TENNYSON'S PROGRESSIVE GEOLOGY

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Abstract

In Tennyson's poem *In Memoriam*, geology provides one potential means to make sense of the experience of grief, by supposing a divine meaning inherent in the physical world that can be discovered through human knowledge. However, Lyell's non-progressive hypothesis challenges this interpretation. Extinction supports natural theological arguments that find seeking traces of God's divine plan within the world problematic, particularly when used for individual comfort in the face of loss. Where grief is concerned the theory of progressive development also requires dramatic alteration. Whilst there is the promise of transcendence, this requires the death of the known and beloved human, and the potential loss of the individual soul in a general self. The sacred dust of the body becomes merely mechanical, employed in creating continents by the action of laws with no divine guidance, and geology proves incapable of speaking to spiritual purpose.

Tennyson's poem separates spirit from the world, positing that, while God directs geological change, it is impossible for humanity to understand his plan through the study of geology. It reaches this conclusion through a reconsecration of the world, seeing the beloved soul as extant in geological time and possessing the ability to take physical action by virtue of its spiritual power. This change is animated by Hallam's transformed but individual spirit and progressive development once again becomes a mechanism for understanding change within the world. Tennyson affirms the primacy of the spiritual, through continued use of geological language to show God's presence in the world. Resolution of the role of human knowledge and its ability to understand God's plan through study of Nature is deferred, the province of the "crowning race".

By the close of the nineteenth century, Tennyson had earned a reputation as a poet who understood science, a reputation which largely rested on *In Memoriam*. Grief in the poem consists of a search for explanation, for reason and rationale. Geology holds out the promise of reason, in the guise of a meaningful world, as an expression of God's design – but this design proves elusive and the earth vacant of spirit and meaning. Throughout the poem, Tennyson reascribes meaning into the world and into the threat of geology.

Tennyson was aware of the theoretical positions both of the Diluvialist and the Uniformitarian schools of geology: Whewell had been his tutor at Cambridge, yet the critical tendency has been to read his poems as informed by the theories of Lyell.1

1 Alfred Tennyson, "To Richard Monckton Milnes. [c. 1 November 1836.]" *The Letters of Alfred Lord Tennyson*, ed. by Cecil Y. Lang and Edgar F. Shannon, 3 vols (Oxford: Clarendon Press, 1982), I, p. 145. Tennyson may well have read of Lyell's ideas before this; Dennis Dean writes, "We know that Tennyson read the *Quarterly Review* in 1827 and based several of his poems upon it. Probably in response to Lyell's remarks on Scrope, then, he wrote a choral celebration of nature's mutability." Dennis R. Dean, *Tennyson and Geology*, (Lincoln: The Tennyson Society, 1985), p. 4.

Lyell's theory, which Whewell named Uniformitarianism, posited that the level of geological change observable in the world could explain the physical composition of the earth. He argued that no extreme cataclysm had devastated the entire globe, but that natural forces operated at their current levels of intensity over an extremely long period of time. In his work *The Great Chain of History*, Nicolaas Rupke provides some perspective on the debate between the Uniformitarians and the Diluvialists, pointing out that the Diluvialists do not represent a fundamentalist position, and that "Catastrophism" is a belatedly labelled theory in response to "Uniformitarianism".2 Through the early and mid-1830s, the Diluvialists searched for evidence of the Biblical flood, but by the late 1830s, this position was largely defunct, its adherents associated with a range of theories centering on progressive development.3 (Due to these problems with the Diluvial name, I will therefore continue to refer to these theories as "Catastrophist", as has been common critical practice). While Tennyson read Lyell, and demonstrated a joking familiarity with his concept of climate change, the language of progressivism, of increasingly-perfect creations interrupted by cataclysm, is a language that was clearly available to Tennyson.4

Both Lyellian Uniformitarianism and Catastrophism embraced large-scale change, though they varied in terms of time period and intensity. They also disagreed on the concept of progressivism: Lyell was vehement in his arguments against the theory of progressive development of species, while this concept was central to the Catastrophist understanding of fossil history.5 Lyell argued in *Principles of Geology* for a cyclical world, in which a beginning cannot be traced, nor an end foreseen. Species, according to Lyell, were immutable and introduced into the world (through mechanisms upon which he did not speculate) to live for a time and eventually become extinct: "Each species may have had its origin in a single pair… and species may have been created in succession at such times and in such places as to enable them to multiply and endure for an appointed period, and occupy an appointed space on the globe".6 Buckland, one of the Catastrophists, argued that the alteration of the earth to suit successive species, including man, attested to a divine plan of creation.7 G. Glen Wickens notes that, "The distinction between the two sides of science remains a useful one if we keep in mind that the conscious aim of the religious scientist was to harmonize mechanism and teleology, while the underlying assumption of the pure observer was that this effort was beyond the scope of science

2 Nicolaas A. Rupke, *The Great Chain of History*, (Oxford: Clarendon Press, 1983), p. 193.
3 Rupke, p. 81-82.
4"Truly we are getting deep into the great Geological winter and inasmuch as a round belly is better than a white head it were to be wished that we might wear down at the pole and grow up at the equator, that is, I would that our waste were greater at the pole and that we had an eye to it at the equator—(See Lyell Pr. Geol.)" Alfred Tennyson, "To Richard Monckton Milnes. [C. 1 November 1836.]" *The Letters of Alfred Lord Tennyson*, I, p. 145.
5 Rupke, p. 149.
6 Charles Lyell, *Principles of Geology*, 3 vols, (London: J. Murray, 1830-1833; repr. London: The University of Chicago Press, 1991), II (1832), p. 124.
7 Rupke. p. 159.

proper".8 Lyell was not a "pure observer," but he was against the idea of directed change, while it was the driving idea behind Catastrophism. It is this impulse to "harmonize mechanism and teleology" informs Tennyson's work. In this regard, *In Memoriam* is not a Lyellian poem.

Progressive development in *In Memoriam* is initially characterized as threatening, requiring a devastating change and potentially obliterating the individual soul. Lyellian geology proves no more comforting, insisting on mass extinctions and non-directionalism, there is no meaning to be found in death. Tennyson eventually recovers a sense of spiritual direction through the figure of Hallam, who causes change through his spiritual powers. In envisioning the beloved spirit as once again animating the world, Tennyson can speak of change as evidence of a divinely directed plan. He returns to the idea of progressive development, although he no longer looks to geology to provide knowledge of God, instead using it as support for an already-determined spiritual explanation.

The first stanzas of the Prologue set forth a model by which to read the eventual reconciliation of faith and geology that is reached over the course of *In Memoriam*:

> Strong Son of God, immortal Love
> Whom we, that have not seen thy face,
> By faith, and faith alone, embrace,
> Believing where we cannot prove;
>
> …
>
> Our little systems have their day;
> They have their day and cease to be:
> They are but broken lights of thee,
> And thou, O Lord, art more than they.
>
> We have but faith: we cannot know;
> For knowledge is of things we see;
> And yet we trust it comes from thee,
> A beam in darkness: let it grow.9 (Prologue. 1-4; 17-24)

The poem opens with God the Maker, the benevolent deity who loves His creation. This is no watchmaker God, creating the world only to leave it to run on its own: He

8 G. Glen Wickens, "The Two Sides of Early Victorian Science and the Unity of The Princess", *Victorian Studies: A Journal of the Humanities, Arts and Sciences*, 23, (1980), 369-88 (p. 376).
9 Alfred Tennyson, *The Poems of Tennyson*, ed. by Christopher Ricks (London: Longman Group Limited, 1969), pp. 861-63.

directly controls both life and death, and Christ has experienced both. Man and man's knowledge are portrayed as limited, restricted to the first-hand incomplete knowledge of "little systems" that are only partial reflections of God. This knowledge then requires faith to fill its inadequacies. Gerhard Joseph writes

> Knowledge as inductive reasoning and scientific demonstration—the 'knowledge... of things we see'—was an obsessive menace for Tennyson primarily during the 1830s, when he wrestled with the new astronomy and tried to reconcile with a traditional biblical faith such shocks as Lyell's *Principles of Geology*.10

Joseph articulates the poem's shift from knowledge to trust; asserting that some questions cannot be answered from empirical study. Indeed, knowledge impedes the comfort sought; as Patricia O'Neill writes, "Throughout [*In Memoriam*], Tennyson rehearses the arguments for and against the idea of an afterlife and the existence of an immortal soul; however, his desire for such assurances is thwarted by his understanding of natural history".11 It was a commonplace in defences of geological study that knowledge of God's works led to greater understanding of and appreciation for their Creator. However, *In Memoriam* does not find that evidence of a divine plan necessarily leads to greater faith.12

In poem XXI, others overhear the poet's elegy, and respond to it:

> A third is wroth: 'Is this an hour
> For private sorrow's barren song,
> When more and more the people throng
> The chairs and thrones of civil power?
>
> 'A time to sicken and to swoon,
> When Science reaches forth her arms
> To feel from world to world, and charms
> Her secret from the latest moon?'13 (XXI. 13-20)

10 Gerhard Joseph, "Tennyson's Concepts of Knowledge, Wisdom, and Pallas Athene", *Modern Philology*, 69.4 (1972), 314-22 (p. 319).
11 Patricia O'Neill, "Victorian Lucretius: Tennyson and the Problem of Scientific Romanticism", in *Writing and Victorianism*, ed. by J.B. Bullen (London: Longman, 1997), pp. 104-19 (p. 107).
12 See for instance G. Poulett Scrope's review of *Principles of Geology*, Vol. 1, which states that geology can "Elevate the mind to the contemplation of the infinite source of all being, by the knowledge of the grandest and most imposing of His works." [G. Poulett Scrope], "Principles of Geology, being an attempt to explain the former Changes of the Earth's Surface, by a reference to Causes now in operation", *Quarterly Review*, 43.86 (October 1830), 411-469 (pp. 411-412).
13 Tennyson, p. 883.

The listener chides the poet for giving time to private sorrow, in the face of ongoing public problems and triumphs. Science is shown as a conquering force. The two threats to sorrow's song, in this poem, are the threat of populist revolution and the conquest of astronomy's secrets by human learning. The speaker implies that public affairs demand the attention the poet wishes to give to private grief, but the conjunction of scientific knowledge with political unrest creates uncertainty about the very progress the speaker wishes to praise. Science, even when spoken of approvingly remains an unsettled and unsettling concept; while its mastery is framed as increasing, it may threaten established systems of order in a manner akin to mob rule. Additionally, although Science exists in the public sphere Tennyson makes continued use of it within the personal sphere as a schematic with which to attempt to make sense of private sorrow. While Tennyson sets up an opposition between science and grief in this verse, he in fact mingles them by using the "public" language of science as metaphor and aid to understanding intensely personal experience.

The public science decribed in this section is astronomy. Susan Gliserman draws a firm distinction between Tennyson's uses of astronomy and geology:

> To organize the nurturing cosmos of In Memoriam, Tennyson frequently draws on his reading in astronomy; to organize the landscapes of a hostile and aggressive environment, he draws on his reading in geology… The latter threatens to impose an identity on him; the former enables him to find himself in a world which seems to be an enlargement of his capacity for love and a realization of his wish for beneficent order.14

Although this essay focuses on geological metaphor, it is worth noting the division between the treatment of geological landscapes and astronomical ones. The two sciences were frequently compared during the early part of the nineteenth century, and Lyell often referred to the progress of astronomy as similar to that of geology, likening empty space in the universe to the expanse of geological time.15 For *In Memoriam*, the many distant worlds of astronomy are a positive figure of possibility; the shifting, cataclysmic landscape of this world, however, brings loss with it.

Just after the Prologue, hints of the conflict between faith and human experience appear:

14 Susan Gliserman, "Early Victorian Science Writers and Tennyson's In Memoriam: A Study in Cultural Exchange", *Victorian Studies* 18 (1975), 277-308, 437-59 (p. 442).

15 "The inadequacy of our conceptions of the earth's antiquity [have] cramped the freedom of our speculations in this science [geology], very much in the same way as a belief in the existence of a vaulted firmament once retarded the progress of astronomy." Charles Lyell, *Principles of Geology*, 3 vols, (London: J. Murray, 1830-1833; repr. London: The University of Chicago Press, 1991), III (1833), p. 97.

I held it truth, with him who sings
To one clear harp in divers tones,
That men may rise on stepping-stones
Of their dead selves to higher things.16 (I. 1-4)

This formulation resembles the Epilogue: there is a movement toward a better type of humanity, but in this case, that movement requires death. The transformation of a man into something higher is both threat and consolation simultaneously. Geological language here offers comfort of dubious nature, for embracing progress as a goal requires alteration of form, leaving the dead selves behind; the worry, then, is that the new, higher form will be unrecognisable. The mixed consolation and concern offered by progressive development recurs in poem XXX:

Our voices took a higher range;
Once more we sang: 'They do not die
Nor lose their mortal sympathy,
Nor change to us, although they change…'17 (XXX. 21-24.)

The diction of this poem speaks of the alteration the human soul has undergone: the voices have a "higher range," mirroring the hoped-for higher range of the dead. At the same time the song addresses the fear that the dead are no longer as their loved ones would remember them, either because they have become omniscient, watching over the living with no pity for their spiritual weakness, or they have merged into one general soul.

Tennyson confronts this fear again in poem XLVII, writing:

That each, who seems a separate whole,
Should move his rounds, and fusing all
The skirts of self again, should fall
Remerging in the general Soul,

Is faith as vague as all unsweet:
Eternal form shall still divide
The eternal soul from all beside;

16 Tennyson, p. 864.
17 Tennyson, p. 890.

> And I shall know him when we meet…18 (XLVII. 1-8.)

The fear once again is of change: change from living to dead, a sharp division between matter and spirit, one form from another. Progression to something "higher" implies advancement, desirability, but this idea of transcendence cannot remove the regret for that which was transcended – the individual beloved soul. The poem itself shifts from general statement, mentioning "each" unspecified individual and the "general Soul", to the highly personal "and I shall know him when we meet". The poet faces immutable alteration, but holds out hope that the transformation is not entire, and that something of the individual remains. Progressive development of this sort therefore does not offer an uncomplicated or immediate relief from sorrow.

Tennyson searches for evidence of a divine plan in the world, but instances of change in nature prove ambiguous or threatening. Geological theories of observable change provide evidence contradicting hopes of a spiritual transformation capable of retaining elements of the human self within it. Lyellian geology gives a model of reading the world in which all things continually transform, but these alterations are not directed by God's hands. Isobel Armstrong explains the connections between geological change and the experience of death:

> The geological model makes it possible to reconstruct continuities out of rupture itself, as the massive diachronic subsidence and shift of deposits from one era to another creates an 'economy' (Lyell's word) which destroys in one place and repairs with the residues of a former age in another. The poem… lyricises the constant flux of displacement which is both undermining and reassuring.19

Lyell's theories threaten to any use of geological metaphor for spiritual purposes: the Uniformitarian world is non-directional, full of constant death and small cataclysms. It offers no hope of respite, and nothing safe from eventual alteration.

Lyell's economy of change comes across as explicitly threatening in poem XXXV:

> Yet if some voice that man could trust
> Should murmur from the narrow house,
> 'The cheeks drop in; the body bows;

18 Tennyson, p. 904.
19 Isobel Armstrong, "Tennyson in the 1850s: From Geology to Pathology—In Memoriam (1850) to Maud (1855)", in *Tennyson: Seven Essays*, ed. by Philip Collins (New York: St. Martin's, 1992), pp. 102-140 (p. 104).

> Man dies: nor is there hope in dust:'
>
> Might I not say? 'Yet even here,
> But for one hour, O Love, I strive
> To keep so sweet a thing alive:'
> But I should turn mine ears and hear
>
> The moanings of the homeless sea,
> The sound of streams that swift or slow
> Draw down AEonian hills, and sow
> The dust of continents to be…20 (XXXV. 1-12.)

The poem presupposes spirit in the existence of a voice speaking from beyond the grave, but that spirit dashes the hopes of the listener. The second stanza attempts to create meaning within this world, without reference to any overarching principle, but the Lyellian imagery of the third stanza contradicts it, using more examples drawn from observable phenomena: he eventual fate of dust, the fate of the attempt to keep love alive. Lyell writes in Volume 2 of the *Principles of Geology*, turning from destruction to creation, "We have hitherto considered the destroying agency of running water, as exhibited in the disintegration of rocks and transportation of matter from higher to lower levels. It remains for us to examine the reproductive effects of the same cause".21 Though the dust can be used in building future continents, nothing remains of the original hills. The dust is subsumed in its new creation, entirely transformed through mechanical action lacking a directing spirit. Michael Tomko writes

> The "wandering" through "grief" and "sin" of the tormented sections of *In Memoriam* are a journey through undivided desire to the propositions of bifurcation asserted in the opening section of the prologue…. Lyell's geology, far from introducing a crisis that needs to be overcome, provides a salutary demystification of dust that allows Tennyson to forego his "little systems" in order to experience mystically the spiritual qua spiritual and the physical qua physical. Lyell's geology is only critical in so far as it is conciliatory, offering a means to overcome traditional Christian cosmology with dynamic

20 Tennyson, p. 893.
21 Charles Lyell, *Principles of Geology*, 3 vols, (London: J. Murray, 1830-1833; repr. London: The University of Chicago Press, 1991), I (1830), p. 220.

spiritualism.22

I read Lyell's geology in *In Memoriam* as providing both crisis and demystification; I also disagree that the split between spirit and body is as well-divided as Tomko proposes. Tennyson arrives at a reading of the world imbued with Spirit—but in doing so he continues to look to the geological world. He does not expect geology to explain God, but he does refer to progressive spiritual development as evidenced by geological change. The bifurcation that Tomko proposes between spirit and bodycan only be achieved by use of the very terms that it seeks to exclude.

In poem LV, the possibility that the actions of Nature are not part of an overarching divine plan proves terrifying:

> The wish, that of the living whole
> No life may fail beyond the grave,
> Derives it not from what we have
> The likest God within the soul?
>
> Are God and Nature then at strife,
> That Nature lends such evil dreams?
> So careful of the type she seems,
> So careless of the single life;
>
> That I, considering everywhere
> Her secret meaning in her deeds,
> And finding that of fifty seeds
> She often brings but one to bear,
>
> I falter where I firmly trod,
> And falling with my weight of cares
> Upon the great world's altar-stairs
> That slope through darkness up to God,
>
> I stretch lame hands of faith, and grope,
> And gather dust and chaff, and call
> To what I feel is Lord of all,
> And faintly trust the larger hope.23 (LV. 1-20.)

22 Michael Tomko, "Varieties of Geological Experience: Religion, Body, and Spirit in Tennyson's *In Memoriam* and Lyell's *Principles of Geology*", *Victorian Poetry*, 42.2 (2004), pp. 113-33 (p. 124).
23 Tennyson, p. 910.

The first stanza seeks a logical basis for spirit. The idea of God should act, by this reasoning, as evidence of God: the existence of a soul capable of conceiving God is proof of its creation by deity. However, that basis for faith is at odds with an empirical understanding of the creation. Nature is no longer the hands by which love moulds the world; Nature manages the daily business of dying. God's power is not manifested in the deadly struggle that characterises the creation. As Aidan Day writes, "Lyell's thesis influenced the way that Tennyson sees, in sections LV and LVI, a divorce of interest between God and the organic world. Lyell's perspective did not posit any special connection between the animate world, including humanity, and some divine spiritual reality."24 Tennyson turns to gathering dust—with lame hands (unlike the confident reach of Science in poem XXI), he assembles the dust of the world, of Lyell's continents to be, formed from the sacred dust from which the spirit has departed. He turns to that faint word, trust, presaging faith.

Poem LVI dashes the faint hope of the last section, providing evidence of Nature's lack of care:

'So careful of the type?' but no.
From scarpèd cliff and quarried stone
She cries, 'A thousand types are gone:
I care for nothing, all shall go.

'Thou makest thine appeal to me:
I bring to life, I bring to death:
The spirit does but mean the breath:
I know no more.' And he, shall he,

Man, her last work, who seemed so fair,
Such splendid purpose in his eyes,
Who rolled the psalm to wintry skies,
Who built him fanes of fruitless prayer,

Who trusted God was love indeed
And love Creation's final law—
Though Nature, red in tooth and claw
With ravine, shrieked against his creed—

Who loved, who suffered countless ills,
Who battled for the True, the Just,
Be blown about the desert dust,

24 Aidan Day, *Tennyson's Scepticism* (Basingstoke: Palgrave Macmillan, 2005), p. 118.

Or sealed within the iron hills?25 (LVI. 1-20.)

In this section, Tennyson reduces the mechanical process of breathing. Nature threatens extinction, an end to the species and to the individual soul, existing in the space between the personal "he, shall he" and the general "Man" of the next line. The individual is transformed into the species. Nature cries from the cliff and quarried stone—the evidence of fossilisation literally speaks of its own extinction. The faith in God of the Prologue is changed to the ravages of Nature: "Thou madest Life… Thou madest Death" echoes the "I bring to life, I bring to death" of the uncaring mechanism, rendered meaningless through lack of faith or evidence of a soul. Nature that operated by God's love has been replaced by a worldly force; the voice of extinct fossils tells of a world in which change brings no transcendence (dust in this poem is neither sacred, nor mechanically constructive). The process of creating meaning out of evidence has resulted only in further despair. From this point, the poem no longer attempts to build a theological argument from the evidence of the natural world.

Hallam precipitated the search for consolation in the world, for evidence of God, and here provides the path to consolation. The poetry moves toward an identification of Hallam with the world, re-infusing it with spirit. First, the poem reframes the problems of geological time:

So many worlds, so much to do,
    So little done, such things to be,
    How know I what had need of thee,
For thou wert strong as thou wert true?

The fame is quenched that I foresaw,
    The head hath missed an earthly wreath:
    I curse not nature, no, nor death;
For nothing is that errs from law.

We pass; the path that each man trod
    Is dim, or will be dim, with weeds:
    What fame is left for human deeds
In endless age? It rests with God.

O hollow wraith of dying fame,
    Fade wholly, while the soul exults,
    And self-infolds the large results

25 Tennyson, pp. 911-12.

Of force that would have forged a name.26 (LXXIII. 1-16.)

In LXXIII, Tennyson re-ascribes the operations of nature to the laws of God—but offers no explanations of the workings of that law. Any investigation of the operation of natural laws would be scientific, privileging human knowledge in its ability to understand the universe. The poem begins to move firmly from knowledge of laws that operate, to faith that there are laws and that their operation will make sense on a grander scale. The figure of Hallam is part of this transformation, as his personal energies "self-infold". Hallam becomes translated more and more to the spiritual plane in the second half of the poem, but his spirit is also seen as infusing the physical world he lived in, and his powers begin to affect it.

In LXXIII, the lengthy span of geological time stretches, to become a tragedy on the scale of a human life. Tennyson again considers this great span of time a few poems later:

What hope is here for modern rhyme
To him, who turns a musing eye
On songs, and deeds, and lives, that lie
Foreshortened in the tract of time?27 (LXXVII. 1-4.)

There is no hope in the language of the poem, if not for something larger than geological time. Geological language must be brought under the sway of a force more powerful than itself. Where geology, with its clear instances of mass death, posed a threat to individual meaning, it will be re-inscribed in the sacred, brought in to describe, though not explain the worth and operation of powers larger than itself. It is recreated as metaphor for Hallam, and for God.

The change from worldly doubt to faith in the benevolent governance of nature is not easy, nor is it carried out all in one step.

So word by word, and line by line,
The dead man touched me from the past,
And all at once it seemed at last
The living soul was flashed on mine,

And mine in this was wound, and whirled
About empyreal heights of thought,

26 Tennyson, p. 924.
27Tennyson, p. 926.

And came on that which is, and caught
The deep pulsations of the world,

Aeonian music measuring out
The steps of Time—the shocks of Chance—
The blows of Death. At length my trance
Was cancelled, stricken through with doubt.28 (XCV. 33-44.)

This poem is transitional, beginning a slow change (Armstrong notes that "Lyell's model of 'gradual change in the living creation' is negotiated in the movement of *In Memoriam* itself").29 The transformation begins in the wild riot of despair in geology, of despair in finding any external foundation for divine meaning. The poem moves toward a faithful resolution by means of visionary moments where the cataclysms of the world are "measured" by music, or move to the measures *of* music (a song like the swallow-flights of lyric, but not foreshortened by geological time) this movement is accomplished despite (and through) continual slippage into doubt. The trance is brought on by Hallam's letters, and the imputation of the presence of the dead man as a living soul in the world. It is still a "trance," however, not something integrated with daily experience, and it is "cancelled" — not entirely negated by doubt.

In poem CXII, Tennyson's contemplation of Hallam's life and soul leads to the beginnings of a reconsecrated model of the world:

For what wert thou? some novel power
Sprang up for ever at a touch,
And hope could never hope too much,
In watching thee from hour to hour,

Large elements in order brought,
And tracts of calm from tempest made,
And world-wide fluctuation swayed
In vassal tides that followed thought.30 (CXII. 9-16.)

In this poem the spirit of the dead man and thought are tied to the physical action of the elements. His power extends, bringing order to the experience of "world-wide fluctuations"; "vassal tides" follow "thought," and "tracts of calm" created out of

28 Tennyson, pp. 946-947.
29 Armstrong, p. 102.
30 Tennyson, pp. 964-65.

catastrophe expand through the world. There is a directing force, the beloved soul, and that force acts to calm the experience of cataclysm. Tennyson uses the language of geology without looking to the science of it in this passage—he offers no empirical justification for the calm it claims.

From calm to cataclysm, Hallam's spirit spreads its influence:

> A life in civic action warm,
> A soul on highest mission sent,
> A potent voice of Parliament,
> A pillar steadfast in the storm,
>
> Should licensed boldness gather force,
> Becoming, when the time has birth,
> A lever to uplift the earth
> And roll it in another course,
>
> With thousand shocks that come and go,
> With agonies, with energies,
> With overthrowings, and with cries,
> And undulations to and fro. 31(CXIII. 9-20.)

The actions that Hallam would have taken had he lived are compared to the cataclysms that cause the devastation over which Tennyson had previously despaired. The "self-infolded" spiritual power of the beloved soul take on the language of geological change to describe the alterations that Hallam would have wrought (in this world) had he lived. This movement, imagining Hallam as capable of "uplifting" the earth in a way that causes cataclysmic agonies instead of calm places faith in a God-directed world, despite the geological evidence of extinction. In the next poem, Tennyson continues this movement describing the role of human knowledge: subservient to the rule of the soul. Knowledge can never be sufficient to explain the actions of a spirit-infused world.

By poem CXVIII, geological time is fully comprehended within the rule of sacred time.

> Contemplate all this work of Time,
> The giant labouring in his youth;
> Nor dream of human love and truth,

31 Tennyson, p. 965.

As dying Nature's earth and lime;

But trust that those we call the dead
Are breathers of an ampler day
For ever nobler ends. They say,
The solid earth whereon we tread

In tracts of fluent heat began,
And grew to seeming-random forms,
The seeming prey of cyclic storms,
Till at the last arose the man;

Within himself, from more to more;
Or, crowned with attributes of woe
Like glories, move his course, and show
That life is not as idle ore,

But iron dug from central gloom,
And heated hot with burning fears,
And dipt in baths of hissing tears,
And battered with the shocks of doom

To shape and use. Arise and fly
The reeling Faun, the sensual feast;
Move upward, working out the beast,
And let the ape and tiger die.32 (CXVIII. 1-28.)

This poem marks a firm return to the directed, progressive development of species, and of the earth itself. The phrase "seeming-random" implies that there is nothing truly random about the forms of the world's development; the "seeming prey" in the next line reinforces that human knowledge cannot comprehend the directionalism of geological change, but that direction exists. Though the phrase "cyclic storms" could imply aspects of Lyellian geology, the iron ore metaphor, and its connection to the nebular hypothesis, which specified a world begun "in tracts of fluent heat," suggests a Catastrophist geological system at work. The iron ore metaphor, firstly, implies that all human suffering, "tears" and "shocks," are purposeful. Secondly, the metaphor recalls a progressivist geological theory which held that the world had cooled from a great heat and moved through several stages of life, before it became perfectly

32 Tennyson, p. 968-70.

habitable for humans.33 Both human life and the earth have been shaped by an active force: transformed through suffering for "nobler ends." This poem also clearly states the idea that humanity is still a work in progress, moving up the chain of being into a spiritual realm, removed from the threat of being like animals in physicality, or, presumably, extinction. Dennis Dean writes,

> With poem CXV, however, the great Lyellian winter of geological doubt is over. Precisely what happened to alleviate Tennyson's geological anxieties is unclear, but such optimism had become very popular. Thus, in a brief commentary upon Richard Owen's famous paper announcing a new order of prehistoric life called dinosaurs, *Literary Gazette* eloquently characterized the history of past life as a progressive series of successively more perfect creations culminating in Man (who 'even yet may be but the link upwards to a higher gradation in the scale of being'). Babbage too, no later than November 1842, reassured Tennyson and others that geological change was purposeful and benevolent.34

The idea of progressivism is, as we have seen, not a new one for English geology, nor for Tennyson. However, it does return in great strength in the latter parts of *In Memoriam*, banishing the fears associated with the lack of directionality for change (of landmasses and species) in *Principles of Geology*.

In section CXX, Tennyson sums up the poem's new relation of scientific knowledge to spiritual understanding:

> I trust I have not wasted breath:
> I think we are not wholly brain,
> Magnetic mockeries; not in vain,
> Like Paul with beasts, I fought with Death;
>
> Not only cunning casts in clay:
> Let Science prove we are, and then
> What matters Science unto men,
> At least to me? I would not stay.
>
> Let him, the wiser man who springs

33 Stephen Jay Gould, "The Tooth and Claw Centennial", in *Dinosaur in a Haystack* (New York: Crown, 1995), pp. 63-75 (pp. 71-72).
34 Dean, pp. 11-12.

> Hereafter, up from childhood shape
> His action like the greater ape,
> But I was *born* to other things.35 (CXX. 1-12.)

Beasts and death are conjoined in the first stanza: the animal part of the world is the part that dies with no hope of resurrection. Tennyson's vision of man's role moves away from the sensuous, and the prospect of eternal death embodied in the dead fossils, characterised as "cunning casts in clay" that record extinctions. The breath of this poem is not wasted, like the spirit-breath of Nature in LVI; instead, it denies that reading nature provides true knowledge of the spirit. God is not evident in the mechanism of geology, and scientific theorising, though not intentionally inimical to faith, can give no consolation and no direct route to God. (Some confusion of terms remains: the spiritual conviction of an eternal soul is expressed in terms of human knowledge: "I think we are not wholly brain"). Buckland, one of the Catastrophists, sees fossils as nearly scriptural, where Lyell uncomfortably reads man as a separate creation and a moral epoch in the world. Meanwhile, Tennyson refutes notions the physical could act as a guide to the spiritual.36 Aidan Day writes that

> What is important is that, after having been gravely disconcerted by the insights of rational science upon reading Lyell's *Principles*, Tennyson does not react in any crass way against scientific perspective in his conclusion to *In Memoriam*. Tennyson may write, in section CXX, 'What matters Science unto men?" (CXX.7), but the conclusion of *In Memoriam* shows that it continues to matter a great deal to him.37

More than not reacting against scientific perspective, I argue that Tennyson returns to geology as support for spiritual interpretations, reading the spiritual back into the physical world as evidence of divine direction without looking to it to explain the spiritual. Tennyson's attempts in the latter part of *In Memoriam* to read the changing world by his spiritual philosophy mix geological and religious elements.

This mingling of the geological and the spiritual can be seen in poem CXXIV.

35 Tennyson, pp. 970-71.
36 In a discussion of Buckland's Bridgewater Treatise, Rupke writes, "From the outset he emphasized that the language of rocks and fossils are as much a divine revelation of truth as the language of the Bible." Rupke, p. 204."No one of the fixed and constant laws of the animate or inanimate world was subverted by human agency, and… the modifications produced were on the occurrence of new and extraordinary circumstances, and those not of a *physical*, but a *moral* nature." Lyell, I, p. 164.
37 Aidan Day, p. 138.

I found Him not in world or sun,
    Or eagle's wing, or insect's eye;
    Nor through the questions men may try,
The petty cobwebs we have spun:

If e'er when faith had fallen asleep,
    I heard a voice 'believe no more'
    And heard an ever-breaking shore
That tumbled in the Godless deep;

A warmth within the breast would melt
    The freezing reason's colder part,
    And like a man in wrath the heart
Stood up and answered 'I have felt.'

No, like a child in doubt and fear:
    But that blind clamour made me wise;
    Then was I as a child that cries,
But, crying, knows his father near;

And what I am beheld again
    What is, and no man understands;
    And out of darkness come the hands
That reach through nature, moulding men. (CXXIV. 5-24.)

Over the course of the poem, Tennyson tests the theory that study of the world will by necessity lead to the Creator, ultimately finding his theory wanting in consolation. The evidence of the physical world, even evidence most often called upon to attest to the divine perfection of creation (such as the mechanism of the eye, which had been used by Paley as an example of the sort of biological complexity that implies the existence of a Creator), do not offer proof of God. In Tennyson's view, study of the natural world creates only "petty cobwebs" of human knowledge. In poem XXV, when a spirit-voice denied the possibility of an afterlife, Tennyson marshalled an initial response of faith, only to have it countered. In CXXIV, the spirit-voice receives the subjective response, "I have felt," which serves to melt "freezing reason." Dean writes that "The essential change [in Tennyson has] been his subjective conclusion that laws of matter do not apply to spirit."38 That conclusion, though, leads to a further enmeshing of the physical and spiritual world: God's hands reach out *through nature* to enact God's plan, and God's plan concerns men, specifically.

38 Dean, p. 13.

The acceptance of alteration as a necessary part of God's design begins with Hallam's spirit re-entering the living world and acting upon it, and change extends to this spirit too.

> Thy voice is on the rolling air;
> I hear thee where the waters run;
> Thou standest in the rising sun,
> And in the setting thou art fair….
>
> Though mixed with God and Nature thou,
> I seem to love thee more and more. (CXXX. 1-4, 11-12.)

While Tennyson maintains that the soul will retain its individual characteristics, the identification of the spiritual force of Hallam's soul with the force of geological change has not only reconsecrated the world, but also mingled Hallam with God, acting through Nature in a strange trinity. The vision of Hallam's spirit in the world enables Tennyson to posit God and Nature as no longer at strife.

In the Epilogue, Tennyson's use of a directionalist, progressive geology operating under the guidance of a loving God is solidified through the image of the wedding, the child to be, and the ongoing development of mankind:

> …A soul shall draw from out the vast
> And strike his being into bounds,
>
> And, moved through life of lower phase,
> Result in man, be born and think,
> And act and love, a closer link
> Betwixt us and the crowning race
>
> Of those that, eye to eye, shall look
> On knowledge; under whose command
> Is Earth and Earth's, and in their hand
> Is Nature like an open book;
>
> No longer half-akin to brute,
> For all we thought and loved and did,
> And hoped, and suffered, is but seed
> Of what in them is flower and fruit;
>
> Whereof the man, that with me trod

This planet, was a noble type
Appearing ere the times were ripe,
That friend of mine who lives in God,

That God, which ever lives and loves,
One God, one law, one element,
And one far-off divine event,
To which the whole creation moves.39 (Epilogue. 123-144.)

Nature takes on a subordinate role; where she once decided the destinies of men and other species, now the development of the crowning race will remove her control over humanity. This separation between humanity and Nature is created over the course of the poem, and must be maintained by it and in making that division, the formerly "fruitless prayer" becomes "flower and fruit". The creation of a boundary between God and Nature becomes its own complication: the hands that reach out from darkness utilise progressive development, and the description of God's unknowable plan for the world draws on experienced cataclysm. The metaphoric identification of Hallam's personal abilities and the geological changes of the world provides a scheme by which the world can be understood as an expression of working spirituality. The standard phrase, he "lives in God," here implies Hallam's existence as an individual who also lives in the God . His spirit is merged yet individually extant. The ending of the Epilogue is characterised by its enjambement, which creates continual linkages across the stanzas; as the poem ends, full stops are replaced by semi-colons, continually elaborated clauses, connections.

Ideas of progressive change are initially comfortless in *In Memoriam*, because they threaten the survival of individuality through great alteration; Lyellian ideas of change appear randomly destructive and the use of geological models to explain death fails to produce spiritual meaning. However, after an act of faith which reads Hallam's spirit as extant in the physical world, Tennyson can posit a world in which cataclysm has hidden, beneficent ends. Geology is once again marshalled for use in a progressivist argument, but no longer relies on human knowledge of geological systems to establish its actual existence. Tennyson continues to read the physical world as an expression of a spiritual principle; the challenge posed by Lyellian geology has been overcome by assuming a separation and resolution that is not actually reached, only deferred: the crowning race will be capable of looking at human knowledge and understanding the direction of spirit in it. To them, if not to Tennyson, Nature will be "like an open book." Tennyson reads geology as subordinate to this spiritual resolution (the world operates as God and Hallam's spirit direct), and provides proof which cannot be empirically deciphered by human knowledge. Tennyson makes geological evidence serve the entirely subjective

39 Tennyson, pp. 986-88.

conclusion of faith. The central expression of this support is the re-claimed idea of progressive development, which implies directionality, and divine intent in the direction.

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