The Genius Debate and Jeremy Bentham

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'When a true genius appears in the world, you may know him by this sign, that the devils are all in confederacy against him.'

(J. Swift, 'Thoughts on various subjects, moral and diverting', October 1706)

From the Middle Ages to the end of the seventeenth century the word genius was generally used to refer to the attendant spirit possessed by a person or a place. In some respects this was reminiscent of an older usage by Socrates when he described his own personal 'demon' warning of evil and speaking of good – a constant spiritual navigator on the ocean of life. For the ancient Romans genius was held to attach to a family or a clan, a genius which embodied a person's fate or destiny and by which individuals were to be guided. Vestiges of these earlier meanings could still be found in the eighteenth century, most conspicuously in the writings of Herder, who propounded an anti-rationalist view in his disquisitions on the genius of the race, a semi-mystical manifestation of cultural identity in which the genius of the individual figured simply as an expression of the general genius or spirit of the race. This set Herder's thinking apart from the general thrust of Enlightenment thought, though Montesquieu provided him with more than a few leads in this approach to the subject, and in Britain the poet William Cockin could still refer to the genius of the place and not the person in an 'Ode to the Genius of the Lakes' in 1780. For the most part, however, the word genius increasingly came to be used to distinguish those few extraordinary individuals who possessed a

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1. J. Swift, A Counter-Blase (London 1729), ll.204.

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creative power capable of new and important discoveries in natural philosophy and of transcendent inventions in art, poetry, industry, philosophy and politics. The exposition of the new meaning found its quintessential illustrations in Newton in the sciences, and Shakespeare in the arts. At the root of the earlier meaning was the Latin genus, with the later meaning deriving from ingenium, indicating a natural ability or innate disposition. In part, the eighteenth-century debate about genius and its associated concepts—creativity, discovery, originality and invention—is the playing out of this transformation in the meaning of the term in the hands of the Scots, Gerard and Duff; the French, Voltaire and Diderot; and the Englishmen, Addison, Young and Belsham.

Others, principally William Sharpe, Helvétius and Jeremy Bentham, developed the concept further into a recognizably rationalist and materialist form, with the clear implication that genius was the product of circumstances and thus, could be acquired by learning.

This essay has three objectives: (1) to detail the various perspectives of eighteenth-century writers toward the concept of genius; (2) to indicate Bentham’s place within this story, paying particular attention to the elements of the Benthamian science and art of invention; and (3) to draw attention to the strategies Bentham developed for overcoming the practical obstacles experienced by the inventive mind in developing commercial and industrial society.

The eighteenth-century debate

In Britain the debate over genius took its beginnings from Joseph Addison’s brief essay on the subject in The Spectator, in 1711. For the first time the essential elements of the conception of ‘original’ genius were explained, as exampled by Shakespeare and Homer: those who by the mere Strength of natural Parts, and without any assistance of Art or Learning, have produced Works that were the Delight of their own Times, and the Wonder of Prosperity. Addison did not deny the claims of the neo-classical ideal of ‘artificial genius’, the exemplars of which (Plato, Aristotle, Milton and Bacon) formed themselves by Rules, and submitted the Greatness of their natural Talents to the Corrections and Restraints of Art, but it was his description of the pure unlettered form of ‘original’ genius that provided the impetus for the ensuing debate.

6. The Spectator vol. 1, in Bond, ii. 129.

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The new usage appears to have sprung from a variety of sources: seventeenth-century writers on aesthetics led the way by their curiosity in composition and the creative process, resulting in the reflections on ‘taste’ of Sir William Temple, Anthony Ashley Cooper (3rd Earl of Shaftesbury), George Turnbull and Alexander Gerard, among others. The eighteenth century augmented this with a new-found interest in literary criticism and important contributions were made by philosophers interested in the mental processes of the mind inspired by Locke’s Essay concerning human understanding (1690), including Hartley, Hume and Helvétius. Each of these factors stimulated a more systematic consideration of the defining characteristics of the creative mind than hitherto. By the end of the century the man of genius, of creativity and originality, was considered the highest human type, supplanting such earlier ideal types as the hero, the martyr and the saint. In the scientific mind of the Enlightenment Newton was the premier exemplar of this superior power, a reputation that securely spanned the Channel between Britain and France. In the Lettres philosophiques, in which he first popularised Newton’s discoveries, Voltaire announced:

7. Le vrai grandeur consiste à avoir reçu du Ciel un talent génie, et à s’en être servi pour éclairer soi-même et les autres, un homme comme Monseigneur Newton, tel qu’il s’est trouvé à peu près dans soixante, est véritablement le grand homme, et ces Philosophes et ces Conquérants, dont aucun siècle n’a marqué, ne sont d’ordinaire que d’illustres mécaniciens.

David Hume exalted Newton’s magnificence with justifiable patriotism: ‘In Newton this island may boast of having produced the greatest and rarest genius that ever rose for the ornament and instruction of the species.’

Edward Young was probably the first to turn away completely from the Augustan appeal to classicism in favour of a systematic treatment of Addison’s first type of genius, followed by Alexander Gerard and William Duff.

8. William Temple, An essay upon the nature and modern learning (London 1694); (Anthony Ashley Cooper), the Essay of Shaftesbury, Characteristics of men, manners, opinions, times (London 1711), 140. Tertullian iii. Sulpicius or advice to an author (1710); and Miscellaneous reflections (1711), ii. 120a, and iv. 181; G. Turnbull, A review on ancient painting, containing observations on the rise, progress, and decline of that art among the Greeks and Romans (London 1730) and A. Gerard, An essay on taste (London 1753).
12. Alexander Gerard, An essay on genius (1723), a work started in 1728. For details of Gerard’s numerous discussions on the subject, presented to the Aberdeen Philosophical Society between 1728 and 1733, see Bernard Battersley’s introduction to An essay on genius (ed. 1774; Munich 1966), p. xxxi xi.
These writers were primarily concerned with identifying the component elements of genius. They emphasized originality as the essential quality of genius, and closely associated it with 'the faculty of invention' or the ability to make something new, a process in which the leading role is played by 'imagination'. Reason or 'judgement' stood next in importance, required to shape and order the ideas produced by the imagination. A third, but subordinate, ingredient in this process for Gerard was 'memory'; for Duff it was 'taste', which he elevated in significance above reason in poetry and works of art but not in science. None of these writers specified the proportions of the essential ingredients that constitute genius, but each underscored the absolute necessity for imagination to predominate, and argued that this was a natural endowment or a divine gift. Around the mid-century, the new understanding of genius was popularized in the verse of William Collins, Thomas Gray and James Beattie. Beattie was a fellow member, with Gerard, of the Aberdeen Philosophical Society, and a friend of William Duff. In The Minstrel, a tale of a medieval bard and musician whose imagination is strongly affected by his rambles through nature, he described genius as a divinely bestowed or natural creative power of the imagination:

Thus Heaven enlarged his soul in ripe years.
For Nature gave him strength and fire, to sooth
O'er Fancy's wing above this vale of tears. 13

 Initially, few in Britain disented from this developing conventional wisdom on genius. Bentham aside, only William Sharpe in the mid-century and William Belsham at its end registered dissenting voices in England. Both shared the empirical assumptions of the writers just mentioned, and especially the epistemology they all borrowed from Locke. Sharpe, however, followed the logic of his reading of Locke through to a more narrowly materialist understanding of the mind than Young, Gerard or Duff. Far from constituting a natural or original quality of the mind, Sharpe argued that genius was straightforwardly a matter of intellectual attainment. The mind is a tabula rasa, and circumstances, employments, studies and opportunities combine in


 Belsham mounted a scathing attack on the 'parade of systematic investigation' that attended the investigations by Gerard and others into what Belsham believed to be a matter of common sense. In Belsham's understanding, genius was merely another word for invention, and imagination was the power of the mind which gave rise to invention. Beyond this, it was difficult to say more; genius was a term 'too complex to admit of a regular or precise definition', rather it included 'within its jurisdiction all the rational and intellectual powers'. Belsham sided with Sharpe when he argued that in the man of genius these powers are not distinguished in kind from the ordinary functions of the mind, but are, rather, the same powers exercised at a superior level. 16 Also like Sharpe, Belsham was in advance of contemporary opinion when he allowed for the possibility of female geniuses. 17 Although certain similarities with the debate in Britain are evident in France, other elements also entered the discussion of genius. In the Dictionnaire philosophique, Voltaire wrote of men, towns and nations each possessing a genius, stating that 'ceux qui faisaient des choses extraordinaires étaient inspirés par ce génie'. As we have seen, however, Voltaire also employed the term in a distinctly modern sense when he associated it with the capacity for

18. Sharpe defines genius as 'an aptness to receive the accension of some ideas, and to exclude that of others; or [...] an active power of evoking, examining, and conferring together the ideas thus severed and distinctively received; or [...] an activity, promptness, or aptness to unite the ideas arising from this comparison, set them, as it were, in just position, view them in their mutual relations and relations, and thus investigate their consequences and conclusions' (A dissertation upon genius, p. 16).
22. Belsham, Observations on genius, pp. 45-56. Sharpe did not directly confront this issue, but on occasion he employed the feminine pronoun when discussing genius (see, for example, A dissertation upon genius, p. 29), perhaps one of the first instances in the English language of a new standard practice.
invention or discovery. Thus, he could write: 'Or un artiste, quelque parfait qu'il soit dans son genre, s'il n'a point d'invention, s'il n'est point original, n'est point réputé génie.' 24 Newton constituted the ideal type in this regard. Voltaire's *véritable philosophe*, the materialist and atheist Helvétius, unequivocally adopted the latter meaning of the concept as the only one of value, but pushed the discussion beyond Voltaire's cursory treatment to consider the circumstances which gave rise to genius. In *De l'esprit* (1758) the subject received its first sustained treatment in the French language. By the term *genius*, Helvétius meant the ability of men to discover or invent objects of importance to the well-being of mankind. The two propositions contained in this definition are accorded equal weight. Firstly, genius 'suppose toujours invention: et cette qualité est la seule qui appartienne à tous les génies différents'. 25 In this respect Helvétius mentioned the effect on human progress of the work of a wide variety of literary and philosophical figures including, naturally, Newton and Locke. 26 Further, he generally coupled 'genius' with 'utility', as when he proposed that we emporve a man who proclaims himself a great genius, 'Quel soulagement avez-vous apporté aux misérés du peuple? Par quel ouvrage avez-vous éclairé l'humanité?' 27 It is in such a manner, Helvétius suggests, that people judge of a person's genius; that is, esteem for the man of genius follows a calculation by the public of the benefits he has bestowed. 28 As Helvétius put it: 'le public ne juge que d'après son intérêt: perd-on cet intérêt de vue? Nulle idée nette de la probité, ni de l'esprit.' 29 He was not unduly concerned about the contingent nature of the complex relationship between, on the one hand, the public esteem for genius and, on the other hand, the public benefits that may or may not accrue. Perceptions can be ill-formed and distorted, and what counts for utility will vary through the ages and in different cultures; such considerations, Helvétius acknowledged, will determine what passes for genius at any one time and place. 30 Ultimately, Helvétius retained implicit faith that misplaced esteem would in time give way to a more judicious assessment. It is with 'true' genius, 'dont l'utilité éternelle, inaltérable, indépendante des mœurs & des gouvernements divers, tient à la nature même de l'homme, [ce] est par

27. See, especially, Discours II, ch. 19.

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consequent toujours invariable', that Helvétius associated the great works of philosophy and metaphysics, 31 and suggested that the genius for legislation should be placed foremost in the pantheon of the useful. 32 Finally, along the same lines as Sharpe, Helvétius developed a materialist metaphysics which led him to dismiss outright the notion that genius was a natural attribute. Much of *Discours III* of *De l'esprit* is taken up with the argument that since all passions are acquired, the man of genius is 'le produit des circonstances dans lesquelles cet homme s'est trouvé'. 33 Under the rubric of 'circumstances' he included not only a person's situation in life but also the chance happenings that create opportunities and, more importantly, education constrained in the broadest sense, in the belief that 'l'Education nous fâche ce que nous sommes'. 34 Chance, circumstances, the relative progress of ideas in the relevant field, and education give shape to the man of genius, who, through his inventions, enlightens some part of 'l'empire des arts ou des sciences'. 35 If the entire thrust of Helvétius's theory was to suggest that genius was amenable to cultivation, this way of thinking was anathema to his contemporary Diderot. In *La Réflexion suivie de l'ouvrage d'Hévelius intitulé L'Homme* (1773–1774), Diderot dismissed the notion that genius could be explained by reference to chance and circumstances. 36 Rather, he argued, it is a peculiar innate quality which separates the man of genius from the rest of mankind. But this does not mean that genius is therefore inexplicable or that it is divine and beyond human comprehension. 37 In this respect Diderot offered his unique contribution to the debate. Emphasizing the rationalism of *De l'esprit*, he preferred the terms 'enthusiasm' and 'inspiration' to indicate the defining properties of the creative mind. In essence, he postulated creative power as a vivid emotion that literally puts the man of genius beside himself and over which he has no control, but which enables the mind to seize and hold fast to a single truth. 38 Genius was so far from being reducible to the properties and conditions postulated by Helvétius that it was really a form of madness. Beattie had implied an association between genius and madness in *The Minister*, when he wrote: 'Some seem'd wondrous wondrous, and some believed him mad.' 39 But
Diderot, who may have thought of Jean-Jacques Rousseau in this way, made that prefigured the "mad-genius" controversy of the following century. Diderot in his work we find a very different understanding of genius, which emphasised the emotions, and which introduced the notion of inspiration as imagination instead of the gift of genius as irredoulale to rational considerations. The image of Helvétius to Diderot's more obscure philosophising. In the late analysis of the subject, to which he added several unique theoretical contri- especially, Bentham devoted himself to distilling the public expression of climate conducive to its cultivation and success.

The science and art of invention

Bentham is well known as a utilitarian moralist, legal philosopher and political radical. In each of these fields, however, he thought of himself as a creator, and in this period Bentham embodied the modern concepion of genius, providing a unique link between the theory of genius and its practice. His ambitions (1776), where (employing an analogy between the physical sciences and the a busy age, in which knowledge is rapidly advancing towards perfection. In improvements. The common view that no scope was available for invention in bearing on the means of moral and social reform might be sufficiently novel and important to deserve being recognised as "discovered". As one.


modern commentator put it, Bentham's "mind was a perpetual mobile of pragmatic invention, or prodigal of ideas that they threatened to overwhelm him". Like Francis Bacon (whom he took for his model), Bentham was a philosopher but also an experimenter and 'projector'. In the New Atlantis, Bacon imagined new sciences and academies of observation and learning, and pictured a future world with air-balloons, submarines, advanced medicines, and methods of food preservation. Bentham similarly envisaged the future and saw himself as an inventor every bit as practical as an Arkwright or a James Watt; in the period when the modern conception of genius developed and took hold, no one worked harder than Bentham to give it a practical utilitarian expression. His genius was widely recognised by contemporaries. Talleyrand enthused on one occasion: 'I have known many great warriors - many great statesmen - many great authors - but one great genius, and that genius is Jeremy Bentham.' Like Bentham, profoundly influenced by Bacon, believed that posterity would place his contemporary 'in the same rank with Galileo and with Locke'.

In early life, Bentham tells us, he was perplexed by the idea of genius. At the age of seven, he puzzled over a question asked at dinner by his father and his headmaster at Westminster School: what is genius? As he told the friend of his later years, John Bowring, 'A pretty question to ask a poor, raw, timid boy, a boy who knew no more about it than he knew of the inside of a man. I looked foolish and humiliated, and said nothing.' But this was only a preliminary to one of the pivotal moments of Bentham's intellectual development. After reading Helvétius's De l'esprit in 1756, at the age of twenty-one, he was inspired to ask himself 'Have I a genius for anything?", and more specifically, since Helvétius had pointed to legislation as the most important of earthly pursuits, 'have I indeed a genius for legislation? To which he recalled replying 'fearfully and tremblingly - Yes!' Bentham understood the term genius as derived from the verb ipsis, to produce, and it was the productive capacity of genius upon which he focused as the measure of its worth. Confident that Helvétius had provided the correct philosophical standpoint, Bentham followed him in weighing the value of
invention (and hence the esteem for an inventor or man of genius) according to the public utility that accrued. From this perspective genius became subject to measurement in terms of the utility of the inventions and discoveries it produced. Thus, we need not speculate about the nature of Newton's genius, for example, since he was clearly a 'great inventor'.47 Whether in the arts or natural sciences, inventions and discoveries were necessary for progress, and discussions of whether the psychology of the inventor in the arts was in any sense different from that in the field of natural sciences were neither here nor there, since essentially the same processes were required. In this respect the 'workshop of invention' knew no intellectual or disciplinary boundaries.48 Indeed, Bentham thought of every discipline in terms both of its 'science' (theoretical principles) and its 'art' (practice), 'praxis' being the essential link between the two. As he wrote in the chapter on the 'Art of Invention', in his posthumously published Essay on logic (written largely in the 1810s), 'for every science a correspondent art, and for every art a correspondent science.'49 Invention he defined as follows:

In so far as any product, formed [...] by the imagination, has received, or is considered as receiving a fixed description, or as serving as a guide to active talent or practice, in such sort as as the pursuit of some particular end, to produce effects either new, or produced in any respect to greater advantage than before, the operation is called invention.50

Some fifty years after he first embarked on the practical life of a projector, Bentham set himself the task of recording his own experiences with the operation of invention - his insights and characteristic concerns when his thoughts turned to genius, its role in a commercial and industrial society, and what might be done by government to encourage it.

In his treatise on utilitarian education, the Cestenomathy (1816-1817), Bentham observed that 'among the objects of invention or discovery is method itself. It should be noted that in the vocabulary of Bentham's science of society, the terms 'method', 'theory', 'logic', 'classification' and 'non-entirety' are nearly synonymous. In the posthumously published Essay on logic, he recognized as much: 'In the whole field of the art of Logic, so large is the portion occupied by the art of methodization [...] that the task of showing what it [...] can do, is scarcely distinguishable from the task of showing what [...] Logic can [...] do.'51 He also tells us that logic is synonymous with 'a complete Encyclopedia' encompassing the whole field of thought and action, and that to metaphysics falls the lot of clarifying the language of logic and all other branches of art and science.52 In these terms, logic and linguistics are barely distinguishable in their relationship to knowledge. Bentham's method, therefore, was defined by its reliance on linguistic clarity and classification as essential to the acquisition of knowledge, and by its utilitarian logic - its value lay in its potential to maximize human happiness.

The primary elements of this method as applied to moral and legal philosophy were summarized in a short treatise on 'Logical arrangements, or instruments of invention and discovery employed by Jeremy Bentham'.53 These 'logical arrangements' deal largely with the interaction between method and invention. Among the fourteen inventions listed - some originally made by him, others he found ready made or partially made and left undeveloped - he included his principal contributions to the theory of language: (1) the distinction between 'real' and 'fictional entities', and (2) the device of exposition by paraphrase, through which the import of political and legal fictitious entities could be explained in terms of the relation they bore to the real psychical entities of pleasures and pains. Bentham also included in this list the systematic analysis of human motives in terms of their relationships to pleasures and pains, and the division or exhaustive classification of offences by the method of bipartition (an invention, he believed, which facilitated the development of a methodical and comprehensive body of codified law).54 To this he added an aid for projectors or inventors in the form of 'Moments' or 'Helps to All' designed to stimulate creative effort in all fields (certain hints were obvious, such as always keep the end in view and look for the fittest means, take reason not custom for your guide, render your ideas as clear as possible, and learn whatever has been done and attempted by those seeking to achieve the end in question).55

Having examined the archaic language of moral and legal theory, Bentham set about a complete revision of its principles and terminology,56 an inves-
Bentham gave practical effect to his inventive genius in a wide range of areas, and moved easily from the domestic to the public realm when recommending improvements. In this respect he was truly the great polymath of the age; he would not have concurred with Gerard's restrictive notion 'that genius fits the person who is endued with it, for invention in some one particular art, or particular science'. He slept in a sleeping bag of his own design, mapped out projects for portable houses, a new kind of harpsichord and improvements to the printing of music, while at the same time drawing up proposals for a school of legislation and a canal in Central America to connect the Atlantic and Pacific oceans. He introduced improvements to political institutions and constitutions, codes of judicial procedure and civil and penal law (designed to eliminate delay, expense, complexity, obscurity and uncertainty, and to enhance the greatest happiness), and offered a bewildering stream of new law proposals on subjects as diverse as inheritance, homosexuality, cruelty to animals, paupers, policing, real property, taxes on law proceedings, and sinecures in church and state.

Other Benthamic inventions included the numerous manuals, digest, handbooks and charts which made scientific health administration possible by the development of social statistics, and which introduced an untold number of minor improvements in savings banks, money orders, ordinance survey maps, and office architecture. The 'conversation tubes', a primitive telephone that Bentham installed at his London residence in Queen's Square Place, and imagined being used in his Panopticon prisons to connect the cells with the central watchtower, promised to be useful in some ways but not in others. In a letter to Ewan Nepean in 1793, then Under Secretary at the Home Office, Bentham suggested the use of confidential conversation tubes between the two Houses of Parliament and the Horse Guards, between the War Office and the Tower, and between other government departments as an aid to secrecy in putting down riots and preparing for invasions by foreign powers: during the war with France, spies were to convey messages directly to government officials, sometimes sending messages along tubes running for several miles

66. The suggestions for improvements to the harpsichord and to music printing are in ms. UC 107/20-30 (c.1794).
67. The school of legislation is discussed in ms. UC 107/53-61 (1792, 1794), and the canal proposal is in Principles of international law, Appendix. — Junction proposal (1822-1823), Bowring, ii.561-71, on the latter, see also M. Willford, Jeremy Bentham on Spanish America: an account of his letters and proposals to the New World (Baton Rouge, La and London 1980), ch.6.
68. On Bentham's ingenuity in devising new political machinery, see Graham Wallas, 'Bentham as political inventor', Contemporary review 129 (1926), p.308-19.
69. See ms. UC 166/4-7 (1793).
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was aware that such tubes would require stage. If Bentham was sensitive to the seems to have considered the limitations of ver such distances, merely acknowledging made. Rather more useful were the plans ump, ‘frigidarium’, central hot-air heating plan for a forgery-proof currency, like so e so well, the Directors of the Bank of the matter, and the manuscripts remained
greatest of Bentham’s inventions. It was a ipes of contract-management and unseen prisoners. The word ‘panopticon’ derives g’, and Bentham’s emblem for the Panopti- by the words ‘Mercy, Justice, Vigilance’, one from his younger brother Samuel, but ; private entrepreneurship with invention – s an efficient prison and as a money-maker, nest and idle men industrious’. In the was to boast of his proposed prison (which great profit): ‘By mixture of employment, a 6 and a half profitable hours, very nearly itaniary systems allow’. Soon afterwards or a range of institutions requiring a high hospitals, poor-houses, factories, and even

06/8-14 (1793), and the frigidarium in UC 166/17- and 1808-1809).
posal for rendering forgeries more difficult by pap-
dents’. In 1800 he expanded this into a pamphlet on e also 36/363-40, and incorporated aspects into his y, the Annuity Note scheme (1800-1801). Jeremy London 1952-1954) (henceforward Stark), ii.74; for duction, ii.47-95.
ich in Bentham’s hand at UC 116/124. Janet Semple triangle is painted at the centre of the great dome in impostals: Bentham’s prison: a study of the Panopticon
gigantic chicken coops (called ‘penotrophiums’). Ultimately, Bentham devised a plan for a National Charity Company, which would replace the old Poor Law system with 250 profit-making pauper Panopticonos equidistantly spaced throughout Britain – all under the control of J. Bentham, Esq. In addition to solving the problem of indigence relief, pauper Panopticonos would also function as ‘Registry Offices, Loan Offices, Frugality Banks, Superannuation- Annuity Banks, Post-obit-benefit Banks, Charitable Remittance Offices, Frugality Inns, Dispensaries, Lying-in Hospitals, Midwifery Lecture Schools, Veterinary Lecture Schools, Military Exercise Schools and Marine Schools’. As in so many other instances, Bentham could not find the necessary financial backing to realise his panopticon plans, and they were eventually laid to rest after twenty years of fluctuating hope and despair. The vexing years he spent lobbying the Pitt and Addington administrations to finance and otherwise expedite the undertaking are detailed in Bentham’s correspondence. It is also apparent, however, that behind his determination to supervise the scheme personally – to retain control of his creation and manifestly demonstrate the union of public utility with profit – lay the systematic philosopher’s requirement that his scheme be fulfilled in its entirety. Given the radical nature of Bentham’s proposals, this objective was always likely to hinder the realisation of the panopticon project.

Projectors and profits

The difficulty that Bentham found in raising funds for the Panopticon was not a new problem, but one he encountered with other projects and which he dearly wished to solve. Unfortunately, restrictive legislation was used to regulate the much-needed development funds that might otherwise have been available in the financial market-place for loan to inventors, thereby discouraging a practice of potential benefit to the public. In tackling this issue, Bentham contributed to a debate as old as the century, which had engaged the attention of commentators as different as Swift and Adam Smith.

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Bentham had several suggestions for overcoming this problem. First, 'were it in the power of laws to put words under proscription' then 'a bill of attainted against the words project and projectors' should be issued, and the terms 'invention' and 'inventors' substituted in order to rid a beneficial practice of its debilitating connotations. Second, and more important, the usurvies laws should be abolished, leaving inventors at liberty to borrow money to finance their projects, and inventors free to risk capital at higher rates of interest than the statutory maximum. Bentham was fond of stating that interest, like religion and love, should be free. Enforcing a restriction acts as a positive discouragement to well-grounded and ill-grounded projects alike, forcing projectors such as himself to appeal to government. Not that the projector could expect much joy from this quarter; in the same manuscript of around 1778 mentioned earlier, Bentham had already expressed his despondency at the treatment of projectors at the hands of government: 'The Projector is the natural enemy of the man in office. Ask the man in office, the Projector is always either a Knave or a madman. Why? Because, 'The man in office is one who promotes his own interest at the expense of the public, either without promoting the interest of the public at all or without promoting it more than he is obliged to do. Third, in another of his economic writings, a Manual of political economy (written 1793-1795), Bentham recommended that a 'chart of inventions' be drawn up in order to provide information on previous developments in all the various fields of endeavour, in order to save needless efforts in the pursuit of illusory solutions, and to expose all dishonest projectors and impostors by describing their common qualities of mind and character. Those projectors who seek to deceive ought to be unmasked — those who are deceived to be instructed: the interests of science and justice equally demand that they should be distinguished'.

85. Bentham, Defence of usury), Stark, i.184.
87. Bentham, Defence of usury, Stark, i.171-72.
89. Bentham, Manual of political economy, Bowring, iii.51.
in 'matters of theory', Bentham supposed his chart would be in 'matters of practice'? 48

Nor was this all that government could usefully do when properly directed. Bentham argued that in an unfettered market-place 'the inventor will meet with a natural reward exactly proportionate to the utility of his discovery'. A special remuneration was therefore unnecessary; 'there is no patron to be compared to the public', he confidently declared. 49 On the other hand he did not think like Thomas Gray that 'All men of power can do for men of genius is to leave them at their liberty'. 50 There were times when government funding should be made available, for example when no obvious financial rewards could be expected for useful innovations – say for improvements in the operations of government, military or naval tactics, fortifications or shipbuilding 51 – or when financial rewards fell short of the labours required to bring useful ideas to fruition and to apply them in practice. Nevertheless, the endowment of research before its utility had been established should only be considered in rare cases, as when theoretical inventions would not otherwise be attempted.

Though discoveries in science may be the result of genius or accident, and though the most important discoveries may have been made by individuals without public assistance, the progress of such discoveries may at all times be considerably accelerated by a proper application of public encouragement. The most simple and efficacious method of encouraging invasions of pure theory – the first step in invention – consists in the appropriation of specific funds to the research requisite in each particular science. 52 Bentham envisaged other ways in which government might facilitate a healthy atmosphere conducive to invention, such as the proposed Board of Shipbuilding to scrutinise suggestions for improvements in ship architecture and to award prizes. 53 Governments could also invest in lectures by accredited scientists, in order to disseminate findings in medicine, surgery, veterinary science, chemistry, mechanical and experimental philosophy, botany and horticulture, and natural history in general. This was not intended as philanthropy: through these lectures, commercial interests might be encouraged to provide additional funding for the application of such 'pure theory' to practice to the mutual financial benefit of both inventor and investor. 54 Also, governments could operate a clearing house or patent office for inventions, thereby safeguarding financial returns from inventions for the inventors. 55 Finally, government could stimulate creativity by offering regular prizes as an incentive to invention. 56

In sum, this was Bentham's solution to the weaknesses of the market-place in creating the climate of opinion conducive to the encouragement inventive genius required, an activity vital to the advancement of society. In this manner Bentham, who believed himself opposed at every turn by the confounded dunces of the British social and political establishment, sought to assist the public expression of genius and to maximise the resultant utilities.

Conclusion

In the nineteenth century and early part of the twentieth century, the purely rational notion of genius borrowed by Bentham from Helvétius, with its stress on the circumstances necessary for its cultivation and encouragement, was given serious attention in the emerging field of psychology. Naturally, not all shared this perspective, and different theories continued to be aired. Writing shortly after the death of Bentham in 1834, John Stuart Mill declared that 'none of the controversies which fill the present age with flame and fury is comparable in interest', and defined genius in typically Benthamistic mode as 'nothing but a mind with capacity to know'. On these terms, genius was not a natural trait but the fruit of acquisition: 'By the aid of suitable culture all might possess it, although in unequal degrees.' 57 At the same time, however, Mill accepted that genius could manifest itself in other, less rational ways, and in the famous essays on Bentham (1858) and Coleridge (1840) he amply illustrated the differences. 58 More important in the discussions of genius were

51. Bentham, Rationale of reward, Bowring, ii.121;
52. Bentham, Rationale of reward, Bowring, ii.121.
53. Bentham, Manual of political economy, Bowring, iii.111;
54. Bentham, Manual of political economy, Bowring, iii.117;
55. Bentham, Manual of political economy, Bowring, iii.117; the psychological motivation is explained in The Rationale of reward, Bowring, i.119.
56. Bentham, Manual of political economy, Bowring, iii.117; the psychological motivation is explained in The Rationale of reward, Bowring, i.119.
57. Bentham, Manual of political economy, Bowring, iii.117; the psychological motivation is explained in The Rationale of reward, Bowring, i.119.
58. Bentham, Manual of political economy, Bowring, iii.117; the psychological motivation is explained in The Rationale of reward, Bowring, i.119.
such as Coleridge, Byron, Goethe and Rimbaud, that genius possessed a darker and irrational side, and about their own genius and its association with each introspective insights into the perplexing questions were led to consider the proposition that it is. The most notable exponent of the 'mad-genius' theory was the Man of genius appeared in 1891 to generation of critics who demanded a more scientific methodology, it was said, led him to employ only hypothesis, while disregarding the many examples psychologists turned their empirical hand to the less disturbing and complex project of measuring a project enjoined by the assumptions borrowed 19th-century progenitors. The use of Bentham's over the possibility of calculating intellect based on dubious nature of the endeavour. In this view, eighteenth-century rationalism reaped a tar-

The Key to genius (New York 1988), p.8-10, and ch.2; and New York 1949), ch.2. Bentham was given cursory treatment in mental and physical infirmities of men of genius, but we ailments and the urge to invent; The Infirmities of genius hidden study is on literary greats, especially Pope, Johnson, and genius' controversy is extensive; for an overview, see N. Kessel, "Genius: the history of ideas concerning their conjunction", Genius: the history 89), ch.11.

Francis Galton, Hereditary genius: an inquiry into its causes abstracted 1892); J. McKeen Cattell, 'A statistical study of eminent person in 1903', p.359-77; Havelock Ellis, A study of British genius and stupidity (1906; New York university mental traits of three hundred geniuses, in Genetic studies on genius, 'On the measurement of internal capacity from cranial' p.366-97. For a discussion of the religious and medical or his own "auto-iconisation" and his, at times, bizarre r uses of the dead to the living (printed 1842), see Crimmins,