron guns, gunpowder, infernal machines, infernal fortresses floating about, infernal fortresses standing still, infernal means of mischievous locomotion, infernal lawsuits, infernal parliamentary elocution, infernal beer; and infernal gazettes, magazines, statues, and pictures' (Ruskin, 1907b: 534).

There are bursts of memorable descriptive prose, such as Ruskin's account of his visit to a small rural forge where two women, one young and the other older, pincers and hammers in hand, fashion the emblematic iron nails. As Ruskin intended (Ruskin, 1907a: 137), *Fors Clavigera* documents the operation of his unusual mind, and it bears traces of his neuropsychiatric fluctuations.

Chronology of Ruskin's illness

1871

The first episode of encephalopathy began without warning while Ruskin was visiting Matlock in Derbyshire. Later, he wrote: 'I was struck down by an acute inflammatory illness... and reduced to a state of extreme weakness, lying at one stage unconscious for some hours' (Ruskin, 1906). There was vomiting, pyrexia, confusion and formed, dream-like visual hallucinations. The illness was also associated with odd food preferences (Ruskin, 1909a). He had to stay in bed for 3 weeks. As he was convalescing, there was some problem with his gait control:

'I have been up and about, these three days, and can do everything but walk—but I can't yet get any steadiness in my feet:—However, I've cut off the brandy & water stimulus and I think I stagger for want of being drunk' (Ruskin, 1964).

1876

This was the most psychiatric of all of the attacks. Ruskin was staying in Venice, and although his diary indicates that he was forgetful and muddled in his thinking (Ruskin, 1956: 913–24), he was in no other way disabled during a period of delusional thinking which lasted for about a week. He had been studying Victor Carpaccio's cycle of eight paintings that illustrate the legend of St Ursula, a Dark Age British martyr. While making a copy of one of the pictures, 'The Dream of St Ursula', he became convinced that the saint was in communication with him. These impressions are recorded in the issue of *Fors Clavigera* that he was writing at the time (Ruskin, 1907a: 30–53). The subsequent *Fors* acknowledges the astonishment of some readers at this type of writing, but stops short of recanting his interpretation of the experience.

1878

The 1878 exacerbation was violent, prolonged and disturbing to all who witnessed it. His writing was deranged for a

week to two beforehand, and he must have been struggling with his concentration when he noted ‘brains in litter’ in his diary (Viljoen, 1971: 80). One morning, he was found in a naked, confused, combative state. The agitation and aggression persisted for 4 days, and afterwards he recalled visual hallucinations which included demons, devils, witches and a large black cat (H, 1900). Then came a phase of stupor, followed by further fluctuating incoherence (Hutton, 2000: 388–9). There may have been other visual disturbances, for he repeatedly called out ‘Everything white! Everything black!’ at one stage. He was amnesic for large parts of the delirium and the basis for these exclamations is not recorded. At times, he spoke non-sensically, or made paranoid accusations that Queen Victoria was trying to take away his property. It was not until 4 weeks after the onset that he appeared to recognize friends and relatives, and his recovery progressed slowly thereafter. Many months passed before Ruskin could write freely again, and *Fors Clavigera* did not reappear until early 1880.

1881

After a short period of despondency and preoccupation with strange dreams, Ruskin became confused, although not as agitated as the last time. He had some delusions about important persons of state. There were periods of silence interspersed with paranoid ravings in the phrasing and cadence of his normal speaking style. His mental state cleared after 4 weeks (Viljoen, 1971: 545–50).

1882

There was a premonitory phase of irritability and forgetfulness. Ruskin knew what was coming, and wrote to a friend: ‘I’m afraid I’m going off the rails again’ (Viljoen, 1971: 502). The attack produced some aggressive behaviour, delusions and visual hallucinations (Hutton, 2000: 433). Afterwards, Ruskin perceived that his recovery was incomplete:

‘...last attack of delirium, although in itself slighter, has left me more heavy and incapable than the former ones. They left me full of morbid fancies, but able to write and think...’ (Hunt, 1982: 385).

1885

After a short period of excited and irascible behaviour, he became delirious again. Less detail is available about this attack, but there seems to have been agitation, followed by withdrawal, then gradual recovery (Hutton, 2000: 518). He was confined to bed for a month.

A further decline in his mental faculties had occurred after this episode. He resumed writing after 3 months, but his ability to organize material had deteriorated. When well enough, he worked on his autobiography *Praeterita*, which was published in instalments. Disinhibited references to his attractions to young girls became more frequent in his correspondence. In 1887, he met a teenage female art

student in the National Gallery and his subsequent letters to her raised the possibility of marriage (Olander, 1953). At times, he could be autocratic, quarrelsome and even abusive. He had lost judgement in handling money (Hutton, 2000: 525–38).

1888–1900.

Return to Venice and the end of his writing career

There was a brief recurrence of delirium in early 1888, and then he seemed well enough for an ill-advised final continental trip. He arrived in Venice, but had lost the thread of his scholarship of the history and architecture of the city. He was withdrawn and less able to speak. His letters from this time demonstrate shrinking handwriting size, and he became increasingly tremulous as he was helped along the return journey. By the time he reached Paris, he was confused and delusional (Hutton, 2000: 566–8).

Back home, the tremor abated and he was able to speak rationally again. During a 2-month respite, he composed a further chapter of *Praeterita* (although he had to dictate most of it). In August 1889 there was an abrupt deterioration. He was mute or aphasic, did not recognize anyone, and was confined to bed for many months (Hutton, 2000: 582). The last decade of his life is not well documented. He regained some shaky mobility but his cognitive function was severely impaired. He could not write, his voice was soft and he seldom spoke more than a word or two (Cook, 1911). His autobiography remained unfinished. He lived on, nursed by his cousin, until 1900.

Other symptoms

Ruskin kept diaries for most of his life, and they contain many comments about his health. He was prone to periods of mood instability and hypochondriasis. In 1840 (following a failed romance), 1847 (just before his marriage) and 1861 he had bouts of depression, each lasting for months. After 1872, his diary is pervaded by feelings of pessimism and dejection. There are also numerous descriptions of visual disturbances that were sometimes accompanied by headache. Some of these references, which commence when he was still in his twenties, are more specific than others but, taken together, they are strongly suggestive of migraine with aura.

1841: ‘these motes’ (specks) ‘in mine eyes...are nothing like beams yet’ (he paraphrases Matthew 7:3 and Luke 6:41). A few weeks later: ‘my eyes are bad, and I have got a headache’ (Ruskin, 1956: 178–87).

1844: ‘eyes weak with these patchy colours’ (Ruskin, 1956: 273). Migraine aura triggered by visual stress after looking at the setting sun reflected on the surface of a lake in 1844:

‘an effect came in the rays which I never recollect seeing before: a suspended light in the middle of them bounded beneath by a zigzag shadow’ (Ruskin, 1956: 298).

1852: 'The black specks tormented me excessively' (Ruskin, 1955).

1867: 'saw floating sparks in my eyes' (Ruskin, 1956: 615).

1875: 'Just before dinner, zigzag frameworks of iridescent light fluttered by in my eyes, and I could not see even to read large print' (Ruskin, 1956: 833).

Photopsic, migraine-like visual phenomena also occurred during the delirium of 1882: 'I saw stars rushing at each other—and thought the Lamps of London were gliding through the night into a World Collision' (Ruskin, 1909b).

Previous medical literature on Ruskin's encephalopathy

One week after Ruskin's death, the British Medical Journal carried an account of the 1878 delirium by an author identified only as 'H' (probably Dr George Harley, who was an acquaintance). Ruskin had told him that not all of the hallucinations were terrifying, and that some things, such as the Turner drawings hanging beside his bed, 'seemed a thousand times more lovely' (H, 1900). Later writers attempted to make retrospective psychiatric diagnoses. Bragman (1935) suggested a bipolar affective disorder. In 'John Ruskin: radical and psychotic genius', Joseph argued for a diagnosis of schizophrenia (Joseph, 1969). Both of these articles take a psychoanalytic approach to Ruskin's childhood, his attitudes to his parents, and particularly, his sexuality and the known facts of his relations with women. The marriage to Effie Gray was unsuccessful. After it was annulled in 1854 on the grounds of non-consummation, she married the painter John Everett Millais. Ruskin never re-married. Rose la Touche was 10 years old when Ruskin first met her. When she came of age, he made a proposal of marriage, which was deferred then finally rejected. He was grief-stricken when she died, aged 27, in 1875. When he was ill, his obsessive memories of her crept into his delusions, such as the mystic messages from St Ursula in 1876 (Collingwood, 1893).

Conclusions

Differential diagnosis

There is sufficient evidence from the historical record that Ruskin's neuropsychiatric episodes were accompanied by impairment of orientation, alertness and memory. A modern day psychiatrist would diagnose delirium in such a case (DSM-IV, 1994: 124–33). Possible diagnoses of schizophrenia or schizo-affective disorder are undermined by the DSM-IV stipulation that, in the presence of delusions and hallucinations, the sensorium should otherwise be clear (DSM-IV, 1994: 275). Although schizophrenic patients may have visual hallucinations, their occurrence in the absence of typical auditory hallucinations is not common (Geller *et al.*, 2006), and this should alert a psychiatrist to suspect organically based hallucinosis. Ruskin had other neurological deficits, which included depressed conscious state for several hours during the 1871

and 1878 attacks, transient parkinsonism in 1888 and intermittent impairment of speech production late in the disease course. Psychosis was confined to periods of delirium, and Ruskin was usually able to think and act rationally at other times. For all of these reasons, a fluctuating organic neurological disease is a more plausible explanation than a psychiatric disorder.

Despite some differences, the acute encephalopathic attacks were similar enough to link them as a single illness. Fixed cognitive impairment and disinhibited behaviour became more prominent during the 1880s, and step-wise deterioration coincided with episodes of delirium. The onset of severe cognitive disability in 1889 was certainly very abrupt, and not likely to have been caused by usual forms of late-life degenerative dementia. Possibly, he had some sort of relapsing-progressive metabolic or immunological encephalopathy, although the illness spanned almost 30 years. Neurosyphilis, a common cause for neuropsychiatric disturbance in the nineteenth century, is ruled out by point of agreement among his biographers: it is unlikely that Ruskin ever lost his virginity. Alcohol or drug-induced hallucinosis can probably be discounted as well. Ruskin enjoyed a glass of wine or spirits, but there is no record that he drank heavily, or was ever inebriated. Apart from laudanum that was administered by his physicians to sedate him during several of the attacks, there is no record of drug use.

One diagnosis that would fit the age of onset, the time course of the disease and its neuropsychiatric dimensions is Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy (CADASIL). It can present as a repeated acute encephalopathy lasting for days to weeks, with confusion, pyrexia and visual hallucinations (Le Ber *et al.*, 2002; Schon *et al.*, 2003; Nakamura *et al.*, 2005). Recurring depression, which affected Ruskin from young adulthood, is the commonest pattern of psychiatric prodrome in CADASIL (Dichgans *et al.*, 1998). Dichgans *et al.* describe patients with depressive adjustment disorders, and long-standing dysthymia that dated back to youth or early adult years. Psychosis and manic phases are also well recognized (Chabriat *et al.*, 1995; V  rin *et al.*, 1995). Stroke-like episodes are not always prominent, and organic neuropsychiatric syndromes dominate some cases (Adair *et al.*, 1998; Leyhe *et al.*, 2005). Most patients with CADASIL develop cognitive decline, beginning with impairment of frontal subcortical processing (Buffon *et al.*, 2006).

The diaries suggest that Ruskin had migraine with aura, a characteristic preliminary feature of CADASIL (Chabriat *et al.*, 1995; Dichgans *et al.*, 1998), for a number of years before the onset of his relapsing encephalopathy. Migraine is a common enough condition, but there is circumstantial evidence to connect migrainous visual phenomena with major elements of his illness. After the first episode of encephalopathy, and throughout the 1870s, Ruskin's diaries indicate that the visual disturbances became more active

and intrusive. Writing in *Fors Clavigera* in 1877, Ruskin attacked the paintings of James Whistler in a particularly violent and intemperate outburst (Ruskin, 1907a: 160), for which Whistler successfully sued him for libel (the jury awarded Whistler damages to the amount of one farthing). The main focus of Ruskin's ire was Whistler's *Nocturne in Black and Gold*, with its spotty depiction of fireworks almost filling the night sky. Two of Ruskin's biographers, aware of the frequency of his visual complaints at this time though not their significance, guessed that he could not look at the painting without being reminded of the unpleasant distortions of his own eyesight (Wilenski, 1933: 141–3; Hunt, 1982: 367). This, both authors concluded, more than any differences on artistic principles, was the explanation for the venom of his criticism. Later, in 1882, a conjunction of migraine-like visual disturbance and encephalopathy was documented.

Previous writers have conjectured that Ruskin suffered from some form of inherited madness (Wilenski, 1933: 42; Hunt, 1982: 18; Fuller, 1988). His paternal grandfather was disposed to melancholia and poor financial decision-making, and had fluctuating insanity for several years before he killed himself at the age of 57 years (Viljoen, 1956). Ruskin's father wrote of his own 'habitual gloom' and 'weak nerves' (Burd, 1973), and his letters, which contain references to periods of depression, hypochondriasis and some headaches, seem to prefigure the son's diaries. However, both of Ruskin's parents (who were cousins) were long-lived: his father kept reasonable health until a fatal acute illness at the age of 79 years, and his mother lived to 90. Ruskin had no siblings, and no other family member is known to have been affected. The *NOTCH3* gene mutation that causes CADASIL is highly penetrant according to magnetic resonance imaging. There is, however, considerable genotype–phenotype variation, which is not mutation-specific (Singhal *et al.*, 2004). Large clinical studies of CADASIL include relatively mildly affected individuals who have a long life-span (Desmond *et al.*, 1999; Opherk *et al.*, 2004).

Effects of the illness on his writing

Ruskin's later writings reflect a complex interaction between his creative mind and the process that eventually brought it down. When he restarted *Fors Clavigera* in 1880, he told his readers about the 1878 illness and the possibility of some form of prior 'inflammation', the effects of which:

'... may be traced by any watchful reader, in *Fors*, nearly from its beginning,—that manner of mental ignition or irritation being for the time a great additional force, enabling me to discern more clearly, and say more vividly, what for long years it had been in my heart to say...' (Ruskin, 1907a: 382).

Ruskin's judgement and behaviour showed increasing evidence of frontal lobe dysfunction, yet this may also have been the source of creative impetus that he was describing.

Frontal lobe disorders can, in some circumstances, release artistic imagination. There are examples of enhanced visual artistic skills after the onset of frontotemporal dementia, both in established artists (Mell *et al.*, 2003), and in subjects with no prior aptitude or training in art (Miller *et al.*, 1998). *Fors Clavigera* shows signs of impulsivity, moodiness and loss of intellectual discipline, but the letters lack no energy, they retain the modulated authority of expression that was characteristic of Ruskin, and they show his ability to counterbalance passion with erudition. The unfinished *Praeterita*, a calmer work, has disorganized and unreliable sections but it is finely written and insightful. Ruskin's capacity for original thought and his command of language were able to transcend some of the effects of his step-wise cognitive decline, and these late, expressionistic works stand with his earlier books as masterpieces of nineteenth century non-fiction literature.

References

- Adair JC, Hart BL, Kornfeld M, Graham GD, Swanda RM, Ptacek LJ, et al. Autosomal dominant cerebral arteriopathy: neuropsychiatric syndrome in a family. *Neuropsychiatry Neuropsychol Behav Neurol* 1998; 11: 31–9.
- Batchelor J. John Ruskin. New York: Carroll & Graf; 2000. p. 218.
- Bragman LJ. The case of John Ruskin. A study in cyclothymia. *Am J Psychiatry* 1935; 91: 1137–59.
- Buffon F, Porcher R, Hernandez K, Kurtz A, Pointeau S, Vahedi K, et al. Cognitive profile in CADASIL. *J Neurol Neurosurg Psychiatry* 2006; 77: 175–80.
- Burd VA. (editor) The Ruskin family letters. Ithaca and London: Cornell University Press; 1973. p. 57.
- Chabriet H, Vahedi K, Iba-Zizen, Joutel A, Nibbio A, Nagy TG, et al. Clinical spectrum of CADASIL: a study of 7 families. *Lancet* 1995; 346: 934–9.
- Collingwood WG. The life and work of John Ruskin. Vol. 2. London: Methuen; 1893. p. 169.
- Cook ET. The life of John Ruskin. London: George Allen; 1911. p. 529.
- Desmond DW, Moroney JT, Lynch T, Chan S, Chin SS, Mohr JP. The natural history of CADASIL. *Stroke* 1999; 30: 1230–3.
- Diagnostic and statistical manual of mental disorders. Fourth Edition (DSM-IV). Washington DC: American Psychiatric Association; 1994.
- Dichgans M, Mayer M, Uttner I, Brünning R, Müller-Höcker J, Rungger G, et al. The phenotypic spectrum of CADASIL: clinical finding in 102 cases. *Ann Neurol* 1998; 44: 731–9.
- Fuller P. *Theoria: art and the absence of grace*. London: Chatto & Windus; 1988. p. 7.
- Geller M, Harrison P, Cowen P. Shorter Oxford textbook of psychiatry. Oxford: Oxford University Press; 2006. p. 269.
- H. The late Mr Ruskin. Mr Ruskin's illness described by himself. *Br Med J* 1900; i: 225–6.
- Hunt JD. The wider sea. A life of John Ruskin. London: JM Dent & Sons; 1982.
- Hutton T. John Ruskin. The later years. New Haven and London: Yale University Press; 2000.
- Joseph RJ. John Ruskin: radical and psychotic genius. *Psychoanal Rev* 1969; 56: 425–41.
- Le Ber I, Carlier L, Derache N, Lalevée C, Ledoze F, Fefer GL. Unusual presentation of CADASIL with reversible coma and confusion. *Neurology* 2002; 59: 1115–6.
- Leyhe T, Wiendl H, Buchkremer G, Wormstall H. CADASIL: under-diagnosed in psychiatric patients? *Acta Psychiatr Scand* 2005; 111: 392–6.

- Mell JC, Howard SM, Miller BL. Art and the brain. The influence of frontotemporal dementia on an accomplished artist. *Neurology* 2003; 60: 1707–10.
- Miller BL, Cummings JL, Mishkin F, Boone K, Prince F, Ponton M, et al. Emergence of artistic talent in frontotemporal dementia. *Neurology* 1998; 51: 978–82.
- Nakamura T, Watanabe H, Hirayama M, Inukai M, Kabasawa H, Matsubara M, et al. CADASIL with NOTCH3 S180C presenting anticipation of onset age and hallucinations. *J Neurol Sci* 2005; 238: 87–91.
- Olander K. *The gulf of years*. London: George Allen & Unwin; 1953. p. 77–80.
- Opherk C, Peters N, Herzog J, Luedtke R, Dichgans M. Long-term prognosis and causes of death in CADASIL: a retrospective study in 411 patients. *Brain* 2004; 127: 2533–9.
- Ruskin J. In: Cook ET, Wedderburn A, editors. *The Library Edition of the Works of John Ruskin*. Vol. XXII. London: George Allen; 1906. p. 444–7.
- Ruskin J. In: Cook ET, Wedderburn A, editors. *The Library Edition of the Works of John Ruskin*. Vol. XXIX. London: George Allen; 1907a.
- Ruskin J. In: Cook ET, Wedderburn A, editors. *The Library Edition of the Works of John Ruskin*. Vol. XXVII. London: George Allen; 1907b.
- Ruskin J. In: Cook ET, Wedderburn A, editors. *The Library Edition of the Works of John Ruskin*. Vol. XXII. London: George Allen; 1909a. p. 33–4.
- Ruskin J. In: Cook ET, Wedderburn A, editors. *The Library Edition of the Works of John Ruskin*. Vol. XXXVII. London: George Allen; 1909b. p. 442.
- Ruskin J. In: Bradley JL, editor. *Ruskin's letters from Venice*. New Haven: Yale University Press; 1955. p. 259.
- Ruskin J. In: Evans J, Whitehouse JH, editors. *The diaries of John Ruskin*. Oxford: Oxford University Press; 1956.
- Ruskin J. In: Bradley JL, editor. *The letters of John Ruskin to Lord and Lady Mount-Temple*. Columbus: Ohio State University Press; 1964. p. 309.
- Schon F, Martin RJ, Prevett M, Clough C, Enevoldson TP, Markus HS. "CADASIL coma": an underdiagnosed acute encephalopathy. *J Neurol Neurosurg Psychiatry* 2003; 74: 249–52.
- Singhal S, Bevan S, Barrick T, Rich P, Markus HS. The influence of genetic and cardiovascular risk factors on the CADASIL phenotype. *Brain* 2004; 127: 2031–8.
- Vérin M, Rolland Y, Landgraf F, Chabriot H, Bompais B, Michel A, et al. New phenotype of the cerebral autosomal dominant arteriopathy mapped to chromosome 19: migraine as the prominent clinical feature. *J Neurol Neurosurg Psychiatry* 1995; 59: 579–85.
- Viljoen HG. *Ruskin's Scottish heritage*. Urbana: University of Illinois Press; 1956. p. 152–6.
- Viljoen HG, editor. *The Brantwood Diary of John Ruskin*. New Haven and London: Yale University Press; 1971.
- Wilenski RH. *John Ruskin*. London: Faber & Faber; 1933.