



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Canolfan Sophia
The Sophia Centre

CULTURE AND COSMOS

A Journal of the History of Astrology and Cultural Astronomy

Vol. 8 no 1 and 2

Spring/Summer and Autumn/Winter 2004

Papers from the fourth conference on the Inspiration of
Astronomical Phenomena (INSAP IV), Magdalen College, Oxford,
3-9 August 2003.

Published by Culture and Cosmos
and the Sophia Centre Press,
in partnership with the University of Wales Trinity Saint David,
in association with the Sophia Centre for the Study of Cosmology
in Culture, University of Wales Trinity Saint David,
Institute of Education and Humanities
Lampeter, Ceredigion, Wales, SA48 7ED, UK
www.cultureandcosmos.org

Cite this paper as: Poss, Richard, 'Poetic Responses to the Size of the
Universe: Astronomical Imagery and Cosmological Constraints', *Culture
and Cosmos* 8, nos. 1 and 2, Spring/Summer and Autumn/Winter 2004,
pp. 309–20.

British Library Cataloguing in Publication Data
A catalogue card for this book is available from the British Library

*All rights reserved. No part of this book may be reproduced or utilized in any
form or by any means, electronic or mechanical, including photocopying,
recording or by any information storage and retrieval system, without
permission in writing from the Publishers.*

ISSN 1368-6534

Printed in Great Britain by Lightning Source

Copyright © 2021 Culture and Cosmos

All rights reserved

Poetic Responses to the Size of the Universe: Astronomical Imagery and Cosmological Constraints

Richard Poss
University of Arizona

Abstract. How have writers responded to the enormous size of the astronomical universe? This paper reviews a number of poetic meditations on the nature of human life spurred by revelations from astronomy, specifically relating to the increasing size of the physical universe and how this impacts upon humanity's psychological and spiritual being. Beginning with the conversations on the cosmic 'annihilation' of the human between Swinburne and Lady Constantine in Thomas Hardy's novel *Two on a Tower* (1882), the first group of texts examined reveal the orientation of the 'alien within', a cosmological agoraphobia. The interior and exterior of this attitude is examined, that is, how much of it was really prompted by the inhumanly large size of the cosmos and how much of it was there already, an alienation opportunistically projected onto the astronomy of the time. Both humanistic and religious reactions against this posture are discussed. The second group of poetic responses to the size of the universe comes from a younger generation of poets, writers who have grown up acquainted with the basics of modern astronomy. This group includes Diane Ackerman ('Lady Faustus'), Emily Grosholz ('Poems overheard at a Conference on Relativity Theory'), Michael Collier ('The Heavy Light of Shifting Stars'), and Pattiann Rogers ('Achieving Perspective'). These writers employ concrete sensual imagery on a more human scale to establish a poetic connection between the observer and distant astronomical bodies, reintegrating our human presence in an increasingly vast universe.

In 1882 Thomas Hardy published *Two on a Tower*, a novel he described as a 'slightly built romance' designed 'to set the emotional history of two infinitesimal lives against the stupendous background of the stellar

Richard Poss, 'Poetic Responses to the Size of the Universe: Astronomical Imagery and Cosmological Constraints', *The Inspiration of Astronomical Phenomena: Proceedings of the fourth conference on the Inspiration of Astronomical Phenomena*, Magdalen College, Oxford, England, 3-9 August 2003, special issue of *Culture and Cosmos* 8, nos. 1 and 2, Spring/Summer-Autumn/Winter 2004, pp. 309–20.
www.CultureAndCosmos.com

universe'.¹ The woman in the romance is the aristocratic Lady Viviette Constantine. The man is Swithin St. Cleeve. She is moderately wealthy, bored and lonely. He is a young amateur astronomer consumed by a vision of the cosmos, and in need of a patron. They first meet in the daytime, as she approaches a great Neoclassical column that dominates the Wessex landscape and climbs to the top of it to find the young man gazing into a telescope. When she asks what he is watching, without looking up, he replies 'A cyclone in the sun'. After a pause, she asks, 'Will it make any difference to us here?'.²

It is interesting to approach Lady Constantine's question and take it seriously after an interval of 120 years. What difference will it make to us here if the cyclone moves one way or the other, or is composed of one set of elements or another? When the heavens were made of ether, a fifth element, as Aristotle reported, they were able to inspire and uplift, as they were 'heavenly' in the older sense, perfect while the terrestrial elements were imperfect. But when it became clear that the stars and everything above the atmosphere were made of the same material as tables and chairs, they also became more removed in terms of distance, and so lost their ability to inspire. They acquired a level of metaphysical arbitrariness. What does it matter if a star converts Hydrogen to Helium, or Helium to Hydrogen, if it is so far away that nothing it does could ever affect us? Or worse, what if the conversion of Hydrogen to Helium is the central theme of the Universe, and the presence of humanity on the surface of one planet a mere defacement, an interruption, like mold growing on a rock at the foot of a great mountain? Writers like Hardy exposed themselves to the most current astronomy, took note of the distances involved, and invoked an older emotional estimation of what an appropriate distance might be, and found that the stars violated human decorum by being too far away.

They gaze through the telescope together, Lady Constantine and Swithin St Cleeve, at the 'whirling mass.' Hardy writes, 'the blazing globe seemed to be laid bare to its core. It was a peep into a maelstrom of fire, taking place where nobody had ever been or ever would be'. Will it make any difference to us here? Her casual question echoes down the years as astronomers achieve increasingly precise insights into the lifecycles of stars, galaxies, supernovae and gamma ray bursts. Swithin

¹ Thomas Hardy, *Two on a Tower: A Romance*, ed. Sally Shuttleworth (New York: Penguin, 1999) p. 289. From the 1895 Preface.

² Hardy, *Two on a Tower*, pp. 8–9.

says the naked eye can see three thousand stars, but his telescope reveals twenty million. Rather than responding to this with joy, awe, or wonder, he says 'whatever they were made for, they were not made to please our eyes... Nothing is made for man'.

She protests, 'O, pray don't, it overpowers me! It makes me feel that it is not worth while to live; it quite annihilates me'. The word 'annihilate' recurs in these conversations with some frequency. Swithin says 'If it annihilates your ladyship to roam over these yawning spaces just once, think how it must annihilate me to be, as it were, in constant suspension amid them night after night'. Looking back from our vantage point in the twenty-first century, we might wonder why it must follow from these large numbers that human life has no meaning. Later he says, 'the actual sky is a horror' filled with 'impersonal monsters, namely, immensities. Until a person has thought out the stars and their interspaces, he has hardly learnt that there are things much more terrible than monsters of shape, namely, monsters of magnitude without known shape'.³

For many centuries the stars have been used by writers to describe the ultimate beauty of the beloved, the ultimate grace of a benevolent God, or the ultimate truth of a rational universe. For Hardy, the stars are emblems of human inadequacy and insignificance. There is a conjunction here of stellar imagery, the use of stars, and cosmological imagery, the use of the cosmos as a whole in a literary context. The best known passage in *Two on a Tower* is Swithin's existential declension of size: 'There is a size at which dignity begins, further on there is a size at which grandeur begins; further on there is a size at which solemnity begins; further on, a size at which awfulness begins; further on a size at which ghastliness begins. That size faintly approaches the size of the stellar universe'. Hardy's interpretation of size in the universe is that the larger it is, the smaller and more inconsiderable humans are, and the more futile human values become. As Swithin puts it, the end result of astronomy is 'reducing the importance of everything'. What is the poetic response to the size of the universe? For Hardy, the stars are annihilators of humanity. This interpretation of astronomy is powerful and profound and is still current in many forms. After all, the problem is not can scientists find an answer to a question, but can we as humans handle the answer? It is a commonplace to hear that our ethical and social structures are inadequate to the management of knowledge revealed by modern science, first in nuclear physics, then in genetic engineering and computer science. It is

³ *Two on a Tower*, pp. 27–30.

more rare to hear that we are inadequately prepared to manage the seemingly more abstract advances of astronomy.

We should take Hardy's use of astronomical imagery in the context of his overall perspective in his novels. There is evidence of a general misanthropy in *Two on a Tower*, and a hostility toward Victorian values. This malevolence extends to his descriptions of the landscape, where a morning mist is described thus: 'A fog defaced all the trees of the park that morning; the white atmosphere adhered to the ground like a fungoid grown from it, and made the turfed undulations look slimy and raw'.⁴ To this anti-Romantic attitude toward Nature we should add the role of coincidence in the novel. There are many coincidences and they are all unfortunate or destructive. What this suggests is that cynicism in the writer may come first, and astronomy is employed as a tool, that the engine that feeds the denial of humanity comes from the inside, not from the cosmos.

We can turn from Hardy to another writer of the same period and we find a dramatic contrast. The poet Gerard Manley Hopkins, in a journal entry from 17 August 1874, upon seeing the stars after visiting some friends for dinner, wrote: 'As we drove home the stars came out thick: I leant back to look at them and my heart opening more than usual praised our Lord to and in whom all that beauty comes home'.⁵ The casual, offhand nature of this entry reveals Hopkins' ability to assume an entirely different perspective of the human poetic impact of the night sky. We find this fleshed out in his poem '9 - The Starlight Night':

Look at the stars! Look, look up at the skies!
 O look at all the fire-folk sitting in the air!
 The bright boroughs, the circle-citadels there!
 Down in the dim woods the diamond delves! The elves'-eyes!
 The grey lawns cold where gold, where quickgold lies!
 Wind-beat whitebeam! Airy abeles set on a flare!
 Flake-doves sent floating forth at a farmyard scare!
 Ah well! It is all a purchase, all is a prize.⁶

⁴ Hardy, *Two on a Tower*, p. 46.

⁵ Gerard Manley Hopkins, *Poems and Prose*, ed. W. H. Gardner (London: Penguin, 1953), p. 132.

⁶ Hopkins, *Poems and Prose*, pp. 27–28.

Hopkins is famous for the technique known as ‘sprung rhythm’ and for frequent alliterations (in poems such as ‘The Windhover’, ‘Pied Beauty’, and ‘God’s Grandeur’) in which he unabashedly celebrates the glory of a sensual God-created world that sparkles and ripples through all of nature, seemingly in breathless acclamation. It is interesting to compare his attitude toward the stars with that of Hardy and ask which of these seems more forced, more contrived. While both are inspired, both are in a way deliberate. They have made up their minds, and settled on diametrically opposed interpretations of the immensity of the stellar universe. Their writings are robust and energetic, and radiate strongly in implications about the meaning of the larger cosmos, not just the stars we can see, but everything that is.

Hardy furnishes an example of a literary response to late nineteenth century astronomy, one which becomes regarded as characteristically ‘modern’. It was against such a view of the stellar universe that C. S. Lewis directed his descriptions of space in his novel, *Out of the Silent Planet* (1938), where the main character is taken on a voyage to Mars. As the ship moves away from the Earth, Ransom looks out into space. Lewis reverses the usual imagery so that space is positive, and the planets are depressions in the living radiance of space. ‘He had read of “Space”... the dismal fancy of the black, cold vacuity, the utter deadness, which was supposed to separate the worlds. He could not call it “dead”: he felt life pouring into him from it every moment. How indeed could it be otherwise, since out of this ocean the worlds and all their life had come? He had thought it barren: he saw now that it was the womb of worlds’.⁷ Then he quotes Milton, ‘happy climes that ly / Where day never shuts his eye / Up in the broad fields of the sky’. What Lewis tries to do in *Out of the Silent Planet* is counter the modern view of outer space as a boundless emptiness with denial of life built-in. He counters this with an updated version of the old Medieval cosmos where the outermost space, the Empyrean, was both living and divine.

Both Lewis and G. K. Chesterton, in their own ways, try to argue against a mechanistic view of the very space between stars. The idea that size by itself should carry an import, a value, comes under attack in *Orthodoxy*, written in 1908. Chesterton rails against the tendency of moderns like Herbert Spencer who ‘popularized this contemptible notion that the size of the solar system ought to over-awe the spiritual dogma of man. Why should a man surrender his dignity to the solar system any

⁷ C. S. Lewis, *Out of the Silent Planet* (New York: Macmillan, 1977), p. 32.

more than to a whale?... It is quite futile to argue that man is small compared to the cosmos; for man was always small compared to the nearest tree'.⁸ Chesterton seems to have had Hardy in mind when he wrote 'These expanders of the universe had nothing to show us except more and more infinite corridors of space lit by ghastly suns...'. The word ghastly is the same word used by Hardy in his scale of horror at the size of the universe, where the 'ghastliness' was the worst.

What do the stars do to us? Poets invoke them for love, prayer, truth. Historically, it may well be that the stars first inspired much of what we now call, not only science, but thought itself. In the *Timaeus* Plato claims that it was the stars, floating above it all, but moving in complex patterns, in patterns susceptible to quantitative analysis, that first inspired mankind to philosophy itself.⁹ It is also in the *Timaeus* that Plato claims that the god made humans first as stars, that they came to earth and assumed bodies, to return to the stellar realm after perfecting the virtues here on earth. At the beginning of the Western tradition there is Plato with living spiritual stars, emblems of transcendence and perfection. This is complemented by Aristotle, who suggests the possibility of coming to an understand of the stars if we treat them as a mechanism.

The Christian Middle Ages flounders – on the one hand we have Dante who perfects a complex, consistent system where stars are the souls of angels, combining Aristotle, Aquinas, Boethius, Bernard, Bonaventure, etc., and yet is entirely consistent with the astronomy of his time. But what about this question of size? Aristotle reminds us in the *De Caelo* that 'the earth is spherical and that its periphery is not large'.¹⁰ The literature of the Middle Ages is full of illustrations of this, from the *Dream of Scipio* to Dante's Christianizing of that image in the *Divine Comedy*.

The opposing view during that time insists on the primacy of the purely spiritual, rejecting inquiry into the physical world as a distraction. Thomas á Kempis in the *Imitation of Christ* writes 'A humble countryman who serves God is more pleasing to Him than a conceited intellectual who knows the course of the stars, but neglects his own

⁸ G. K. Chesterton, *Orthodoxy: The Romance of Faith* (New York: Doubleday, 1990), pp. 61–2.

⁹ Plato, *Timaeus*, 47B, in Plato, *Timaeus, Critias, Cleitophon, Menexenus, and Epistles*, ed. and trans. R. G. Bury (Cambridge: Harvard University Press, 1975), pp. 106–7.

¹⁰ Aristotle, *On the Heavens*, ed. and trans. W. K. C. Guthrie (Cambridge: Harvard University Press, 1986), pp. 252–52.

soul”.¹¹ We have to balance this sort of thing against the *South English Legendary*, where we are there told that if a man could travel upwards at the rate of ‘forty mile and yet some del mo’ a day, he still would not have reached the Stellatum (‘the highest heven that ye alday seeth’) in 8000 years.¹² This is an extraordinarily large distance, and serves to refute our stereotypical notions of the small, comfortable universe in which the medieval English peasant is presumed to have lived. Could we say that this distance was for the peasant as proportionally ‘immense’ and ‘annihilating’ as the distances of modern astronomy are for us? Yet here there is no anguish, no metaphysical vertigo.

If we examine the implied reasoning in Hardy, it seems to assert that we should feel more human in a small room, and less human in a large one. If the room can be made sufficiently large, we lose sight of our humanity altogether. What is the role of stellar imagery in this chain of reasoning? The stars shine above the changing circumstances of earthly weather, culture, and history. We look out to the stars to grasp an image of eternity, of constancy, of what doesn’t change. But when the Copernican revolution hurls the center out into distant space, the stars then become potent emblems of the inconstancy of what once was certain. This gives rise to the metaphysical uncertainty in some of Shakespeare’s greatest lines, such as these in *Hamlet*:

Doubt thou the stars are fire,
Doubt that the sun doth move,
Doubt truth to be a liar,
But never doubt I love. (*Hamlet* II.2.116-119)

These lines are spoken by Polonius to the Queen, written by Hamlet, handed to Polonius by Ophelia. If we disentangle the lines we find that the stars are fire and the sun does move. This, along with lines such as the Queen’s protestation – the ‘opposition’ which ‘is most retrograde to our desire’, opens up the imagery of the play to the intellectual conflicts of the time, including that between the geocentric world view and the Copernican model.

¹¹ Thomas á Kempis, *Counsels on the Spiritual Life* (New York: Penguin, 1995), p. 7.

¹² C. S. Lewis, *The Discarded Image: An Introduction to Medieval and Renaissance Literature* (Cambridge: Cambridge University Press, 1971), pp. 97–8.

Thomas Digges had popularized the Copernican model in *A perfit description of the caelestiall orbes* in 1576. So when John Donne writes to ‘Goe and catch a falling star’ he is eliciting a manifest impossibility. Andrew Marvell’s poem ‘The Definition of Love’ draws out two metaphors for an impossible love, one astronomical, one geometrical:

Unless the giddy heaven fall,
And earth some new convulsion tear;
and us to join the world should all
be cramped into a planisphere,

concluding with

the conjunction of the mind,
and opposition of the stars.¹³

And John Donne, who visited Kepler in 1619, writes in ‘An Anatomy of the World: The First Anniversary’ (1611),

And new Philosophy calls all in doubt,
The Element of fire is quite put out;
The Sun is lost, and th’earth, and no man’s wit
Can well direct him where to looke for it.
And freely men confesse that this world’s spent,
When in the Planet, and the Firmament
They seeke so many anew; then see that this
Is crumbled out again to his Atomies.¹⁴

These poems offer profound images of the breaking of the old harmony and the decay of the natural world, a world fractured, incomplete, and a Heaven which does what heavens cannot do – it changes, violently, in upheaval, breaking all the values of the old world system.

How important are the stars? Where would we be without them? At the first INSAP conference, in his opening remarks, Rolf Sinclair recalled Isaac Asimov’s story ‘Nightfall’ which appeared in the September 1941

¹³ Andrew Marvell, *The Complete Poems*, ed. Elizabeth Story Donno (New York: Penguin, 1978,) pp. 49–50.

¹⁴ John Donne, *Poetical Works*, ed. Herbert J. C. Grierson (London: Oxford University Press, 1971), pp. 213–14.

issue of *Astounding* magazine.¹⁵ The world in this story has several suns and experiences darkness only once in several thousand years. The absence of the opportunity to study the stars has retarded the progress of this fictional civilization, and when they do see the stars the experience is traumatic. Can we imagine our world without stars, and perceive how differently things would have turned out? Since it took humanity from the dawn of time until the sixteenth century to accept a heliocentric solar system, we cannot be too optimistic about what our chances would have been.

In August 1926, Arthur Eddington gave an Evening Discourse at the meeting of the British Association in Oxford. These ideas were expanded in *Stars and Atoms* (1927). He tried to build a case that we could arrive eventually at the basic insights of modern physics without being able to see the stars:

We can imagine physicists working in a cloud-bound planet such as Jupiter who have never seen the stars. They should be able to deduce by (these methods) that if there is a universe existing beyond the clouds it is likely to aggregate primarily into masses of the order of a thousand quadrillion tons. They could then predict that these aggregations will be globes pouring out light and heat and that their brightness will depend on the mass in the way given by the (mass-luminosity relation).¹⁶

His argument is that scientists would be able to arrive at a knowledge of physics by observing fundamental relationships in a closed space, ‘traced by pure theory and terrestrial experiment’. Then they could deduce the appearance of the larger stellar universe. But in order to do this, they must first have available the tools of modern scientific method. While we can accept Eddington’s argument that it is theoretically possible for humans to put together an accurate picture of the stars from such slender evidence, we can still be skeptical that the humans on this planet could ever have done such a thing, given the difficulties Copernicanism encountered even in the presence of abundant evidence.

¹⁵ R. M. Sinclair, ‘Introduction’, in *Vistas in Astronomy: An International Review Journal* 39, no. 4 (1995): pp. 382–83.

¹⁶ A. S. Eddington, *Stars and Atoms* (New Haven: Yale University Press, 1927), pp. 35–36.

Poetic responses to the revelations of modern astronomy fall into two categories. The first has been an existential chill of negation in the face of the immensity of the universe. The very light from the stars seems colder to these writers when they learn of the distances involved. The second, more recent response comes from poets who have grown up with a knowledge of astronomy. These writers probe into things on a human scale here on earth, with their intimate, familiar imagery, and then try to establish a *poetic* connection to things faraway and immense, to take the alien quality away from the distant astronomical bodies. In the twentieth century there was a great diversity of experimental poetry in English – formal, technical, rhythmic, structural – so that the stars in the sky find themselves appearing in a wide range of poetic responses. In Emily Grosholz’s poem ‘Lines Overheard at a Conference on Relativity’, the jargon of physics and math is sculpted and splayed down the page in measured lines of poetry so that the poetic context itself transforms the meanings of words by adding the values of sound effects to the normally impersonal precision of the terms: ‘The current lines of holonomic fields / are geodesics of the Riemannian / manifold v, g bar: / g bar equals F squared g ’.¹⁷ When she turns the perplexing jargon of physics into a sound experiment, she is responding playfully to the complexity of the stellar universe. ‘How does light know how / to take the shortest path?’ By appropriating the words, and refashioning them in a rhythmic sequence of short lines, she generates a poetic probe into scientific thinking. ‘The evolution of the universe is now explained in detail, / up to and even including the genesis / of planets from the dust / of supernovae as they all exploded’. Compared to these writers of contemporary poetry, Hardy and Hopkins seem hopelessly heavy-handed. Contemporary poets are still making up their minds, still willing to explore, even into physics and mathematics. Their devices are more subtle, tentative, exploratory. This lighter touch invites the hearer to feel around inside the scientific idea, to explore and make comparisons, without any pressure towards arriving at a judgement.

In ‘Achieving Perspective’, Pattiann Rogers looks carefully at the local details of familiar human existence, the ‘particles of frost / Coating the hull of each chick pea’, and balances these images against the vastly inhuman scale of astronomical events, ‘up through the sky above this

¹⁷ Emily Grosholz, ‘Poems Overheard at a Conference on Relativity Theory’, in Kurt Brown, ed., *Verse and Universe: Poems about Science and Mathematics* (Minneapolis, MN: Milkweed, 1998), pp. 11–17.

road right now, / The galaxies of the Cygnus A cluster / Are colliding with each other in a massive swarm'. As she moves between the two worlds she must make herself remain aware, 'I try to remember', 'I make myself remember', each time examining the possibility of continuing to live an ordinary human life here where 'the wood and cement walls / Of this room are being swept away now, / Molecule by molecule', as though the furious intensity of giant astronomical cataclysms were brought into the everyday conversation: "I know / We are sitting in our chairs / Discoursing in the middle of the blackness of space".¹⁸ Faced with these realities, which we cannot wish away or ignore, Chesterton's comment that 'we were always small compared to the nearest tree' does not sound very reassuring. The perspective which is achieved in Rogers' poem is the living out of our human interactions without denying the immensities of space, facing them in the midst of every fluid moment of existence. The response of Thomas Hardy's astronomer to the stellar universe is not the only one possible.

In poems by a variety of writers, most notably Pattiann Rogers and Diane Ackerman, an accurate reckoning of the current state of astronomical knowledge is juxtaposed with the free verse of contemporary poetry in such a way that the personal is injected with modern bewilderment, and the vast inhuman scientific knowledge is rendered more familiar. 'The huge magnanimous stars are many things', writes Michael Collier in 'The Heavy Light of Shifting Stars'.¹⁹ He addresses the very question Lady Constantine posed, trying to make out what difference it makes to us here. 'What has changed? / Everything. But nothing we can see, and our seeing / changes nothing, until we move, and moving / we become the light of our atoms moving'. It is the same but different, as we continue to live with the knowledge that we are made of atoms moving in a matrix of relativistic physics: 'We cannot feel the sun pushing the stars / outward or bending the paths of their light'. By the twenty-first century the poet grows up with a sophisticated awareness of astronomy and the poetry of our time is acquainted with the enormous distances of space without making grand proclamations about its meaning. The tone is quieter, quizzical, perplexed, but not terrified.

¹⁸ Pattiann Rogers, 'Achieving Perspective', in *Song of the World Becoming: Poems, New and collected, 1981-2001* (Minneapolis, MN: Milkweed, 2001), p. 102.

¹⁹ Michael Collier, 'The Heavy Light of Shifting Stars', in *The Folded Heart* (Middletown, CT.: Wesleyan University Press, 1989), p. 36.

There is a tension in these poets as they try to grapple with all the reductionist implications of astronomy while at the same time they cannot resist using the lyrical devices of poetry to point to something beyond. Diane Ackerman's poem 'Lady Faustus' ends with the summing up of contemporary poetry's attitude toward astronomy: 'I rage to know / what beings like me, stymied by death / and leached by wonder, hug those campfires night allows, / aching to know the fate of us all, / wallflowers in a waltz of stars'.²⁰ Curiosity to know the shape and character of the universe has not left us, and there is still confidence that the poet can take in all that dreadful knowledge, Hardy's astronomer and his 'annihilation' notwithstanding.

The poets who respond to the stimulus of the stars in the full knowledge of what is now known about the stellar universe are taking on the weight of scientific knowledge without abandoning the literary heritage or its dreadful predispositions. That they are able to be positive in the face of such awesome immensities is itself a hopeful sign. The background of the stellar universe in Hardy's *Two on a Tower* is a yawning stretch of endless space always threatening to negate what has traditionally been considered human. The lyric poetry of our time insists on reintegrating that vastness with the everyday realities of ordinary experience, while still retaining aspects of the Romanticism about which Hardy was so deeply skeptical.

²⁰ Diane Ackerman, 'Lady Faustus', in *Jaguar of Sweet Laughter: New and Selected Poems* (New York: Random House / Vintage, 1993).