

THE NEW GLADSTONE REVIEW

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***Informal commentary, opinions, reviews, news, illustrations and poetry
for bookish people of philanthropic inclination***

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Editorial

Whenever anything in Nature seems to us ridiculous, absurd or evil, it is because we have but a partial knowledge of things,-. are ignorant of the order and coherence of Nature as a whole, and want everything to be arranged as to the dictates of our own reason. (Spinoza in 17th century)

I hope all Review readers are keeping well and managing to find ways of remaining fulfilled despite the difficulties imposed by the pandemic. Even so, as Spinoza (above) reminded us, Nature cannot be characterised as either benign or malign, but we surely need to develop our humanity to the full - in order to reconcile ourselves to its unpredictability and to manage the consequences with dignity.

In the last issue of this Review, I outlined the prospective arrangements for sales from Gladstone Books. Those plans are updated on the next page. My object in running this small enterprise, for nearly 20 years, is to make good quality books available at modest prices, and I hope the photographs shown of the new book room (item 2) will encourage people to avail themselves of the opportunity to browse the stock at leisure, without any pressure to make purchases. But with the Covid19 regulations currently changing on an almost daily basis the precise starting date is uncertain, and there may need to be another email message to announce it to those listed in my records.

As usual, in this issue I have aimed to provide a variety of articles of a historical, philosophical and cultural nature, with the object of advancing some stimulating ideas. I am most grateful to Linda Hunter for her delightful and evocative illustration of Matthew Arnold's famous poem, and to Julian Wiseman for his scholarly analysis of an aspect of 18th century agriculture. That was a time when agriculture was more obviously central to human culture than it now appears - as was the rural scene in general, which is captured by two autumnal etchings from a 19th century book (in item 7).

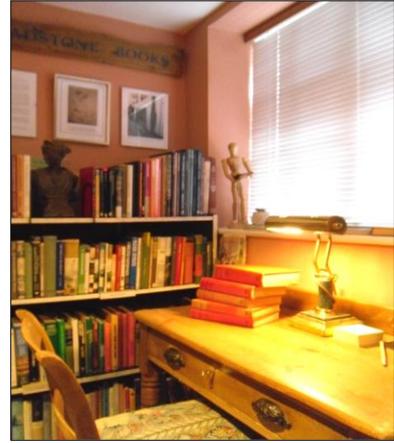
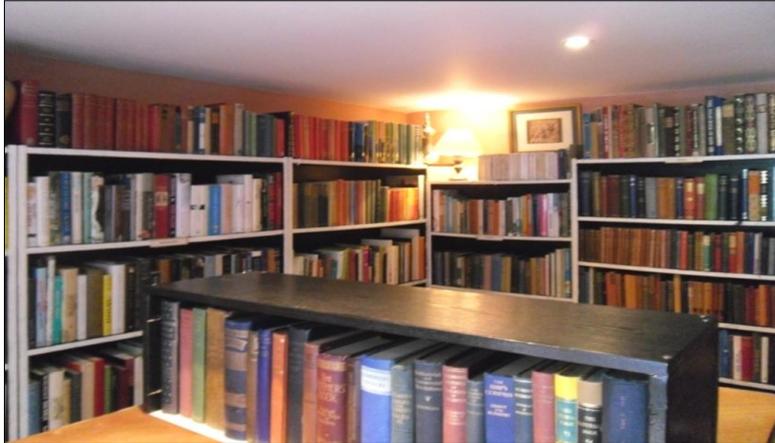
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2. Changes afoot at Gladstone Books

The current plan is for Gladstone Books to become, primarily, a means of selling books online to customers with addresses in the UK. This will entail preparing catalogues, with brief descriptions of each book, which will be posted on my website. As each new catalogue is published it will be advertised on the Sheppard's Confidential website, which is issued weekly at:

<http://sheppardsconfidential.net/SC/Confidential.aspx>

I shall also notify those readers whose emails are on my database for receiving copies of this Review.



Unfortunately, the current Covid19 restrictions and personal family circumstances mean that it will take some time to prepare a range of catalogues, and if the Covid19 restrictions persist much longer, it may not be possible to be make good progress in cataloguing until later this year or earlier next year.

But, apart from online sales, *bona fide* browsers, who will most likely be people living locally or visitors to the town, will be able to view the stock, at their leisure, in a comfortable book room (of which a few photos are shown here) at a private location in Southwell - *providing prior arrangements have been made with me*. Requests to make an appointment should be made by 'phoning **01636 813601**, leaving your name and call-back number if there is no



reply.* In responding, I shall give the exact location and details of measures to be taken with respect to Covid regulations. As the books are located at a private premises, I am anxious to ensure that it does not come to be thought of as a 'shop' that is 'open at all hours.' So I should appreciate it if those who avail themselves of this arrangement would **not publicise** its location.

Because purchases made directly from the book room will greatly simplify the transactions (no packaging, postage or bank transfers etc), books sold in that way will be offered at a substantial discount on the prices to be listed in the catalogues.

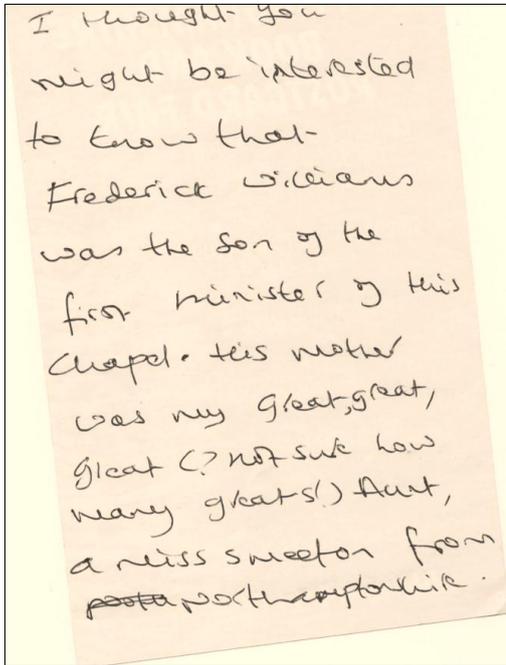
* Visits are currently limited to a maximum of two people (in the same, so-called, 'bubble').

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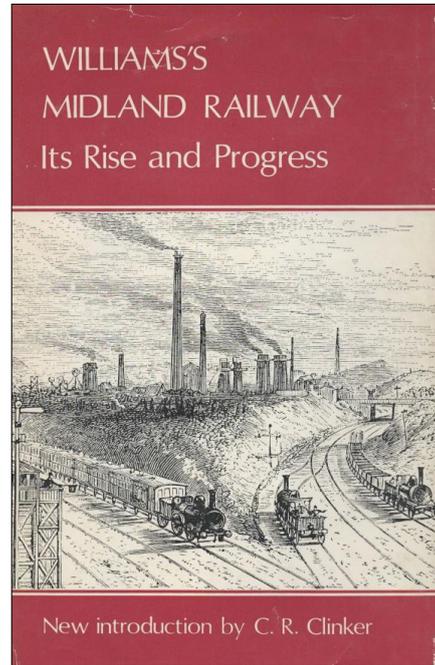
3. A Notable Anonymous Note

Time seems to have moved very slowly this year. It seems hardly credible that only about six months have passed since I left the antique centre in Newark and decided to set up, primarily, as an online service. Covid19 has obviously been a major influence for everyone, but personal circumstances have also had a large effect on my impressions.

Sorting out my book stock in preparation for a new, and for me unfamiliar, form of selling, I came across a book (below) which had been left on my desk at Newark, and contained the hand-written note shown here. The book that had been removed from my shelves, published in 1968, was written by the Rev Frederick Smeeton Williams – and first published in 1876.¹



I thought you might be interested to know that Frederick Williams was the son of the first minister of this Chapel. His mother was my great, great, great (? not sure how many greats!) Aunt, a Miss Smeeton from ~~Northampton~~.



It's a fascinating coincidence, to learn from this hand-written note, that Frederick's father, Charles, had been the first minister of the chapel which much later housed the Newark Antique Centre, especially because (as noted in my article in issue No. 4 of this Review) '*an interesting insight into Charles Williams'* views, was provided by the account given at the Golden Jubilee of the Church in 1873 by his son - the author of this book. It referred to the time when a youthful William Gladstone had been elected as a Tory MP for Newark.

Frederick's address recalled how Gladstone had visited his father, Charles, at his house, and they had discussed the most Christian way of treating slaves – a matter on which Gladstone had doubtless reflected, because his own father was one of the largest slave owners in the British West Indies. Charles strongly disagreed with Gladstone, arguing that the slaves should be freed before any attempt to Christianise them, and not that they should be Christianised before they were freed. Given the recent questioning of Gladstone's views on slavery, it is instructive to consider Frederick Williams's verbatim account, when Gladstone was Prime Minister, as follows:

¹ Given the strict codes of the Victorian era, I suspect that the note's author meant that when he was born Charles' mother had *formerly* been a Miss Smeeton.

years ago, the bread of the poor was embittered by a sense of injustice, for the laws of England were made by the landlords and for the landlords. Fifty years ago there were multitudes of slaves within the British dominion: and I may add that, less than fifty years ago, the present Prime Minister may have been seen in the house of the Independent Minister of this town of Newark, spending hours in the attempt – happily a vain attempt - to persuade the minister that the emancipation of the slaves, pure and simple, was not a good thing, but that the apprenticeship system was far better. I wonder whether Mr Gladstone will advance in the future as he has done in the past. When I think of him sitting in my father’s house in this town defending slavery, and see how far he has advanced, I take encouragement for the days to come.

It seems that Frederick’s ‘encouragement’ was justified, for as noted in the last issue (Review No. 9), Peter Francis, the current warden of the Gladstone Library at Hawarden, claims that by 1850, William Gladstone was ‘*a changed man,*’ *who described slavery as by far the foulest crime that taints the history of mankind in any Christian or pagan country.*

Moreover, he claimed that Gladstone’s record of public office was one of almost unequalled service. He was the driving force behind the emergence of the Liberal party, he was a humanitarian (and) one could even celebrate him as one of the founders of the modern concept of human rights.

Francis concluded: *His was a career worth celebrating, but we memorialise it best by being politically involved, humane and tolerant. In fact, towards the end of his life, Gladstone cited the abolition of slavery as one of the great political issues in which the masses had been right and the politicians wrong, claiming he was brought up to hate and fear liberty, but came to love it.*

Post scripts

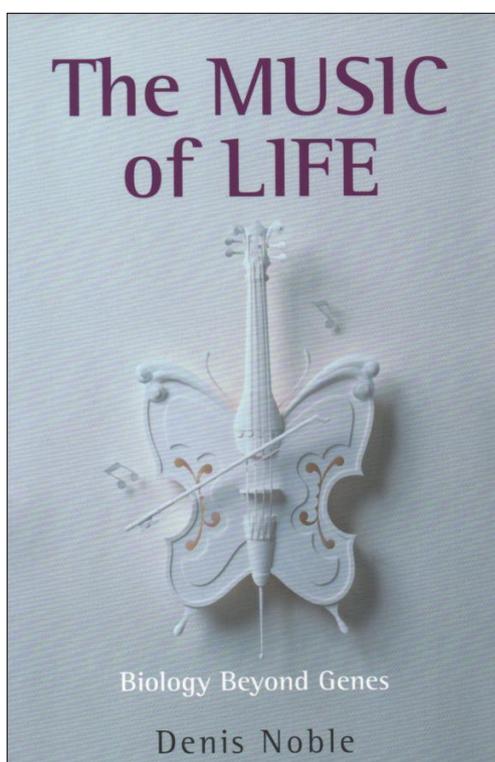
- I regret that the author of the note revealing this connection did not sign it. If he or she comes across this article I should very much like to make contact, and explore the story further.
- Another remarkable coincidence for me was that, although a science student at University College London from 1958 to 1961, I spent those three years living at New College in Hampstead, a theological college training ministers for the Congregational Church, where I enjoyed frequent discussion and debates with students who tended to be older than undergraduates at other colleges. One of the lecturers at New College was Dr Geoff Nuttall, a distinguished church historian, who, I have since discovered, was the great-great grandson of Rev Charles Williams, the first minister at the Newark Church!

4. Metaphors and Myths

A book review of The Music of Life – by Denis Noble

When in 1958, I began my undergraduate course in the Physiology Department at University College London, I was impressed not only by its dazzling array of academic staff, including three Nobel Prize winners, but also by a youthful-looking man who had only just graduated. His obvious academic precocity was demonstrated by the publication two years later in the prestigious science journal *Nature* (before completing his PhD) of two papers describing the first mathematical model of the activity of cardiac cells in causing the heart beat. It was based on calculations entailing use of the-then only, and vast, computer in London University, for which demand for research use from senior academics was so great that this fresh-faced physiologist was only allowed access to it from 1-2 a.m! Unsurprisingly, he went on to lead a stellar scientific career, for 20 years occupying the Burdon-Sanderson chair of Cardiovascular Physiology at Oxford. Although I rarely caught sight of him – he probably rested during the daylight hours after his nocturnal studies!² - I am in his debt for an introduction to the ideas of the philosopher of science Karl Popper, that he discussed in a departmental seminar and which have greatly influenced my own thinking.

Now in retirement, but still a very active one, Noble has promoted an approach to the study of biology that has been largely overlooked, for perhaps the last 50 years, as the description of development and control of living organisms has focused on the influence of genes. In seeking to rectify the imbalance which he sees in the way that such so-called ‘bottom-up’ explanations of biology have assumed dominance – not only in the scientific laboratory, but also in public perceptions – he argues for a revival of integrative approaches, under the relatively new label of *systems biology*. (It is an approach with which I agree strongly.³) It would be difficult to imagine anyone better equipped to explore such issues, because not only has he had a highly productive scientific career, but he is also undoubtedly an accomplished philosopher of science.



In the space available here, it would be impossible to provide a synopsis that could satisfactorily convey any realistic sense of Noble’s virtuosic display of erudition in presenting his case. Exploring the way in which the different organ systems of the body are integrated in a ‘top-down’ manner he draws fascinating parallels with Chinese writing systems (the number of characters of which – 30,000 - matches the number of genes in the

human genome!), the variety of Indian curries that are prepared from exactly the same recipe, and the quite different performances given by orchestras following the same musical scores. He even

² For which, I am indebted to a reader for pointing out, the word *lucubrations* is appropriate – being defined in Dr Johnson’s Dictionary as *intense study carried out by candlelight*.

³ For readers doubting the relevance of science to a literary journal, it’s worth reminding them that we are all animals, governed by biological drives and limitations, and subject to malign influences such as disease (e.g. Covid19), food (e.g. obesity), environment (adverse climatic changes) and health (now often controlled by drugs, including mental disorders caused by stress), which all affect, and/or are affected by, our cultural status.

espouses the long-rejected theory of Lamarck in the 19th century, which argued for the inheritance of acquired characteristics (a view, incidentally, also assumed by Darwin).

Recently, Denis Noble has published two books that challenge the *conventional wisdom of the dominant group* of scientists (a phrase Conrad Waddington mischievously abbreviated to CWDNG), claiming that the latter (also called neo-Darwinists) have hi-jacked the field of enquiry into the crucial question ‘*What is life?*’ This question, famously addressed in a book with that title by Erwin Schrödinger (of the eponymous *cat*) has provided the stimulus for many philosophically-inclined biologists to speculate on this momentous enigma, and in *The Music of Life* Noble certainly advances some highly persuasive reasoning in support of his claims.

He begins the short book (of only 150 pages) by pointing out the power of metaphor, which can play just as significant a role in scientific reasoning as it does in poetry. While Shakespeare’s *Shall I compare thee to a summer’s day, thou art more lovely and more temperate* might be a prime example of metaphor, it’s doubtful that many people are persuaded that the lady in question is really anything like a summer’s day. But when metaphors are deployed in scientific descriptions they are apt to imply more credible objectivity. For example, a highly influential metaphor that seeks to describe the role of genes was put forward by Richard Dawkins in *The Selfish Gene* (1976), in which he described them as follows:

Now they swarm in huge colonies, safe inside gigantic lumbering robots, sealed off from the outside world, communicating with it by tortuous indirect routes, manipulating it by remote control. They are in you and me; they created us body and mind; and their preservation is the ultimate rationale for our existence.

As an alternative to the above metaphor, Noble suggests the following in which the alleged dominant role of genes is replaced by a viewpoint in which they are regarded as ‘prisoners’:

Now they are trapped in huge colonies, locked inside highly intelligent beings, moulded by the outside world, communicating with it by complex processes, through which, blindly, as if by magic, function emerges. They are in you and me: we are the system that allows their code to be read; and their preservation is totally dependent on the joy we experience in reproducing ourselves. We are the ultimate rationale for their existence.

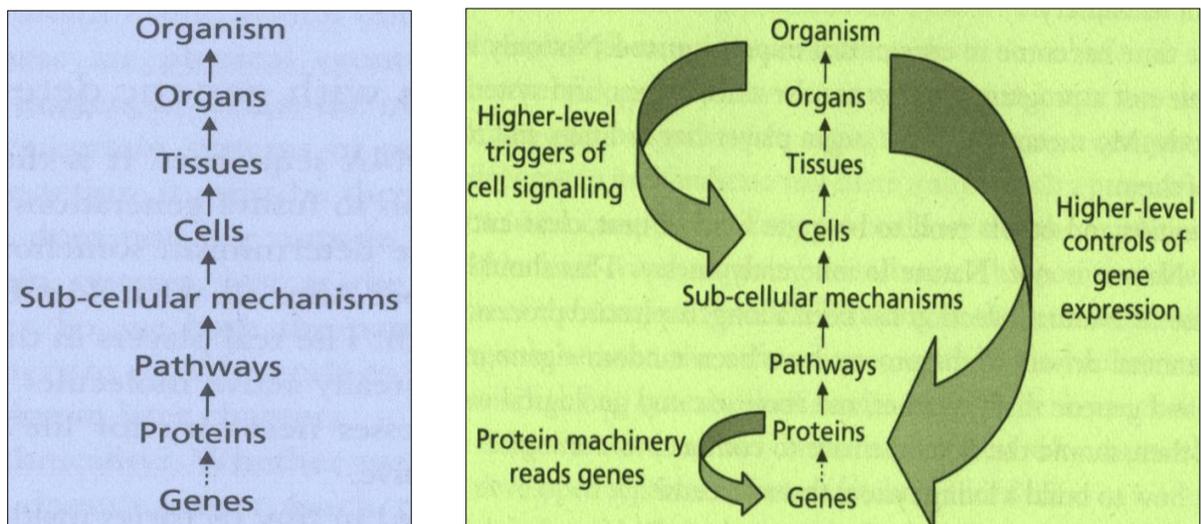
Although the latter alternative might appear strange to many who have uncritically accepted Dawkins’ metaphor, Noble reports that despite asking many fellow scientists which of the above two statements is the more accurate, no one has been able to think of an experiment that would be able to detect an empirical difference between them. Indeed, in a 1982 book, Dawkins admitted that *he doubted there was any experiment that could be done to prove his claim*. Even so, presumably because of his acknowledged skills as a populariser of science, the idea that genes can be ‘selfish’ and that we as individuals are ‘lumbering robots’ whose likes, dislikes and actions are governed by directions encoded in genes, has become absorbed into many people’s mindset. Such is the power of metaphor.

Reviewing a book for a general readership that proposes a contentious scientific theory, even one of which the author has taken great pains to make it understandable by non-scientists, is a challenging task. But I believe Noble’s case is so strong, and provides such an important corrective to the unjustified reductionism that pervades popular culture, that my attempt to disseminate his claims more widely is merited, even though it may not be as successful as intended.

Perhaps, I need to start with a brisk tutorial on genes. The 30,000 genes in the human *genome* (the full set) are composed of DNA, the relatively simple chemical composed of four subunits, which are

linked together in long chains and located in the chromosomes of cells. The different genes act as codes for directing the synthesis of proteins (e.g. those in muscle, body tissues and blood) from the 20 different amino acids – the difference between proteins being largely a consequence of the different sequences in which the amino acids are joined together. Enzymes, proteins which catalyse chemical reactions in cells, also exert great influence over the direction and rate of metabolic change in body cells. Because the genes play a large part in directing the development and activity of cells it is common to regard them, collectively, as the *blueprint* for making new biological structures, and hence new organisms – such as people.

The blue diagram summarises this ‘bottom-up’ process which is proposed by those, like Dawkins, who claim that the genes, as the instigators of the whole chain of events, are the principal agents in determining the destiny of all living organisms. And now, almost in common parlance, a skill for which a person demonstrates an aptitude is often said to be ‘*in her/his DNA.*’



This ‘bottom-up’ sequence purports to explain the process of life, thereby answering Schrödinger’s question. In sexual reproduction genes contributed by both parents may introduce useful novelty into individuals’ genomes; while chance errors in replication of genes (*mutations*) can produce even larger effects – resulting in the emergence of new species. In the ‘struggle for survival’ these occasionally lead to beneficial outcomes – of which evolution is the visible consequence. Given that *survival* is the name of the game, and that is considered to be a case of *every gene for itself*, it is hardly surprising that selfishness is often thought to be inevitable and attempts to live more altruistically as futile. Two important assertions are made on the basis of this theory: i) the flow of information is solely from the genes upwards; ii) biological research programmes must pursue the same unidirectional approach.

Noble, while accepting that genes play a vital role, challenges the pre-eminence assigned to them, for there is now much evidence that the expression of genes is profoundly influenced by factors higher-up in the chain of events (as illustrated in the green diagram). For example, for individual people, the food consumed, the environment exposed to, stresses endured, behavioural patterns adopted and habitual energy expenditure etc. may all influence the roles played by genes. Genes are, after all, just chemicals, which are only active in the environment of particular cells, and those cells are similarly affected by higher-order factors. It follows that it is highly questionable to attribute to them a psychological characteristic like ‘selfishness.’ But when challenged by philosopher Mary Midgley as to whether he considered the *selfish gene* to be just a metaphor, Dawkins replied ‘*That was no*

*metaphor. I believe it is the literal truth.*⁴ It is surprising, to say the least, that despite holding such a view, he was the Professor of the Public Understanding of Science at Oxford from 1995 until 2008.

The reason for my surprise is as follows. The distinguished linguists George Lakoff and Mark Johnson, in their authoritative book, *The Metaphors We Live By*, advance a far less dogmatic assertion.⁵ For them, *The essence of metaphor is understanding and experiencing one kind of thing in terms of another*: but the association made between them is invariably subjective – as demonstrated by Noble’s alternative description of the role played by genes in the above quotation. The point is perhaps made more clearly by recognising that metaphors pervade human discourse. For example, the metaphorical concept ***Time is Money*** is reflected in many phrases that are uttered intuitively, with little or no forethought – as in: *you are wasting my time; how do you spend your time?* and *he’s living on borrowed time*. Or take the way the discursive process of reasoned discussion is often conceived in terms of the concept that ***Argument is War***. For example, *I demolished his argument; his criticisms were right on target;* and *he shot down all my proposals*. But ***time*** might be considered to be the basis of joyful recollections, and ***argument*** as the logical structure of a fruitful dialogue.

The fact is that use of metaphor is a fundamental mechanism of the mind, which allows us to use what we (think we) already know about our physical and social experience to provide understanding of newly-encountered experiences. In our modern world, where the stable states of yesteryear are being constantly replaced by new threats and new opportunities, resort to metaphor is called on to structure our most basic understandings of novel experience. In this there is an understandable urge for lay people to put their trust in acknowledged experts in the burgeoning fields of science and technology. The snag is that the uncritical or naive use of metaphor can be highly misleading, because they can easily shape perceptions and actions without those people using them ever recognising their limitations. Apparently, even an Oxford professor of the public understanding of science can be unaware of the inevitably subjective nature of metaphor.

In both depth and breadth Noble’s book is certainly a heroic attempt to introduce philosophical questioning into the study of life’s processes. For him, the creativity of musicians (another of his skills) in their interpretation of a musical score (analogous to the genetic code) is an apt metaphor consistent with ‘top-down’ approaches. In the final chapter he addresses the thorny issue of consciousness and, citing Buddhism as a seminal influence, argues that contrary to the view of Descartes and many present-day neuroscientists, the ‘*I*’ (perhaps otherwise designated the *self* or *soul*) is not located in a brain structure, but is the result of *processes* occurring in the body.

In a recent Gladstone Review (No. 9, article 3) I referred to the modern concept of myths as discussed by sociologist of science, Sheldon Krinsky. To quote my article: *He stressed that the term myth was being used judiciously, not to denigrate one side or the other – but to signify a cultural story that embodies hope, expectations, moral attitudes, fears or positive visions of modernity. Such myths are mental constructions that transcend the real world into a virtual world of expectations.* We can be certain that such myths are assembled by alleged ‘judicious’ use of metaphors, so that the result is a seemingly solid bank of evidence supporting the chosen myth.

I suggest that there is only one appropriate strategy in these circumstances – for science courses at all educational levels to include considerations raised by the philosophy of science, thereby avoiding subjective opinion being mistaken for ‘literal truth.’

BM

⁴ D Noble (2014) Lecture *What is Life?* <https://www.youtube.com/watch?v=hS6PDOcJwY8>

⁵ George Lakoff and Mark Johnson *Metaphors We Live By*. University of Chicago Press (2003)

Dover Beach

Matthew Arnold (1867)

Illustrated by Linda Hunter

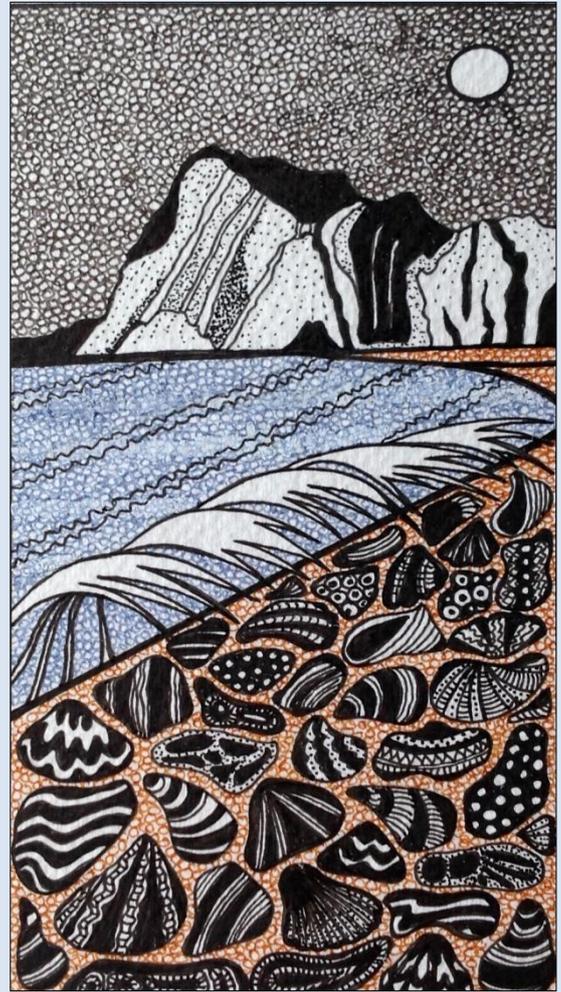
The sea is calm tonight.
The tide is full, the moon lies fair
Upon the straits; on the French coast the light
Gleams and is gone; the cliffs of England stand,
Glimmering and vast, out in the tranquil bay.
Come to the window, sweet is the night-air!
Only, from the long line of spray
Where the sea meets the moon-blanch'd land,
Listen! you hear the grating roar
Of pebbles which the waves draw back, and
fling,
At their return, up the high strand,
Begin, and cease, and then again begin,
With tremulous cadence slow, and bring
The eternal note of sadness in.

Sophocles long ago
Heard it on the Ægean, and it brought
Into his mind the turbid ebb and flow
Of human misery; we
Find also in the sound a thought,
Hearing it by this distant northern sea.

The Sea of Faith

Was once, too, at the full, and round earth's
shore
Lay like the folds of a bright girdle furled.
But now I only hear
Its melancholy, long, withdrawing roar,
Retreating, to the breath
Of the night-wind, down the vast edges drear
And naked shingles of the world.

Ah, love, let us be true
To one another! for the world, which seems
To lie before us like a land of dreams,
So various, so beautiful, so new,
Hath really neither joy, nor love, nor light,
Nor certitude, nor peace, nor help for pain;
And we are here as on a darkling plain
Swept with confused alarms of struggle and
flight,
Where ignorant armies clash by night.



Comment

Arnold's poem has often been seen as marking a turning point in people's religious perceptions. *It expressed the sense (then increasingly common) that the ancient supernatural world of gods and spirits ... was inexorably slipping away: and that the English social and religious order that had resisted the encroachment of unbelief was no longer strong enough.**

Linda's strikingly evocative image (above) gives the poem enhanced significance for our contemporary world in several ways. For some, it may epitomize humanity's current crisis under the threat of Covid19; for others, Britain's self-imposed isolation from its global neighbours in an increasingly interdependent world. For yet others, despite the woeful omens, it may express the value of a religious sense that is not grounded in scriptural theology – but in a mature, reflective *sea of faith*.*

*D Cupitt, The Sea of Faith, BBC, 1984

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6. *The Anatomy of Melancholy* **by Robert Burton: the *magnum opus* of a 17th century polymath**

The effects of the Covid19 pandemic have been so pervasive that there has been a tendency to concentrate on the more dramatic ways in which it has affected our wellbeing; ways in which, however difficult to quantify accurately, it has led to increased mortality and severe financial crises. However, rather less newsworthy ways in which it has impacted on society as a whole are the consequences for mental health. A recent authoritative study revealed that ‘*More than two-thirds of adults in the UK report feeling somewhat or very worried about the effect COVID-19 is having on their lives. The most common issues affecting wellbeing (of over half of adults) are worry about the future and feeling stressed or anxious.* It proceeded *all population subgroups showed statistically significant increases in mental health problems, which were most pronounced among young adults, females, and those with a higher level of education (e.g. graduates) and were greater among those aged 18-34 than 50 – 64.*⁶

But, devastating as the pandemic has been, and continues to be, it would be naive to imagine that humanity has not previously faced major threats that, in many cases, were far worse than Covid19. For example, life expectancy in the UK in the 17th century was about 40 years, whereas now it is about 90 years. Is it conceivable that we might learn something useful from the ‘wisdom of the ages’ in coping with the condition formerly known as *melancholia*?⁷

Our most notable, and prolix, guide in that quest would surely be Robert Burton, a 17th century polymath who wrote *The Anatomy of Melancholy* which, in the words of literary critic Nicholas Lezzard, is surely *the best book ever written: the book to end all books!*⁸ Drawing on all the knowledge then recorded and available, Burton set out to explain and account for, not just melancholy (in modern terminology now dubbed *clinical depression*) but also for *all* human emotion and thought.



Such an ambitious project, that was to encompass virtually all aspects of human thought and emotion, was surely only realisable by someone with a prodigious depth of learning and uncommon stamina. In fact, it proved to be a veritable masterpiece of style and an invaluable guide to the philosophical and psychological ideas of the time.

Burton was born in 1577 at Lindley in Leicestershire, a village near the Warwickshire border. After school in Nuneaton and at Sutton Coldfield Grammar School, he entered Brasenose College at Oxford University. In 1599 he was elected a Life Fellow of Christ Church, the college where he spent virtually the rest of his life, and where he wrote *The Anatomy*. He became a bachelor of divinity in 1614, vicar of St. Thomas’s Church, Oxford in 1616, and was also appointed rector of the parish church at Seagrave in Leicestershire – incidentally, a village a mere six miles from where I lived with my young family in the 1970s, although at the time I was unaware of this historic association.

⁶ *Longitudinal changes in mental health and the COVID-19 pandemic: evidence from the UK Household Longitudinal Study* (2020). <https://doi.org/10.31234/osf.io/qd5z7>

⁷ A mental condition characterized by *great depression of spirits and gloomy forebodings*. Translated literally, as ‘black bile’, it refers to one of the four body *humours* (along with blood, phlegm and yellow bile) described in ancient Greek medicine, the appropriate balance between which was crucial in maintaining a healthy state.

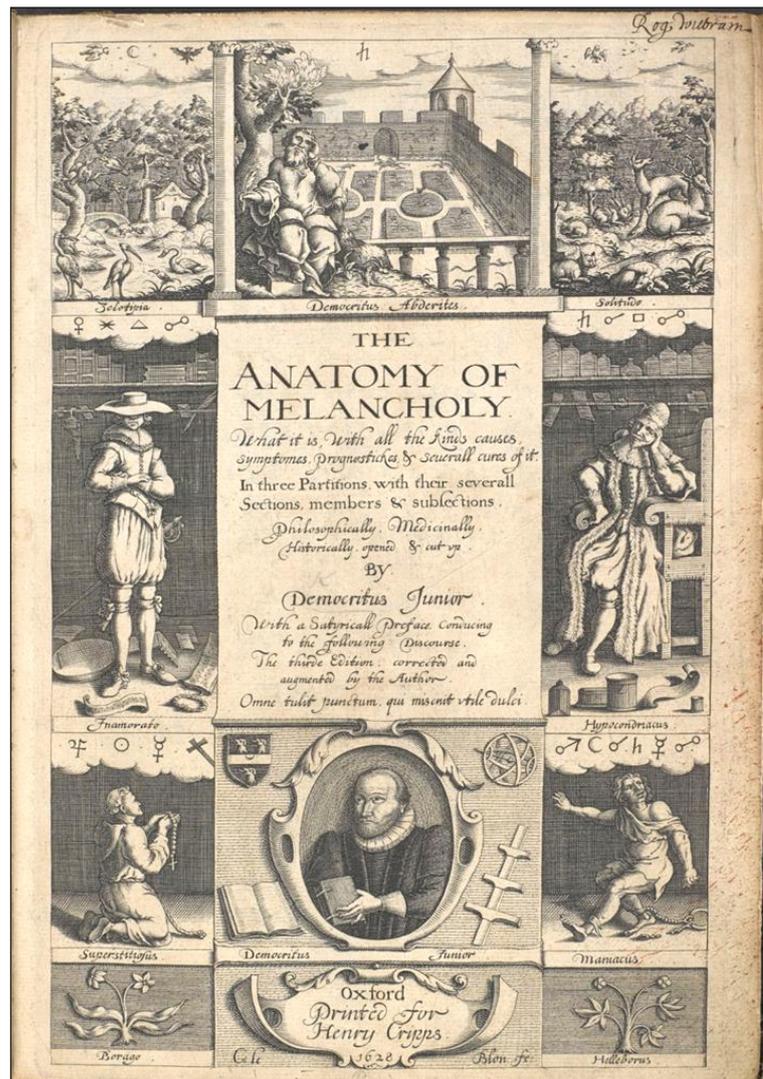
⁸ N Lezzard (2001) *The book to end all books* Guardian newspaper 18.08.01. (Review)

The first edition of the book was published in 1621, but revisions and amendments led to him producing five more editions, the last in 1676. Despite its title, the book was clearly not meant to be concerned solely with medical matters. The full subtitle was *What it (melancholy) is; with all the Kindes, Causes, Symptomes, Prognostickes and Several Cures of it: In Three Maine Partitions With Their Several Sections, Members, and Subsections, Philosophically, Medicinally, Historically Opened and Cut up.*

As the frontispiece (shown here, which first appeared in the edition of 1628) announces, it was written by *Democritus Junior*. Burton adopted this *nom de plume* to identify with the character of the ancient Greek philosopher, who used to *recreate himself by laughing at the absurdities he encountered on his walks*. Similarly, Burton used to *repair to the bridge foot at Oxford and listen to the bargemen swearing at one another – at which he would laugh most profusely*. For he claimed that *he wrote of melancholy to avoid melancholy*. .

At the top of the title page is a representation of Democritus and, below the title, one of Burton. The images at the sides illustrate the effects of *Love Madness, Hypochondriasis, Religious Melancholy and Mania*, while at the top corners are the herbs *borage* and *hellebore*, esteemed for their powers against *Melancholy and Madness*.⁹ But the book doesn't just describe Burton's thoughts on melancholy, but those of everyone who had ever thought about it, or indeed about supposedly related things, such as goblins, beauty, the geography of America, digestion, the passions, drink, kissing, jealousy, and scholarship!

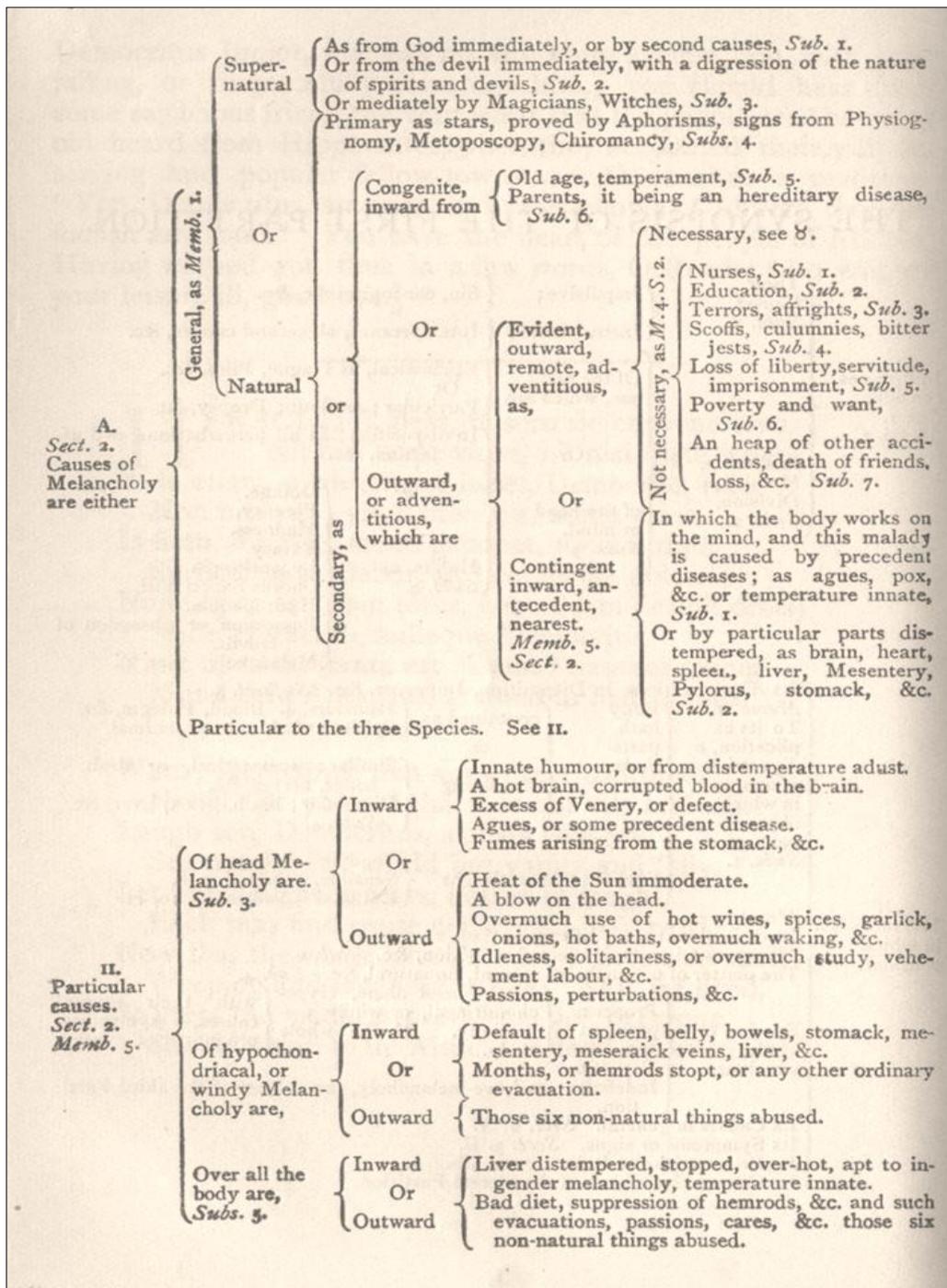
In truth, he opines: *'tis the common fortune of most scholars to be servile and poor, to complain pitifully, and lay open their wants to their respective patrons and for hope of gain to lie, flatter, and with hyperbolic elogiums and commendations to magnify and extol an illiterate unworthy idiot for his excellent virtues, whom they should rather, as Machiavel observes, vilify and rail at downright for his most notorious villainies and vices.'* But it is apparent that Burton is definitely on the side of the angels, that he's prepared to be controversial and (the saving grace) he can be very amusing. As he himself described it, Burton led a silent, sedentary and solitary life. But he was certainly not a scholar who was remote from the affairs of humanity. For it is obvious that he was as well aware of the common habits and pastimes of his day as he was of the ideas of the ancients and, for example, as



⁹ Here, and subsequently, most quotations from the text are italicised

eager to recommend a rational diet to alleviate ill temper as he was to relate human disorders to his own essentially Christian view of the universe.

What is perhaps most distinctive about Burton's analysis is the painstaking way he marshalled his arguments within a complex logical framework. In the first part he set out to define melancholy, discuss its causes, and then catalogue the symptoms. The second part is devoted to ways in which it might be treated, while Love Melancholy is the subject of a major portion of the third part.



One of the four pages of the Synopsis of the First Partition of Volume 1

Throughout the book, Burton shows himself to be a supreme narrator and the source of countless *bon mots*. But to represent an example of his style, we shall have to be content with just one quotation, which appears in volume 3, pages 164-5 of my 1926 edition.¹⁰

Melancholy, the subject of our present discourse, is either in disposition or habit. In disposition, is that transitory *Melancholy* which goes and comes upon every small occasion of sorrow, need, sickness, trouble, fear, grief, passion, or perturbation of the mind, any manner of care, discontent, or thought, which causes anguish, dullness, heaviness and vexation of spirit, any ways opposite to pleasure, mirth, joy, delight, causing frowardness in us, or a dislike. In which equivocal and proper sense, we call him melancholy, that is dull, sad, sour, lumpish, ill-disposed, solitary, any way moved or displeased. And from these melancholy dispositions, no man living is free, no *Stoick*, none so wise, none so happy, none so patient, so generous, so godly, so divine, that can vindicate himself; so well-composed, but more or less, some time or other, he feels the smart of it. Melancholy in this sense is the character of Mortality. *Man that is born of a woman is of short continuance and full of trouble. Zeno, Cato, Socrates himself, whom Aelian so highly commends for a moderate temper, that nothing could disturb him; but going out and coming in, still Socrates kept the same serenity of countenance, what misery soever befell him (if we believe Plato his disciple) was much tormented with it.*

Even in the midst of laughing there is sorrow, even in the midst of all our feasting and jollity, there is grief and discontent. .. If thou canst not brook it there is no way to avoid it, but to arm thyself with patience, with magnanimity, to oppose thyself unto it, to suffer affliction as a good soldier of *Christ*, *Paul* adviseth, constantly to bear it

Despite this brusque advice, Burton fills nearly 1400 more pages expanding on the causes, nature and cures for melancholy!

Post Script

During May this year, a series of 12 short programmes was broadcast on BBC Radio 4 (*The New Anatomy of Melancholy*) - at a time when clinical depression is recognised as the leading cause of global disability - which aimed to assess how far we have come in addressing the severe challenges to our mental health. (I only made this discovery *after* writing this piece.) In particular, it sought to answer the question ‘*Has Burton’s contribution had a lasting effect?*’¹¹

The presenter, Amy Liptrot, who has written about her recovery from alcoholism in her 20s and the impact of her father’s bipolar disorder, says: ‘*In making this series, it’s been fascinating to compare the cutting edge of today’s psychiatry and people’s 21st century experiences with depression, with the ideas of Robert Burton. It’s often amazing how relevant and prescient he was, writing 400 years ago. We’ve explored the part of melancholy in the human condition, how it can be alleviated and lived with - and the unique voice of Burton has been a brilliant guide through it all.*’¹²

Is there a moral here? For, to ignore the profound thoughts of past thinkers may, in our hectic lives, deprive us of wisdom we leave ourselves too little time to re-discover.

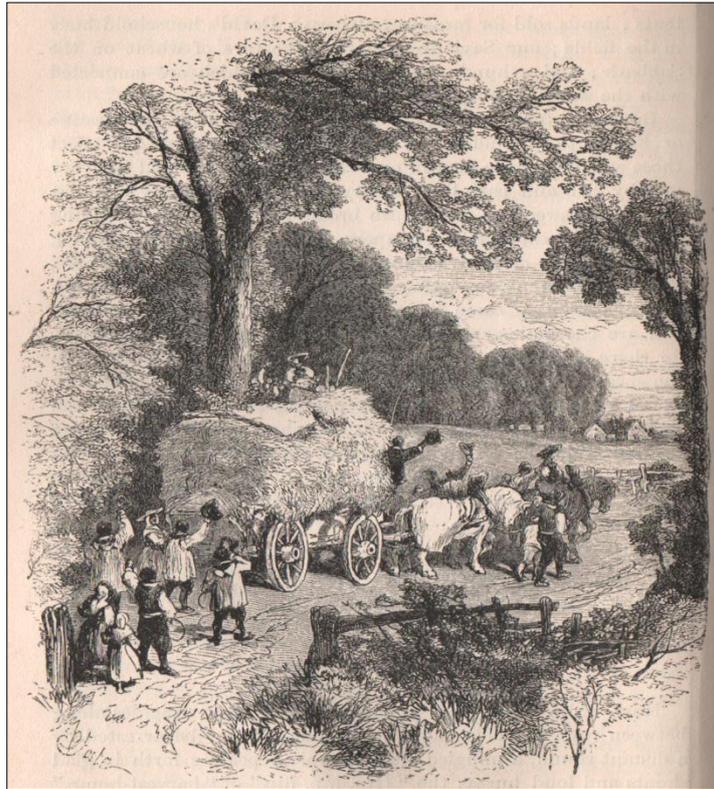
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¹⁰ *The Anatomy of Melancholy*. in three volumes, (introduction by A H Bullen, 1893) G Bell.

¹¹ <https://www.bbc.co.uk/programmes/m000j1jq/episodes/player?page=1>

¹² <https://www.ox.ac.uk/news/arts-blog/new-anatomy-melancholy>

7. Atmospheric etchings from *English Country Life*: Thomas Miller (1861)



Harvest time



Forest Scene in Autumn

8. Robert Bakewell of Dishley, Leicestershire the 18th century pioneer of farm animal breeding: an assessment

Julian Wiseman

Agricultural science has long been considered a ‘cinderella science,’ lacking the glamour of astrophysics or medical research. But its overall impact on our day-to-day living, providing our *bread and butter* sustenance, is probably of greater practical importance than much science that grabs the headlines. Reviewing the history of developments in agricultural science often uncovers the roots of what became cultural norms – and of external factors that shaped them. Take meat, for example.

The demand for animal products during the 18th and 19th centuries was characterised by an increasingly important market for meat and milk, and a relative decline in the value of wool which had a considerable role in the rural economy of the country – a development associated with a change in emphasis in the animal farming sector. For example, meat was regarded less as a secondary product of the wool industry, where sheep would have been sent to slaughter only after several years of shearing, or from cattle as draft animals, but more as an important commodity in its own right. Thus, animal farming, within the context of the *Agricultural Revolution*, became primarily concerned with meat production and its improvement through breeding, feeding and general management skills.

The livestock resources available to the innovative farmers of the 18th century - the gene pool from which they extracted the animals to meet this changing demand - were characterised by their inefficient meat production. Unsurprisingly, the old Leicester sheep had been described as being *of the largest size possible and carrying the heaviest fleece (but) slow feeders*.¹ Meat was of doubtful quality *having but little flavour and no delicacy*.² Pigs were described similarly, e.g. those originally from Nottinghamshire being *as difficult to make fat as (it was) hard and unpalatable to eat*,² a description which could be applied to animals throughout the country.³ These were coarse, heavy boned, possessing large amounts of offal and uneconomical feeders. Moreover, meat quality was viewed in terms of its fat content, e.g. with lean bacon being described as *the most wasteful thing a family can use*.⁴ Thus an additional drawback of animals was their lack of aptitude to fatten.

It is frequently claimed that this rather unpromising collection of stock was ‘improved’ by the pioneer breeders of the 18th and 19th centuries to a level of ‘perfection’ such that it subsequently possessed *an aptitude to fatten in the shortest possible space of time*.¹ The implication has always been one of change in animal performance achieved with sophisticated breeding programmes based necessarily on the identification of superior stock which were then used as the breeding generation. This would highlight the importance of those involved in the breeding of animals, but it appears to underestimate the role of those concerned principally with the feeding and general management of stock.

Robert Bakewell of Dishley (near Loughborough, UK) is invariably associated with improvements in animal performance through breeding during the 18th century and the New Leicester or Dishley breed of sheep achieved a reputation second to none as a supplier of meat. The methods employed in his breeding programme were never recorded - secrecy that was entirely consistent with his undoubted ability as a businessman keen to avoid providing much assistance to competitors in what was to become an extremely lucrative occupation. However, the limited evidence suggests that Bakewell initially selected those animals from within the local population that already conformed to his preconceived notion of the ideal meat type. He very astutely recognised a developing market for mutton and took steps to meet it. It is important to appreciate that breed uniformity was virtually non-existent at the time. Variability amongst, and within, flocks must have been considerable and despite the predominance of larger animals kept for wool production, smaller, more compact and meatier

animals must have been available. The reduced size would have been an additional advantage as both breeding and fattening stock would require less food - of importance to Bakewell whose farm was not on particularly rich land. Bakewell apparently went further afield, e.g. to the Yorkshire wolds, in his search for the desired type.⁵ Furthermore, he wasn't averse to a little subterfuge as, during his interest in Longhorn cattle, which were also of some considerable importance, *'his best cows it is believed were artfully obtained from Mr Webster of Canley'*.⁵ Thus the first stage of the breeding programme was complete.



A portrait from 'Robert Bakewell' by H C Pawson (1957)

Further objectives were concerned with maintaining the desired type and improving its productivity. The former would have presented considerable problems. Despite a broad uniformity in appearance - the reason after all for their initial selection - the stock must still have been heterogenous. Most contemporary sources agree that the broad principles behind his breeding policy - the method by which he attempted to resolve these difficulties by reducing genetic variability and breeding a flock with less and less diversity in appearance - involved inbreeding. This was a particularly contentious practice not least because of ecclesiastical law through which it was prohibited and it is not inconceivable that Bakewell's reluctance to divulge information relating to his methods of breeding was associated with this.

Continual improvement in productivity through breeding is even more difficult, because it requires the ability to quantify animal performance (e.g. growth rate) and separate any genetic improvements from those due to environment (e.g. feeding). How much Bakewell achieved this objective is unknown. He reputedly conducted experiments comparing performance of different individuals⁵ but he refused to divulge any results, retorting only that he would supply the necessary stock so that the trials could be repeated by others. His experience in sheep breeding may, however, have been important in allowing him to select better animals by 'eye' and 'feel'. Additionally, his well known ram-letting would have offered an excellent opportunity to assess individual performance simply by checking on their progeny (i.e. how the offspring performed) the following year. Progeny testing is an important aspect of animal breeding programmes and its ability to contribute to genetic improvement is proportional to the number of progeny involved. Ram-letting to other farmers allowed Bakewell to assess considerably more progeny than if he had been confined to his own flock. In fairness, however, such a procedure was common before Bakewell. Moreover Lincolnshire farmers who practised it expected payment only after the results of the ram's activities were apparent (i.e. numbers and quality of lambs born),⁶ whereas Bakewell fixed the amount at the time of letting before any such assessment could be made. Arguably, Bakewell's achievement as an animal breeder was more in fixing and maintaining a specific set of characteristics rather than in improving the performance of a given flock.

Unquestionably, the Dishley breed of sheep admirably met the existing market demand and was described as having *superiority beyond a doubt; its disposition to fatten, the whole length of its body is loaded with fat.*⁵ Better carcass quality was linked to both the amount and distribution of fat *a favourite point aimed at by the late Mr Bakewell (was) that of laying on of the fat outside the ribs rather than within them where it could neither be seen or felt.*⁷ The money changing hands at the annual ram-letting was considerable and the breed was referred to in glowing terms by such eminent and influential authors such as Arthur Young and William Marshall.⁹ True, there were dissenters: one disapproving individual is reputed to have exclaimed *Your mutton was so fat I could not eat it!*. Bakewell's curt response was *'Sir, I do not breed sheep for gentlemen but for the public.*⁵

The Dishley sheep were indeed smaller, earlier maturing and readily fattened and their influence upon upgrading many coarser breeds of the country was considerable. The value of the breed however was to cross-breed onto another breed or type. The degree to which this cross-breeding took place varied, usually according to the specific type of animal required, the environment and the type of food available. Thus *the true Lincoln is a larger sheep and with a longer wool and therefore demands better pasturage; where it finds such the old breed remains. Upon inferior land the Leicester establishes itself, from the necessity of having smaller size and shorter wool.*⁹ The distinction



between pure breeding and fixing a specific type and the use of these animals in subsequent cross breeding programmes to produce the meat generation (a distinction of relevance even today) was rarely made by contemporary authors who praised the all-round performance of the Dishley sheep, although doubts about its value gathered momentum even during Bakewell's lifetime.

(Left) Bakewell's fireside chair, subsequently in the possession of the Royal Agricultural Society of England. On the back, an inscription reads: This chair was made under the direction of the celebrated Robert Bakewell of Dishley, out of a willow tree that grew on his farm. It was his favourite seat and the back which thus records his memory served as a screen when seated by his fireside calculating on the profits, or devising some improvements on his farm. Thousands of pounds have been known to exchange hands in the same.

From Pawson's Robert Bakewell, 1957. p.16

However, due to Bakewell's seemingly unrivalled popularity and success, many sought to emulate his methods. In-breeding was used by others with a varying success. These developments were not new and had been fundamental to the breeding of animals with more social than utilitarian value for many years¹⁰ but their adoption in farm animals breeding was more recent. Consequently, an increasingly vitriolic debate ensued with the leading owners of specific breeds, the chief protagonists each fiercely advocating their own as the best. Many activities were unscrupulous and Arthur Young wrote of a Mr Johnson who complained that Bakewell had purchased his ugliest and worst Lincoln and exhibited it at Dishley presumably with obvious motives.⁶ In addition to this petty interbreed rivalry, the obsession with animal appearance was such that *so decided are the best breeders in favour of a symmetrical appearance that many animals are draughted in consequence of want of uniformity or owing to their possessing some line of blood that has proved injurious.*¹¹

What might we conclude from this analysis? Far from contributing to the increased supply of meat, it could be argued, in fact, that the activities of many breeders ran counter to this objective. In addition, and despite the undoubted contribution of breeders in supplying specialist animals for use in livestock farming for meat production, it has been suggested that undue importance is attached to the actual improvement in animal performance by selection methods. Thus an increase in carcass weight of two-shear Leicester wethers from 101 pounds to 176 pounds, in only the 15 years from 1794 to 1809,⁷ far from representing an improvement in genotype (in reality such a result would be quite impossible) is more likely evidence for the advances in feeding and management at the time (accepting the use of a more meaty type of animal). Even the carcass quality of animals was not completely influenced by the breeder and could be altered by management practices.

Thus although the Dishley sheep were thought *capable of (becoming equally fat with bacon)*' the description continued *'it does not follow that they need to be fatted to that degree; by hard stocking they may be kept down to what degree the owner chooses*⁵. Bakewell himself admitted that *even my mutton may be kept leaner to suit every palate by stocking harder in proportion and by killing the sheep in time*⁵ which suggests that he himself may not have wholeheartedly supported the opinions of many others that he had bred his sheep to perfection.



Finally, it should be appreciated that even specialist livestock farmers were relatively uncommon. Mixed farming was still the dominant system and the nature of, and improvements to, arable farming would have been crucial to both the role of the animal and its productivity. It is evident that any comprehensive analysis of animal productivity must examine the integration of livestock farming into general farming systems.

The New Leicester¹³ *It is generally thought that 'New Leicester' and 'Dishley' breeds were synonymous, although we can't be certain.*

Postscript

Intriguingly, it is considered by many that Bakewell influenced Charles Darwin's views on the origin of species. Darwin appreciated that animal form could be altered by selecting for specific attributes /characteristics, citing Bakewell as an example of someone who had done this¹². Darwin quotes¹³ William Youatt who observed that, with two farmers who had flocks based on the Dishley breed, the two flocks were significantly different in form, attributable either to different breeding objectives or what Darwin referred to as 'unconscious selection.' Species could thus be made more 'fit' for human use ensuring their increased likelihood of survival.

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