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Introduction: Race, Scripture, Science

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Introduction: Race, Scripture, Science

Cairns Craig

This issue of the *Journal of Scottish Thought* addresses two overlapping concerns. The first is the relationship between scripture and race, a topic addressed at a conference on 'The Pre-Adamites: Scripture, Science and Race' held in Aberdeen in March 2009, from which the articles by Michael Banton, David Livingstone and Robert Segal derive. The historical implications of Enlightenment debates about race are taken up by Glen Doris's article, which was originally presented at the Irish-Scottish Academic Initiative conference in Aberdeen in September 2009. The second concern is the status of 'canonical' forms of knowledge, whether ancient and classical or modern and scientific, in debates about the foundations of knowledge. Articles by Alexander Broadie, Matthew Wickman, and Tom McInally explore the ways in which Scottish thought in the seventeenth and eighteenth centuries engaged with Aristotelian and Newtonian paradigms, providing insights into the origins and development of what we have come to know as the Scottish Enlightenment.

I The Dark Enlightenment

The Scottish Enlightenment is a term which has, in recent times, been accorded an almost entirely positive status in Scottish discourse – representing the country's contribution to the advancement of reason, to the development of science, to the understanding of human societies; indeed, to the foundation of modernity – but while historians have, with increasing relish, charted the achievements of 'Enlightenment', thinkers in other disciplines have, with increasing vehemence, sought to characterise the Enlightenment as the source of the evils which blight the modern world. As early as the 1930s, Edmund Husserl perceived the problems of the contemporary 'Crisis of European Sciences' as the ineluctable outcome of falsehoods generated by the Enlightenment's substitution of nature it experienced by human

beings with a nature in which 'true-being-in-itself' is 'mathematical';[1] in the 1940s, for Theodor Adorno and Max Horkheimer, the world created by the Enlightenment is a 'mass deception', prelude to a reduction of humanity to 'helpless victims' in a 'society alienated from itself';[2] in the 1950s, C. Wright Mills argued that the political ideals 'born of the Enlightenment' had become redundant in world where 'increased rationality may not be assumed to make for increased reason';[3] in the 1960s, Jürgen Habermas's defence of the 'uncompleted project of Enlightenment' was met with hostility by a whole range of emerging 'postmodern' theorists for whom Nietzsche's analysis of truth-claims as mere rhetoric, and his celebration of the unavoidable multiplicity of meanings, were invitations to replace the search for a singular certainty with a joyful provisionality.

From a Scottish perspective, the case was put most incisively by Alasdair MacIntyre in *After Virtue* (1981), in which he praised Nietzsche's 'historic achievement' of revealing that 'what purported to be appeals to objectivity were in fact expression of subjective will';[4] thus also revealing why the modern world is the outcome 'of the failure of Enlightenment project'.[5] The sources of this failure MacIntyre traces to the overthrow of Aristotelian conceptions of morality initiated by the scientific revolution of the seventeenth century and conceptualised in accounts of reason by the philosophies of the eighteenth: 'Reason is calculative; it can assess truths of fact and mathematical relations but nothing more. In the realm of practice therefore it can speak only of means. About ends it must be silent'.[6] In attempting to create a 'science of man', the Scottish Enlightenment thinkers, according to MacIntyre, reduced humanity from a species governed by an 'ought' to a species which had to accept merely what it 'is': 'What Hume identifies as the standpoint of universal human nature turns out in fact to be that of the prejudices of the Hanoverian ruling elite'.[7]

Among those prejudices, it appears, is race. As Colin Kidd frames the issue in *The Forging of Races* (2006):

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[1] Edmund Husserl, *The Crisis of European Sciences and Transcendental Phenomenology*, trans David Carr (Evanstown, 1970), 54.

[2] Theodor Adorno and Max Horkheimer, *Dialectic of Enlightenment* (London, 1979; 1944), 120, 131, 121.

[3] C. Wright Mills, *The Sociological Imagination* (Harmondsworth, 1983; 1959), 184.

[4] Alasdair MacIntyre, *After Virtue: A Study in Moral Theory* (London, 1985; 1981), 113.

[5] Ibid., 62.

[6] Ibid., 54.

[7] Ibid., 231.

> The Enlightenment, it has been suggested, bore the unmistakable imprint of white supremacy. Some figures, such as David Hume … who achieved notoriety during the Enlightenment for their religious heterodoxy have now obtained a new kind of notoriety in recent decades for having endorsed the proposition that blacks were mentally inferior to whites. While all racist statements are abhorrent, any racist statement which wins the imprimatur of a figure hitherto securely ensconced in the canon of philosophical greatness needs to be exposed and refuted. Furthermore, the very existence of this sort of statement automatically calls into question the vaunted wisdom of Hume as well as his very status within the canon.[8]

The basis of the Enlightenment's racialism – if not racism – was, according to Kidd, its scepticism about the 'monogenetic' account of the origins of humanity provided by 'Genesis'. If all human beings are the offspring of one original pair, then all, whatever their surface differences, are of the same kind. That the Biblical account would be deemed inadequate to explain the diversity of human beings encountered in the great expansion of the European world from the beginning of the sixteenth century was, according to David Hume's kinsman, Henry Home (Lord Kames), inevitable: 'Kames speculated that a "local creation" of the aboriginal race appeared to be an "unavoidable" conclusion from the evidence. Kames found that "every rational conjecture" pointed towards "a separate creation", to multiple origins. The biblical account of the origins of mankind from a single pair of humans struck him as incompatible with the facts of biology and geography'.[9] Despite attempting to align the 'facts of biology and geography' with the Bible, by envisaging Babel as a second Fall, one which scattered mankind to different parts of the globe where climatic conditions reduced people to the condition of 'savages',[10] Kames's name, according to Kidd, became a byword for polygenesis in the later Enlightenment'.[11]

Whether David Hume (1711–76) agreed with the polygenetic or the climatic account of human differences, the now apparently notorious footnote in his essay 'Of national characters' has been read as evidence of his belief in

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[8] Colin Kidd, *The Forging of Races: Race and Scripture in the Protestant Atlantic World, 1600–2000* (Cambridge, 2006), 80.

[9] Ibid., 96.

[10] Ibid., 98.

[11] Ibid., 99.

a fundamental difference between the capabilities of white-skinned and black-skinned peoples. While acknowledging the ways in which peoples could change character over time – 'we may observe that our ancestors, a few centuries ago, were sunk into the most abject superstition, last century they were inflamed with the most furious enthusiasm, and are now settled into the most cool indifference'[12] – Hume suggested that 'there is some reason to think, that all the nations, which live beyond the polar circles or between the tropics, are inferior to the rest of the species',[13] a view given further articulation in the footnote, which begins: 'I am apt to suspect the negroes to be naturally inferior to the whites. There scarcely ever was a civilized nation of that complexion, nor even any individual eminent either in action or speculation'.[14] For critics such as Emmanuel Chukwudi Eze,[15] this is symptomatic of modern racism's foundations in the Enlightenment, a racism equally evident in the works of other major philosophers of the period, such as Immanuel Kant: what it indicates, at the very least, is how easily the stadial theory of human progress, which implied that all societies will journey through the same stages from primitive hunting or simple pastoral farming to modern commercialism, could be inverted to become a theory of the progress of some and the impossibility of progress for others – the 'primitive', rather than being the starting point for a journey that will be made by all, becomes the category of those who have, because of innate inability, failed to start upon the journey of historical progress. As Hume's footnote would have it, 'there are NEGRO slaves dispersed all over EUROPE, of whom none ever discovered any symptom of ingenuity; though low people, without education, will start up amongst us, and distinguish themselves in every profession'.[16] The history of the human race comes to be defined by the nature of the races in human history.

The significance of Hume's footnote is shaped by the fact that his philosophy claimed to be more than just another speculative system based on 'extravagant hypothesis',[17] but, as the original title page announced, 'an attempt to introduce the experimental method of reasoning into moral subjects', and to provide all knowledge with a proper foundation in the understanding of the nature of man:

[12] Eugene F. Miller (ed.), David Hume, *Essays: Moral, Political and Literary* (Indianapolis, 1985; Third Edn., 1748), 206.

[13] Ibid., 207.

[14] Ibid., 208.

[15] Emmanuel Chukwudi Eze, *Race and the Enlightenment: A Reader* (Oxford, 1997).

[16] Hume, *Essays*, 208.

[17] L.A. Selby-Bigge (ed.), David Hume, *A Treatise of Human Nature* (Oxford, 1888), xviii.

> 'Tis evident, that all the sciences have a relation, greater or less, to human nature; and that however wide any of them may seem to run from it, they still return back by one passage or another. Even *Mathematics, Natural Philosophy, and Natural Religion*, are in some measure dependent on the science of MAN; since they lie under the cognizance of men, and are judged by their powers and faculties … There is no question of importance, whose decision is not compriz'd in the science of man; and there is none, which can be decided with any certainty before we become acquainted with that science.[18]

The 'certainty' that Hume sought was the kind revealed by Newtonian physics; his study of the workings of the mind would show 'the principles of union or cohesion among our simple ideas', and 'a kind of ATTRACTION, which in the mental world will be found to have as extraordinary effects as in the natural'.[19] Hume's philosophy would bring order to the human world in the same way that Newton's 'gravity' brought order to the physical. But is a theory of 'race' necessary to such an order – and if so, will it be a racist theory?

If we take Robert Knox (1791–1862) as one of the descendents of the Scottish Enlightenment, the answer would appear to be 'yes'. Knox, notorious for his role in the Burke and Hare scandal as the receiver of the corpses of their victims, was, like Hume, attempting to bring the principles of Newton (1643–1727) into what he considered to be fundamental to all other forms of knowledge – the structure and developmental history of the human body. What Knox describes as 'transcendental anatomy' brings to the biological world the 'great law of unity of the organization' that Newton had revealed in the physical world: indeed, the discoveries of 'transcendental anatomy' Knox believed to have been already glimpsed by Newton: 'Newton seemed to think that there existed only one kind of matter; he was amongst the earliest to announce the doctrine of unity of the organization. His vast mind foresaw the truth, to be afterwards more fully brought out: Divine mind! In advance of his age by a century at least'.[20] The understanding of the world that the application of Newtonian principles produced was one in which

> Human history cannot be a mere chapter of accidents. The fate of nations cannot always be regulated by chance; its literature, science, art,

[18] Ibid., xix.
[19] Ibid., 13.
[20] Robert Knox, *The Races of Men: A Fragment* (Philadelphia, 1850), 33.

> wealth, religion, language laws, and morals, cannot surely be the result of merely accidental circumstances. If any one insists with me that a Negro or a Tasmanian accidentally born in England becomes thereby an Englishman, I yield the point; but should he further insist that he, the said Negro or Tasmanian, may become also a Saxon or Scandinavian, I must contend against so ludicrous an error. With me, race, or hereditary descent, is everything; it stamps the man.[21]

Knox's *The Races of Men* of 1850 argues that race and only race is the permanent reality of human history: nations, by contrast, are merely passing accidents. To understand the development of world history one has to understand the characteristics of the different races of the world, and what such an understanding of race reveals is that it is the Saxon race that will shape humanity's future: 'No race interests us so much as the Saxon … He is about to be the dominant race on the earth; a section of the race, the Anglo-Saxon, has for nearly a century been all-powerful on the ocean'.[22] The Saxon is 'destined some day to rule the world'.[23] Knox would have agreed with his influential contemporaries in the United States, Josiah Nott and George Glidden, that, 'human progress has arisen mainly from the war of races' because 'all the great impulses which have been given to it from time to time have been the results of conquests and colonizations'.[24]

Significantly, however, Knox's race theory, though based on a secular scientific world-view, was not built on a foundation of polygenesis,[25] and therefore does not fit with the expectations of Kidd's thesis. The key evidence which, for Knox, proved polygenesis false, and which had been established as early as the 1820s by the work of the French natural historian Étienne Geoffroy, and his Scottish correspondent Robert Edmond Grant (who had been Darwin's tutor at Edinburgh University),[26] lay in the development of the embryo, which revealed that 'in the structure of one animal all the forms are

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[21] Ibid., 12–13.

[22] Ibid., 15.

[23] Ibid., 16.

[24] Josiah Clark Nott, George Robinson Gliddon et al., *Types of Mankind* (Philadelphia, 1854), 53.

[25] Many intellectual historians have misunderstood Knox's arguments and assimilated him to the polygenist account of human origins; see, for instance, John Sutherland's account of him in *The Life of Walter Scott* (London, 1995), 229.

[26] See Adrian J. Desmond, The Politics of Evolution: Morphology, Medicine, and Reform in Radical London (Chicago, 1989).

included',[27] 'that the fully-developed, or grown-up brute forms of birds and fishes, of reptiles and mammals, are represented in the organic structures of the human embryo',[28] with the result that throughout the living world there is 'but one living principle, one animal, one eternal law'.[29] This fundamental unity – 'Mankind is of one family, one origin. In every embryo is the type of all races of men'[30] – did not prevent humanity being divided into separate 'types' or 'species', constituting different races. The unity of mankind meant that individuals of different types could inter-breed, but the distinction of the types meant that the offspring of such relationships would either themselves be infertile or would revert to the pure type of one of their parents. The hybrid, he insisted, was a deformation which, like any other individual deformation, would not be passed on to the next generation. Nor did the unity of mankind prevent the types of human beings from being necessarily at war with each other, for in the struggle of life 'destroy and live, spare and perish, is the stern law of man's destiny':[31] 'might is the sole right', and, like the beasts who have been hunted to extinction following the migrations of European peoples, native peoples must give way before the Saxons, for 'now the aim of the Saxon man is the extermination of the dark races of men – the aborigines – the men of the desert and of the forest'.[32]

Because nation and race in the modern world do not share the same geographical spaces, nations and their empires are, for Knox, inherently unstable and involved in inevitable internal as well as external conflicts. In Scotland, Knox found the perfect evidence for the influence of race on history, for Scotland, like Ireland, was a country divided between Saxon and Celt: it was 'the Caledonian Celtic race, not Scotland, fell at Culloden, never more to rise; the Boyne was the Waterloo of Celtic Ireland'.[33] Such defeats were inevitable because of the inferiority of the Celts to their Saxon neighbours:

> 700 years of absolute possession has not advanced by a single step the amalgamation of the Irish Celt with the Saxon English; the Cymri of Wales remain as they were: the Caledonian still lingers in diminished numbers, but unaltered, on the wild shores of his lochs and friths,

[27] Knox, *Races of Men*, 296–7; Knox is quoting from Geoffroy.
[28] Ibid., 29.
[29] Ibid., 296–7; Knox is quoting from Geoffroy.
[30] Ibid., 297.
[31] Ibid., 307.
[32] Ibid., 314.
[33] Ibid., 15.

> scraping a miserable subsistence from the narrow patch of soil left him by the stern climate of his native land . . . . carry him to Canada, *he is still the same* . . . [34]

Knox's conclusion was that 'the Caledonian Celt of *Scotland* appears a race as distinct from the Lowland Saxon of the same country, as any two races can possibly be: as negro from American; Hottentot from Caffre; Esquimaux from Saxon'.[35]

It was a conclusion which echoed an earlier Scottish writer, Sir Walter Scott (1771–1832), who had made a similar comparison in Chapter 15 of *Waverley*, in describing the response the of the citizens of Edinburgh to the arrival of Bonnie Prince Charlie's Highland army during the 1745 Jacobite Rebellion:

> So little was the condition of the Highlands known at that late period that the character and appearance of their population, while thus sallying forth as military adventurers, conveyed to the South-Country Lowlanders as much surprise as if an invasion of African Negroes or Esquimaux Indians had issued forth from the northern mountains of their own native country.[36]

The opposition of Saxon to Celt had also been the burden of Scott's 'The Lady of the Lake' (1810), which presents late-medieval Scotland as divided between its 'Saxon' rulers and its aboriginal Celtic peoples;

> The Gael beheld him grim the while,
> And answer'd with disdainful smile, –
> "Saxon, from yonder mountain high,
> I mark'd thee send delighted eye,
> Far to the south and east, where lay,
> Extended in succession gay,
> Deep waving fields and pastures green,
> With gentle slopes and groves between: –
> These fertile plains, that soften'd vale,
> Were once the birthright of the Gael;
> The stranger came with iron hand,

[34] Ibid., 18.
[35] Ibid., 14.
[36] Andrew Hook (ed.), Sir Walter Scott, *Waverley* (Harmondsworth, 1972; 1814), 324.

> And from our fathers reft the land.
> Where dwell we now! See, rudely swell,
> Crag over crag, and fell o'er fell.[37]

The defeated Gaels have retreated before the advancing Saxons and ceded them the fertile territory over which they now rule. Scott uses the term 'Saxon', but in Knox's account this Saxon – who is James V in disguise – is in fact a Norman, descendant of one of those who came to Britain with William the Conqueror, and the condition of the original Saxons of Britain is, according to Knox, little different from that of the Celts:

> I was, I think, the first, or, amongst the first, to point out to the reading world the antagonism of the present Norman government of England to her presumed Saxon population. From 'the elements of race,' advocated by me as a leading feature – *the leading feature* in human thoughts and actions, the deduction was direct. No right-thinking person could avoid coming to the conclusion, that, in the present dynasty and aristocracy of Britain, the descendants of William and his Norman robbers had a perfect representative. What the sword enabled him to do, the sham constitution of England qualifies the present dynasty to attempt.[38]

Knox's claim to primacy was vastly overstated: the argument for a continuing Norman domination over a fundamentally Saxon population had been evolved steadily through the seventeenth century in resistance to the Stewart monarchs, and had become a key part of the development of eighteenth-century literature, as poets began to use the techniques of the what they saw to be native literary forms – ballads, and accentual rather than syllabic verse – to restore a 'native' Anglo-Saxon culture.[39] Walter Scott's early ballad collecting was part of this effort to take modern literature back to the nation's ethnic foundations, but the work of Scott's which most emphatically presented British history as founded on racial conflict was *Ivanhoe*, published in 1819. As Michael Banton has noted,[40] *Ivanhoe* is one of the earliest works to use the word 'race'

[37] Scott, 'Lady of the Lake', Canto V, vii, Robert Ford (ed.), *The Poetical Works of Sir Walter Scott* (London & Glasgow, nd; c 1863), 247.

[38] Ibid., 247

[39] See Laura Doyle, 'The Racial Sublime' in Alan Richardson and Sonia Hofkosh (eds), Romanticism, Race and Imperial Culture 1780–1834 (Bloomington, 1996), 15ff.

[40] Michael Banton, *Racial Theories* (Cambridge, 1987), 13: 'It is probable that no single

with the implications that it came to acquire through the nineteenth century: for Scott, Norman and Saxon are distinct races who are deeply conscious of 'the great national distinctions' between them. The racial theme is underlined by the subplot of the Jew, Isaac, and his daughter, Rebecca, who is told by her Norman abducter that 'no race knows so well as thine own tribes how to submit to the time'.[41] Race is character. The world of *Ivanhoe* is segregated on racial lines because of the need 'to maintain a line of separation betwixt the descendants of the victor Norman and the vanquished Saxons'.[42] The possible crossing of races is dramatised by Rebecca's relationship with Ivanhoe, who is saved from death by her medical skills and who in turn saves her from being burned at the stake as a witch, but Ivanhoe, descendant of Saxon kings, will marry Rowena, 'a fair Saxon',[43] maintaining the purity of the Saxon race, even if, thereafter, the 'recollection of Rebecca's beauty and magnanimity' recurred to him 'more frequently than the fair descendant of Alfred might altogether have approved'.[44] Walter Scott, it would seem, is one of the links that binds Hume to Knox in a tradition of intensifying racial theorising.

II Old Worlds in New

Ivanhoe Elementary School is situated in the Silver Lake area, some five miles from downtown Los Angeles, California, an early centre of the film industry and an area full of Scottish names and names from Walter Scott novels – Rowena, Kenilworth, Ben Lomond, Hawick. The original naming of the district as 'Ivanhoe' was made in the 1830s by Hugo Reid (1809–52), one of the earliest anglophone landowners in Southern California and later, in 1849, one of the delegates at the constitutional convention which prepared the way for California's entry into the United States.[45] It is said that Reid, who grew up in Cardross in Dumbartonshire, thought the rolling green hills of Southern

book or event did more to introduce the word race into popular use than Scott's historical romance'. See also Banton, *The Idea of Race* (London, 1977), 15ff.

41 Ian Duncan (ed.), Sir Walter Scott, *Ivanhoe* (Oxford, 1996; 1819), 428.

42 Ibid., 27.

43 Ibid., 502.

44 Ibid.

45 For the details of Reid's life, see Susanna Bryant Dakin, *Scotch Paisano in Old Los Angeles: Hugo Reid's Life in California, 1832–1852, derived from his correspondence* (Berkeley, 1978); for Silver Lakes, see http://www.silverlake.org/about_silverlake/aboutSL_frmset.htm.

California were like the hills of his native Scotland – which probably meant he first arrived in California's two-week winter wet season! Climatic disjunction is, however, not the least of the ironies in the naming of the district of 'Ivanhoe'. For a start, *Ivanhoe* was in fact the first of Scott's novels *not* to be set, at least in part, in Scotland: it is the novel with which he set out to prove that he was not constrained to remain forever within the limits of those 'Scottish manners, Scottish dialect, and Scottish characters of note … with which the author was most intimately and familiarly acquainted'.[46] To apply the name 'Ivanhoe' as an emblem of California's Scottishness was, therefore, in one sense, profoundly misplaced: *Ivanhoe* is the symbol of Scott's departure from Scottishness. On the other hand, it may have had an unconscious appropriateness, since Scott's effort to colonise the English novel was symptomatic of the ways in which the arrival of a Scot like Reid was a harbinger of the anglophone colonisation of California, then still in the dominion of Mexico. And *Ivanhoe* is itself, of course, a novel about the processes of colonisation.

At the very time when Hugo Reid was imposing his 'Scottish' names on the California landscape, however, on the other side of the rapidly expanding country, Scott – and especially *Ivanhoe* – was also extraordinarily popular, for the novel's theme of racial difference made it a favourite text of the ante-bellum slave states of the American South, where re-enactments of the jousting tournaments in *Ivanhoe* became popular public spectacles, designed to reinforce the South's sense of itself as an aristocratic and chivalric society. The *Richmond Enquirer* in September 1845 noted a recent 'Tournament of Knights' at Fauquier White Sulphur Springs where 'the costumes and skill of the riders and knightly horsemen will rival any previous display of the kind, and do honour to those days of Chivalry', and where the knights took their names from *Ivanhoe*.[47] This celebration of medieval aristocratic manners was part of a complex race mythology by which Southerners justified both their slaveholding and their superiority to the puritans of the Northern States: 'As part of the defense of the institution of chattel slavery, they proclaimed the superiority of the white race over the black race. And as part of a defense against Northern attacks on the barbarity of southern culture, they advocated a racial myth that demonstrated to the region's satisfaction the superiority of a southern American race over a separately descended northern American

[46] Scott, *Ivanhoe*, 3.

[47] Ritchie Devon Watson, Jr, Normans and Saxons: Southern Race Mythology and the Intellectual History of the American Civil War (Baton Rouge, 2008), 47.

race'.[48] For the Southern theorists, Southerners were the descendants of aristocratic Normans, the Northerners descendants of the defeated Saxons. According to Ritchie Devon Watson Jr., in the 1850s, the decade of Knox's influence on race theory,

> the leaders of Dixie's political and journalistic establishments would begin feverishly concocting the myth of the South's aristocratic and chivalric Norman racial inheritance, and it would imagine this newly minted Norman race to be in a fight for survival with an implacable foe: a northern Saxon race descended from the middling commercial and yeoman classes of England and imbued with deeply imprinted racial qualities of Puritan self-righteousness and intolerance that made peaceful co-existence and mutual accommodation within a national framework impossible.[49]

Such an identification between the South, *Ivanhoe* and Scott's historical romances produced yet another irony in Ivanhoe, California, for Hugo Reid became a landowner there by marrying a Native American woman of the Gabrieleno tribe, whose four children from her first marriage to a local Native American man he adopted, as well as having with her two further children of his own. In Ivanhoe, California, Reid was engaged in precisely the kind of miscegenation that the narrative of *Ivanhoe* resisted, a resistance that underpinned its appeal to the race theorists of the Southern States. Hugo Reid would go on to be a defender of the rights of the native peoples of California – though he failed to get those rights secured in the California constitution – and a documenter, in a series of letters published in the *Los Angeles Star*, of their customs and traditions.[50] Indeed, without Reid's account of their customs and beliefs their history would be almost unknown. In a further irony, it was California's entry into the Union in 1850 as a 'free state' – one in which slaveholding was not permitted – that meant the Southern States could no longer muster a majority against their Northern critics, and that led to the increasingly vociferous demands for secession which were a prelude to the Civil War.[51]

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[48] Ibid., 33.

[49] Ibid., 17–18.

[50] Reid's letters form an Appendix to Susan Bryant Dakin's Scotch Paisano in Old Los Angeles, 195ff.

[51] Watson, *Normans and Saxons*, 25.

Scott's text, however, is not as clearly racist as some readings of it would suggest,[52] for despite the racial oppositions which, for Scott, characterise the post-Conquest period in England, the outcome is a fusion of the two peoples through the emergence of a language which combines both of their traditions: 'the necessary intercourse between the lords of the soil, and those oppressed inferior beings by whom that soil was cultivated, occasioned the gradual formation of a dialect, compounded betwixt the French and the Anglo-Saxon, in which they could render themselves mutually intelligible to each other; and from this necessity arose by degrees the structure of our present English language, in which the speech of the victors and the vanquished have been so happily blended together; and which has since been so richly improved by importations from the classical languages, and from those spoken by the southern nations of Europe'.[53] The English language, like the British people, are a 'fusion'. (Let us not forget that Scott was married to a Frenchwoman and that during most of his marriage Britain was at war with France). Similarly, the king in disguise in 'The Lady of the Lake' confronts in the Highlands a racial 'other', but through his foolhardy entry into the Highlands, he learns to respect and to forgive his Celtic subjects, and to begin the process of their introduction into the polity of the Scottish state. Racial antagonism turns into cultural unity, which was precisely the aim of Hugo Reid's account of the Native Americans of Southern California: his own children were, after all, the inheritors not only of Scottish and Indian traditions, but of the Spanish culture to which both Reid and his wife had become integrated before their marriage – originally named Bartolomea, she had become Doña Victoria on becoming a Mexican citizen; Reid himself had to become a Catholic in order to marry her, and chose the name Perfecto, and much of his correspondence, even with other Anglophones, was conducted in Spanish and inscribed as from 'Don Perfecto'.

Scott's much ridiculed creation of a tartan-clad, 'Celtic' Edinburgh to greet George IV in 1822, can be read not as the absurd betrayal of his own Lowland Scottish heritage for a Highland illusion,[54] but as the transformation of a past 'racial' antagonism into a future cultural harmony. Ivanhoe may be the descendant of pure Saxons but he has learned the manners and the

[52] Sutherland, *The Life of Walter Scott*, notes that 'The most objectionable form of racism given currency by *Ivanhoe* is anti-semitism' (230).

[53] Scott, *Ivanhoe*, 27.

[54] Most stridently by Hugh Trevor-Roper in his essay 'The Invention of Highland Tradition', in Eric Habsbawm and Terence Ranger (eds), *The Invention of Tradition* (Cambridge, 1983).

technological advantages of the Normans. Ivanoe is, quite literally, *dressed* as a Norman, is *addressed* as a Norman, even by his own father, and will regain power in the territory which his people have lost because he is able to *act* like Norman. The freedoms of which the Saxons have been deprived can only be saved for the future by adopting – or, at least, adapting to – the cultural traditions of their conquerors.

III The Wisdom of the Ancients

That both Hume and Knox should take Newton as exemplary scientist is not simply a matter of Newton's pre-eminence in the physical sciences in the hundred years after his death: Newton, as George Davie has shown in *The Democratic Intellect*, was a deeply symbolic figure in Scottish cultural life. Not only had the Scottish universities been first to teach Newton's theories in the 1690s, Scots such as David Gregory (1659–1708), John Keill (1671–1721) and Colin Maclaurin (1698–1746) had been amongst Newton's closest associates and supporters,[55] and the Newtonianism they did much to establish came to be regarded as crucial to the Scottish intellectual tradition. Subsequently, defence of Scotland's independent intellectual tradition in the 1830s turned on the issue of its continued support for Newton's mathematics as against 'the great Continental movement, originally Cartesian and Leibnitzian, which by this time had become naturalised in Cambridge'.[56] A key figure in these debates was Knox's almost exact contemporary, Sir David Brewster (1781–1868), whose commitment to Newton was such that he produced two biographies, each designed to challenge suggestions that Newton's mind had not always been 'Divine'.

The first, *The Life of Sir Isaac Newton*, published in 1831, was written to refute a French account of Newton by Jean-Baptiste Biot, which suggested that Newton had suffered some kind of mental breakdown in 1692–3, a breakdown which had permanently affected his intellectual capabilities.[57] This was significant because the eighteenth-century Scottish accounts of Newton had emphasised the integration of Newton's physics with his

[55] See David B. Wilson, Seeking Nature's Logic: Natural Philosophy in the Scottish Enlightenment (Pennsylvania, 2009), 33ff.

[56] George Davie, The Democratic Intellect: Scotland and her Universities in the Nineteenth Century (Edinburgh, 1981; 1961), 180.

[57] See Rebekah Higgit, *Recreating Newton: Newtonian Biography and the Making of Nineteenth-Century History of Science* (London, 2007), 12ff.

theology, a theology which Biot regarded as the product of his intellectual enfeeblement. Brewster, who was amongst the first to have access to Newton's correspondence, insisted both on his continuing intellectual powers and the coherence of his theology with his physics:

> During this period of bodily indisposition, his mind, though in a state of nervous irritability, and disturbed by want to rest, was capable of putting forth its highest powers. At the request of Dr Wallis he drew up an example of one of his propositions on the quadrature of curves in second fluxions. He composed, at the desire of Dr Bentley, his profound and beautiful letters on the existence of the Deity. [58]

For Brewster, Newton's pre-eminence in mathematical physics was a guarantor of the validity of the Christianity to which both of them were committed:

> If such, then, is the character of the Christian faith, we need not be surprised that it was embraced and expounded by such a genius as Sir Isaac Newton. Cherishing its doctrines, and leaning on its promises, he felt it his duty, as it was his pleasure, to apply to it that intellectual strength which had successfully surmounted the difficulties of the material universe … the investigation of the sacred mysteries, while it prepared his own mind for its final destiny, was calculated to promote the spiritual interests of thousands. This noble impulse he did not hesitate to obey, and by thus uniting philosophy with religion, he dissolved the league which genius had formed with skepticism, and added to the cloud of witnesses the brightest name of ancient or of modern times.[59]

In his first biography, Brewster gave short shrift to another suggestion that might have sullied the reputation of the 'Divine mind' – that Newton had been steeped in alchemical lore and had been an active alchemist. Although he had found some evidence of notes on alchemical subjects in Newton's handwriting, he treated them as an offshoot of Newton's researches into 'chymical subjects' relating to 'fire, flame and electric attractions'.[60] By the time of his second biography, however, Brewster had become acquainted with

[58] David Brewster, *The Life of Isaac Newton* (New York, 1840; 1831), 222.
[59] Ibid., 264.
[60] Ibid., 268.

previously unresearched papers held by the family of Lord Portsmouth, a collateral descendant of Newton's. In these Brewster discovered that Newton had pored over the writings of, and taken copious notes from, alchemical 'philosophers', studying them with as much intensity as he had pored over theological issues. Given that these were texts and activities 'commencing in fraud and terminating in mysticism', Brewster could find no excuse but the 'mental epidemics of a past age':

> In so far as Newton's inquiries were limited to the transmutation and multiplication of metals, and even to the discovery of the universal tincture, we may find some apology for his researches; but we cannot understand how a mind of such power, and so nobly occupied with the abstractions of geometry, and the study of the material world, could stoop to be even the copyist of the most contemptible alchemical poetry, and the annotator of a work, the obvious production of a fool and a knave.[61]

The Newton who had brought light to the world was a Newton also lost in a darkness that defeated his biographer's understanding.

As we now know, however, the real extent of Newton's involvement in alchemy was much greater than even Brewster imagined – his notes have been reckoned to amount to more than a million words.[62] In 1936 the papers which Brewster had looked into came up for auction, after having been refused by Cambridge University because they were of no scientific interest. About half were acquired by John Maynard Keynes, who decided, after reviewing them, that 'Newton was not the first of the age of reason. He was the last of the magicians, the last of the Babylonians and Sumerians, the last great mind which looked out on the visible and intellectual world with the same eyes as those who began to build our intellectual inheritance rather less than 10,000 years ago'.[63] The Enlightenment account of Newton as the founder of a rationalist science which would be pursued by all those interested in discovering the truths of the universe – d'Alembert's article on

[61] David Brewster, *Memoirs of Life, Writings and Discoveries of Sir Isaac Newton* (Edinburgh, 1855), II, 374–5.

[62] Jan Golinski, 'The Secret Life of an Alechemist', in John Fauvel, Raymond Flood, Michael Shortland and Robin Wilson (eds), *Let Newton Be! A NewPerspective on his Life and Works* (Oxford, 1988), 147.

[63] John Maynard Keynes, 'Newton the Man', in *The Royal Society Newton Tercentenary Celebrations 15–19 July 1946* (Cambridge, 1947), 27.

the *Histoire des sciences* in the *Encyclopédie* announces that Newton had given 'philosophy a form which apparently it is to keep'[64] – is contradicted by Newton's own scripts, which reveal him to be committed not to a knowledge which progresses from darkness into light by cutting itself free from the past, but to the recovery of an esoteric body of knowledge which had been known to the ancients. As Piyo Rattansi has argued, Newton 'in his secret thoughts held a vision of history which would very much have astonished the *philosophes*':

> It reduced all he had discovered to a rediscovery of scientific truths well known to some of the great thinkers of the ancient world. One of the few public hints of this attitude was conveyed in a letter which Newton's young *protégé*, the Swiss mathematician Nicolas Fatio de Dullier, wrote some five years after the publication of the *Principia*. For a brief time Fatio had been entrusted with preparing a second edition of the *Principia*. In 1692 he wrote to the great Dutch physicist and Cartesian, Christian Huygens, that Newton had discovered that all the chief propositions of the *Principia* had been known to such ancients as Pythagoras and Plato, although these worthies had turned them into a '*great mystery*'.[65]

Newton toyed with incorporating his historical researches into new editions of the *Principia*, but left only hints; David Gregory, however, in his Newtonian account of *Elements of Astronomy, Physical and Geometrical* (first published in Latin in 1702) was more forthcoming:

> … the famous Theorem about the proportion whereby Gravity decreases in receding from the Sun was not unknown at least to *Pythagoras*. This indeed seems to be that which he and his followers would signify to us by the Harmony of the Spheres: That is, they feign'd *Apollo* playing upon an Harp of seven Strings, by which Symbol, as it is abundantly evident from *Pliny, Macrobius* and *Cenforinus*, they meant the Sun in Conjunction with the seven Planets, for they made him the leader of the Septenary Chorus, and Moderator of Nature; and thought

[64] Quoted Derek Gjersten, 'Newton's Success', in Fauvel, Flood, Shortland and Wilson (eds), *Let Newton Be!*, 26.

[65] Piyo Rattansi, 'Newton and the Wisdom of the Ancients', in Fauvel, Flood, Shortland and Wilson (eds), *Let Newton Be!*, 187.

> that by his Attractive force he acted upon the Planets (and called it Jupiter's Prison, because it by this Force that he retains and keeps them in their Orbits …)[66]

The new astronomy is not modern discovery but ancient truth resurrected.

It was only a year after David Gregory's assertion of this Newtonianism of the ancients that Newton became President of the Royal Society. According to Richard Westfall, one of those who have studied Newton's alchemical papers in detail, Newton had by that time ceased to engage with alchemy: his final notes on the subject date from the mid-1690s, and the only alchemical books in his library published later than 1700 are ones gifted to him.[67] By 1703, it might be thought, Newton had ceased to be the 'alchemical Newton' and had become the Newton of rational modernity, but the very organisation over which he presided had itself been founded by a firm believer in alchemy and in the secret continuation of ancient truth into the modern world – Sir Robert Moray, friend of Richelieu and of Charles II, and the first man inducted into freemasonry on English soil (while he was acting as quarter-master general to the army of the Covenanters, then encamped at Newcastle). Moray was the driving force behind the establishment of the Royal Society and it was by Moray's persuasion that Charles II granted it its Royal charter. According to historians of masonry, the success of the Royal Society was not only based on the fact that many of its original members were masons, but that Moray informed the Society with the procedures of the Masonic Lodges – election of the Master (President), no discussion of politics or religion, commitment to equality and fraternity.[68] Scottish Masonic tradition, with its assumption of an ancient wisdom continually renewed through the induction of its aspirants, was incorporated into the foundations of the world's first state organisation devoted to the pursuit of new scientific knowledge.

This conjunction of Scottish tradition and modern institution might have seemed an incidental product of Moray's very tangled personal history, which had involved him in spying in Britain for the French monarch and spying on the Continent for a British monarch, except that it was subsequently from

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[66] David Gregory, *Elements of Astronomy, Physical and Geometrical* (London, 1715), ix–x.

[67] Richard S. Westfall, 'Newton and Alchemy', in Brian Vickers (ed.), *Occult and Scientific Mentalities in the Renaissance* (Cambridge, 1984), 315–35.

[68] See Robert Lomas, *The Invisible College: The Royal Society, Freemasonry and the Birth of Modern Science* (London, 2002).

the ranks of the Royal Society that the modern form of masonry emerged in 1717, through the influence of one of Newton's most committed followers, John (or Jean) Desaguliers. Often cited as 'the Newtonian', Desaguliers, a French Huguenot exile who became an Anglican clergyman, made a career of lecturing on Newton's system and performing experiments related to it. He was elected to the Royal Society in 1713, but in the following years was one of the leaders of a movement to bring the various Masonic lodges in London together under the authority of the Grand Lodge of London, which was achieved in 1717. He is attributed with devising much of the structure that was codified in James Anderson's *The Constitutions of Freemasons*, and which was adopted by the Grand Lodge in 1721[69] but it is much more likely that Anderson himself provided the structures, since he was originally from Aberdeen, where his father had been a Master of the Masonic Lodge. Anderson's account of the history of masonry makes Scotland central to its modern survival:

> The Kings of SCOTLAND very much encourag'd the *Royal Art*, from the earliest Times down to the *Union* of the Crowns, as appears by the Remains of glorious Buildings in that *ancient* Kingdom, and by the Lodges there kept up without Interruption many hundred Years, the Records and Traditions of which testify the great Respect of those Kings to this honourable Fraternity, who gave always pregnant Evidence of their Love and Loyalty, from whence sprung the old Toast among the *Scots* Masons, *viz.* GOD BLESS THE KING AND THE CRAFT.[70]

Anderson also attributes the development on masonry in England to the influence of the Scots:

> Yet the great Care that the SCOTS took of true Masonry, prov'd afterwards very useful to ENGLAND; for the learned and magnanimous Queen ELIZABETH, who encourag'd other Arts, discourag'd this; because, being a *Woman*, she could not be made a *Mason*, tho' as other

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[69] See Margaret C. Jacob, *The Radical Enlightenment: Pantheists, Freemasons and Republicans* (London, 1981), 122ff.

[70] Benjamin Franklin edition of *The Constitutions of the Free-Masons* (1734), electronic edition Libraries at University Nebraska-Lincoln, http://digitalcommons.unl.edu/libraryscience/25/, 34

> great Women, she might have much employ'd Masons, like *Semiramis* and *Artemisia*.*
>
> But upon her Demise, King JAMES VI. of SCOTLAND succeeding to the Crown of ENGLAND, being a *Mason* King, reviv'd the *English* Lodges; and as he was the *First* King of GREAT BRITAIN, he was also the *First* Prince in the World that recover'd the *Roman* architecture from the Ruins of *Gothic* Ignorance.[71]

The work of Moray, Anderson and Desaguliers, meant Scottish-inspired masonry and the Royal Society were each infused with the same principles and beliefs, as well as an overlapping membership. As Margaret C. Jacob notes in her study of *The Radical Enlightenment*,

> The Newtonian and Whig leadership of the Royal Society, whose authority had been enhanced by Newton's own presidency, guided the Grand Lodge in its formative years. Whig control over the Royal Society resulted from a political struggle in which Sir Hans Sloane, Desaguliers, and Martin Folkes emerged as victorious. At the same time, over a fourth of the early Masonic membership also belonged to the Royal Society … [72]

This successful transmission of Scottish masonry into the new British imperial polity after the Union of 1707 was to provide the world of the British Empire with one of its key civic institutions. As Jessica-Harland has argued,

> At the same time that lodges were travelling with army regiments as they moved around the empire enforcing Britain's will, Freemasons were also engaged as the shock troops of imperial ceremony. Their ceremonial role was not confined to the privacy of the lodge. Though assumed to be draped in mystery and intrigue, Freemasonry was … as much a public institution as an esoteric club. Everywhere one went in the empire, one could witness Freemasons marching in processions, occupying prominent places in official ceremonies to greet or bid farewell to imperial officials, and observing milestones in the life of the monarch. And everywhere they laid foundation stones . . . In these

[71] Ibid., 35.

[72] Jacob, *The Radical Enlightenment*, 112.

> elaborately staged public appearances, Masons put their fine regalia and tools on display, deposited the coins of the realm, and anointed the architecture of empire with the symbols of their order.[73]

Where medieval masons, tramping between jobs, would be sure of support from their brethern in local lodges, in the itinerant world of Empire, the masonic lodge provided a sense of community in a potentially hostile world, a sense of community based on the belief in an ancient wisdom of which the Freemasons were the keepers.

The role of Scots in the diffusion of freemasonry was not, however, confined to the anglophone world. At exactly the same time as Anderson was constituting British masonry, Jacobite exiles in France were establishing an alternative version that would have radical consequences across Europe. The first Grand Masters in France were all Jacobite exiles – including Lord Derwentwater, who would be executed for his part in the 1745 Jacobite Rebellion – and the Continental tradition, known to this day as the *rite écossaise*, was given definition in 1736 by Andrew Michael Ramsay, a long-term exile in France. Ramsay, too, however, was a Fellow of the Royal Society, inducted along with Montesquieu in 1729, almost immediately after which he was initiated into London Masonry in 1730: he was also a pupil of one of Newton's students and closest friends of the 1690s, Nicolas Fatio de Duillier.[74] His vision of freemasonry was that of a worldwide enlightenment:

> We desire to reunite all men of enlightened minds, gentle manners and agreeable wit, not only by a love of the fine arts but, much more, by the grand principles of virtue, science and religion, where the interests of the Fraternity shall become those of the whole human race, whence all nations shall be enabled to draw knowledge and where subjects of all kingdoms shall learn to cherish one another without renouncing their own country. Our ancestors, the Crusaders, gathered together from all parts of Christendom in the Holy Land, desired thus to reunite into one sole Fraternity the individuals of all nations.[75]

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[73] Jessica L. Harland-Jacobs, *Builders of Empire: Freemasonry and British Imperialism, 1707–1927* (Chapel Hill, 2007), 14.

[74] Scott Mandlebrote, 'Newton and Eighteenth Century Christianity', in I. Bernard Cohen and George E. Smith (eds), *The Cambridge Companion to Newton* (Cambridge, 2002), 413.

[75] http://www.freemasons-freemasonry.com/ramsay_biography_oration.html, accessed September 2010.

Despite his own deep commitment to monarchy, to social hierarchy and to the Catholic faith, Ramsay declared that, 'The world is nothing but a huge republic, of which every nation is a family, every individual a child. Our Society was at the outset established to revive and spread these essential maxims borrowed from the nature of man'. Both the French monarchy and the Papacy disagreed with Ramsay's account of the 'nature of man': freemasonry was banned, with the effect that it became, in the next half-century, the vehicle of radical opposition to every *ancien régime* across Europe. The ideology of freemasony, quietist in Britain, became as radical in Europe as it proved to be in North America. The Scottish Rite, however, also crossed to the United States and Canada and became a major strand of North American freemasonry, despite the earlier arrival of Anderson's version through its adoption by Benjamin Franklin, and by his publication in 1734 of Anderson's *Constitutions of the Free-Masons*.

It was Ramsay who identified the Knights Templar as the organisation emerging from the Crusades from which Freemasonry had derived its symbolic language, thereby initiating that vast historical detective novel that is the search for the Holy Grail hidden in some Masonic vault. A prime candidate is, as we know from the *Da Vinci Code*,[76] Rosslyn Chapel near Edinburgh, not only because its intricate sculptures can be read as versions of masonic lore, but because it was constructed by the Sinclair (St. Clair) family, who were traditionally believed to be the hereditary patrons of all Scottish masons.[77] The ceiling of Rosslyn chapel was copied by Walter Scott for the ceiling of his library in baronial Abbotsford, and in 1823 Scott declined, because of age and health, the offer of being proposed as Grand Master of the Masonic Order of Knights Templar in Edinburgh.[78] In *Ivanhoe*, however, the Templars are portrayed as the Freemasons have often been portrayed – a secret society claiming beneficent purposes but bent on world domination. 'Our immense possessions in every kingdom of Europe', Brian de Bois-Guilbert tells Rebecca, 'our high military fame, which brings within our circle the flower of chivalry from every Christian clime – these are dedicated to ends of which our pious founders little dreamed, and which are equally concealed from such weak spirits as embrace our Order on the ancient principles, and whose

[76] Dan Brown's novel is based on Michael Baigent and Richard Leigh, The Temple and the Lodge (London, 1989); for the most recent version of this transmission of ancient wisdom via the Sinclairs, see Alan Butler and John Ritchie, Rosslyn Revealed: A Library in Stone (Ropley, Hants, 2006).

[77] See David Stevenson, *The Origins of Freemasonry: Scotland's Century 1590–1710* (Cambridge, 1988), 52ff.

[78] Duncan, *Ivanhoe*, 'Introduction', xxiv–xxv.

superstition makes them our passive tools'.[79] Bois-Guilbert's apparently 'wild and unnatural'[80] desire for Rebecca is the equivalent, at a personal level, of the Order's desire to rule the Jewish homeland, and to have grasped to itself the ancient truths of the Temple of Solomon, that central symbol of masonic lore.

That desire for possession of the Holy Land and of the knowledge to which it had been home was no less intense in Newton himself. Newton had not only been an alchemist, but an equally dedicated student of the Old and the New Testaments, determined to prove that all ancient wisdom was descended from the Jews, and that all ancient civilisations – even those which appeared to predate them – had derived whatever knowledge they possessed from the Jews: such a genealogy underlined that 'the rediscovery of the true system of the world must then form an essential part of the process of recovering the lost Adamic knowledge'.[81] The body of truth both ancient and modern could only be resurrected through an intimate – an initiated – knowledge of the scriptures of the Jews, for all truth was gifted originally to only one race.

IV Newton's Rings

In an essay published in 1970, Paul K. Feyerabend compared Newton's conception of scientific truth with the Reformation's conception of religious truth. He concluded that there were precise parallels: in religion, Luther and Calvin both declared 'Holy Scripture to be the foundation of all religion', but this rule 'does not provide any means of *identifying* scripture (no version of scripture contains a passage to the effect that "the preceding … and the following … pages are Scripture");[82] equally, in Baconian and Newtonian science, the appeal is to 'experience' but 'experience' does not contain any rules for *identifying* or *describing* its contents:

> Experience, taken by itself, is mute. It does not provide any means of establishing a connection with a language unless one already includes

[79] Scott, *Ivanhoe*, 257.

[80] Ibid., 395.

[81] Rattansi, 'Newton and the Wisdom of the Ancients', *Let Newton Be!*, 198–9.

[82] Paul K. Feyerabend, 'Classical Empiricism', in Robert E. Butts and John W. Davis, *The Methodological Heritage of Newton* (Oxford, 1970), 152–3.

> in it some elementary linguistic rules, that is unless one again refers to a tradition.[83]

Neither 'scripture' nor 'experience', as defined by the Reformation and the 'scientific revolution', can declare itself to be what it is required to be if it is to provide the founding basis of faith or knowledge. Since we are not allowed to use what cannot be justified by 'scripture' or 'experience' to give them definition, the commitment to them can have no logical or rational basis: they are, in Feyerabend's terms not only '*logically vacuous*' but *have to be so* in order to function as an apparent foundation for the knowledge they make possible. As Scott Mandlebrote has noted, Newton's theology depended on a 'strict biblical literalism' in which 'the text of scripture both confirmed and interpreted itself'[84] and, if Maurizio Mamiani is correct, Newton's approach to the reading of scripture, and his development of a typology which will explain the figural language of Apocalypse, is actually the basis for the 'Rules of Reasoning' which makes possible the logic of the *Principia*.[85] Newton's science was able to give support to religion precisely because it was the application to the text of the natural world of principles which had been developed to read the text of scripture.

It was this implicit circularity of Newtonian method – whether framed in terms of the 'occult' causes of gravitation or the 'mysteries' of fluxions – that exercised those anti-Newtonians who refused to accept either the philosophical or theological consequences of Newtonian physics, even when they accepted the validity of his mathematics.[86] Newton's account of gravitation, like his account of Apocalypse, depended on smuggling into the rules for analysing the data the very outcomes which those rules were claimed to generate: gravity is the implication of the mathematical account of the laws of motion but also the assumption on which they are based, so that much of the debate between Newton and his critics was about the status of gravity as a 'cause' of planetary motion – was it an 'occult' assumption or

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[83] Ibid., 154.

[84] Scott Mandlebrote, 'Newton and Eighteenth Century Christianity', in I. Bernard Cohen and George E. Smith (eds), *The Cambridge Companion to Newton* (Cambridge, 2002), 420–1.

[85] Maurizio Mamiani: 'Newton on prophecy and the Apocalypse', in Cohen and Smith, Cambridge Companion to Newton, 396ff.

[86] See Geoffrey Cantor, 'Anti-Newton' in Fauvel, Flood, Shortland and Wilson, *Let Newton Be!*, 203ff.

did the mathematics prove that 'gravity does really exist'?[87] This circularity meant that Newton assumed his particular experiments to have demonstrated the truth of his method and his method to have revealed the validity of his experiments – even when, as Feyerabend shows, the experiments might equally fit with an alternative set of hypotheses. Thus Newton's 'ray theory' of light, which is proved by experiment – the '*experimentum crucis*' – is in fact dependent on the theory for the structure of the experiment by which it is proved: as Feyerabend puts it, 'the wave theory, too, has its paradigmatic experiments which exhibit its principles at once, and with only a minimum of abstraction and generalization: the phenomena of refraction and reflection follow from this theory as swiftly and naturally as the *experimentum crucis* follows from Newton's account'.[88] Newtonian science worked, but worked by defining the world on the presuppositions of the science: science revealed the order of the universe through mathematics – but only by assuming that reality was already, by God, mathematically ordered. If Feyerabend is right, the problems of Newton's hermeneutic exegesis of biblical texts were identical with the problems of his science.

It was in part this *uncertainty* in Newton's science that led Immanuel Kant (1724–1804) to attempt to salvage Newtonian space and time not as the objective realities of the universe but as the categories through which we necessarily perceive it: Newton's assertions that 'absolute, true and mathematical time, of itself, and from its own nature flows equally without relation to anything', and that 'absolute space, in its own nature, without relation to anything external, remains always similar and immovable',[89] are made inevitable by constituting them as the lenses through which we encounter the world. The consequence, of course, is that we can never see the world as it is in itself, because we can never see it except by means of the categories by which our perceptions structure it. Ultimate truth is beyond the reach even of Newtonian science. In following through the implications of this, Sir William Hamilton (1788–1856) developed the notion of the fundamental limitation of all human knowledge, for which he invented the term 'nescience':

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[87] Isaac Newton, *Mathematical Principles*, trans A. Motte, rev. by Florian Cajori (Berkeley, 1960), 547. See Gerd Buchdahl, 'Gravity and Intelligibility: Newton to Kant', in Butts and Davis (eds), *The Methodological Heritage of Newton*, 76.

[88] Feyerabend, 'Classical Empiricism', in Butts and Davis (eds), *The Methodological Heritage of Newton*, 167.

[89] Newton, *Principia*, 7.

> Loath to admit that our science is at best the reflection of a reality we cannot know, we strive to penetrate to existence in itself; and what we have laboured intensely to attain, we at last fondly believe we have accomplished. But, like Ixion, we embrace a cloud for a divinity. Conscious only of, – conscious only in and through, limitation, we think to comprehend the Infinite; and dream even of establishing the science – the *nescience* of man, on an identity with the omniscience of God. It is this powerful tendency of the most vigorous minds to transcend the sphere of our faculties, which makes a "learned ignorance" the most difficult acquirement – perhaps, indeed, the consummation of knowledge.[90]

'Nescience' was to lead a vigorous life through the rest of the nineteenth century in debates about the existence of God, and about whether knowledge of God's existence was possible for human beings. 'Nescience' was used to justify both traditional religion – only revelation and faith could make God knowable – and to justify agnosticism – ultimate reality was simply beyond human comprehension.[91]

But 'nescience' was also to become embroiled in the understanding of race. In the last years of the nineteenth century and the early years of the twentieth, anthropologist Walter Baldwin Spencer 'discovered' that the Arunta people of central Australia had no understanding of the relationship between the sexual act and procreation: their 'nescience'[92] – lack of knowledge – of this fundamental aspect of human life identified them as the most primitive surviving human group, quite literally 'a stone age people', as the subtitle of his book of 1927 put it.[93] The very first stage of the stadial progress of humanity had been discovered, a people so primitive that they had no conception of their own conception. As Patrick Wolfe has traced, however, this 'discovery' was the fulfilment of a theoretical account – a 'conjectural history' – of human development based on the theories of J. F. McLennan

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[90] Sir William Hamilton, 'Philosophy of the Unconditioned', *Edinburgh Review* (October 1829), 37–8.

[91] See James C. Livingston, 'British Agnosticism', in Smart, Clayton, Katz and Sherry (eds), *Nineteenth Century Religious Thought in the West*, Vol. 2 (Cambridge, 1985), 234ff.

[92] It was Andrew Lang, in his *The Secret of the Totem* (London, 1905), 193, who applied Hamilton's term to the nature of the Arunta's lack of knowledge of conception.

[93] Sir Baldwin Spencer and F. J. Gillen, *The Arunta: A Study of a Stone Age People* (London, 1927).

(1827–81), E. B. Tyler (1832–1917), and J. G. Frazer (1854–1941).[94] Two issues came together in this account. First, that in primitive societies, as McLennan puts it, 'we find marriage laws unknown, the family system undeveloped, and even the only acknowledged blood relationship that through mothers';[95] the consequence is that it impossible to know who is father to any child. Second, that primitive societies are organised around 'totems': as Frazer describes it, 'the reason why a tribe revere a particular species of animals or plants (for a tribal totem may be a plant) and call themselves after it, must be a belief that the life of each individual of the tribe is bound up with some one animal or plant of the species, and that his or her death would be the consequence of killing that particular animal, or destroying that particular plant';[96] people's spirits are, in some sense, 'contained'[97] in the totem. But if creatures and plants can 'contain' human spirits, and if human spirits can migrate between human bodies and other bodies, then, to 'that infantine state of mind', as Edwin Sidney Hartland (1848–1927) described it in his *Science of Fairy Tales: An Inquiry into Fairy Mythology* (1891), 'not only our fellow men and women but all objects animate and inanimate around us' will be seen 'as instinct with a consciousness, a personality akin to our own'.[98] Nescience of fatherhood as a practical issue in primitive societies with no family structure must, he suggested, have been preceded by an even earlier stage in which it was believed that people could enter into relations with animals and objects on the same basis as with other human beings – including marriage, 'wherein one party may be human and the other an animal of a different species, or even a tree or plant'.[99] Totemism, for Hartland, was a means of acknowledging ancestors who had not been human, a stage in human evolution when the relationship between sex and conception had not been understood and which had left behind, as its cultural deposit, myriad tales of carnal unions with beasts.

Hardly had Hartland envisaged this historical stage than, to his astonishment, Spencer, and his co-researcher Gillen, discovered it still surviving among the Arunta:

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[94] Patrick Wolfe, *Settler Colonialism and the Transformation of Anthropology: The Politics and Poetics of an Ethnographic Event* (London and New York, 1999).

[95] John Ferguson McLennan, *Studies in Ancient History* (London, 1886).

[96] J. G. Frazer, *The Golden Bough: A Study in Comparative Religion* (Edinburgh, 2004; 1890), 641.

[97] Ibid., 640.

[98] Edwin Sidney Hartland, *The Science of Fairy Tales: An Enquiry into Fairy Mythology* (London, 189), 25.

[99] Ibid., 27.

> Some years ago I ventured to suggest that certain archaic beliefs and practices found almost all over the world were consistent only with, and must have arisen, from imperfect recognition of fatherhood. I hardly expected, however, that a people would be found still existing in that hypothetical condition of ignorance. Yet, if we trust the evidence before us, it is precisely the condition of the Arunta. They hold the cause of birth to be simply the desire of some Arunta of earlier days to be reincarnated.[100]

Frazer rushed to proclaim the problem of totemism solved: 'after years of sounding, our plummets seem to touch bottom at last'.[101] The category of the 'nescient' having been invented, it allowed Spencer to 'see' what must be the state of mind of his 'stone age' people. A category created by armchair anthropologists poring over ancient texts allowed Western 'science' to distinguish the 'nescience' of those it was seeking to fit into the development of humanity – without considering the nescience (in Hamilton's sense) of its own methodology. As Jonathan Friedman has argued, 'in the process of representation, only one side of the we/they opposition became the anthropological object, precluding the systemic relations involved in the constitution of that object'.[102]

Thus, despite the presentation of the Arunta as man in his earliest stages of development – and, therefore, in some sense the equivalent of 'our' ancestors – another piece of nineteenth-century discourse allowed them to be strictly separated from their white discoverers: 'it is not yet certain', Frazer opined in 1890, 'that the Aryans ever had totemism. On the other hand, it is quite certain that many Aryan peoples have conceived of vegetation as embodied in animal forms'.[103] Even amongst the primitive, race differentiates.

Spencer's assumption, when he was appointed as 'Protector of the Aborigines' as a result of his scientific understanding of their culture, was that he was overseeing a dying race, one which could not progress to modernity. The attitude of official Australia that he represented seemed to be that of Robert Knox towards 'the dark races':

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[100] Hartland, 'Presidential Address to the Folk-Lore Society, *Folk-Lore* 9 (1900), 52–80; 65; quoted in Wolfe, *Settler Colonialism*, 21.

[101] 'The beginnings of religion and totemism among the Australian Aborigines', *Fortnightly Review*, (n.s.) 78 (1905), 457–8; quoted Wolfe, *Settler Colonialism*, 24.

[102] Jonathan Friedman, Cultural Identity and Global Process (London, 1994), 2.

[103] Frazer, *Golden Bough*, 382.

> No one seems much to care for them. Their ultimate expulsion from all lands which the fair races can colonise seems almost certain. Within the tropic, climate comes to the rescue of those whom Nature made, and whom the white man strives to destroy; each race of white men after their own fashion: the Celt by the sword; the Saxon, by conventions, treaties, parchment, law. The result is ever the same – the robbing the coloured races of their lands and liberty.[104]

If race is history then history is nature: its course is as inevitable as Newtonian physics, as inescapable as Kantian categories, as self-evident as the evidence of anthropologists.

V Forging Race

In the final section of James Joyce's *Portrait of the Artist as a Young Man*, Stephen Dedalus, preparing to leave Ireland, writes in his diary:

> Welcome, O life! I go to encounter for the millionth time the reality of experience and to forge in the smithy of my soul the uncreated conscience of my race.[105]

The word 'forge' hovers between two meanings: to forge, to bring into being, as metal beaten on an anvil, and to forge, to counterfeit, to simulate. The balance is crucial: 'the reality of experience', of the external world, is to be reconstituted into spirit, 'conscience', the two being bound together by the insubstantial medium of the soul. The irony, however, is that Stephen has never encountered the 'reality' to which 'experience' points except as the projection on to it of his own subjectivity. The 'reality of experience' is decidedly not the same as an 'experience of reality', so that the 'uncreated conscience' of his race will only come into existence as a result of his own subjectivity being imposed, God-like, on the chaos before creation.

Joyce's dramatisation of the act of forgery by which reality – both external and internal – is constituted, is an ambiguity which finds no echo in Colin Kidd's *The Forging of Races*. For Kidd race is simply a projection of subjectivity

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[104] Knox, *Races of Men*, 210.

[105] James Joyce, Portrait of the Artist as a Young Man (Harmondsworth, 1960; 1916), 253.

on to the screen of reality – 'race … belongs not so much to the realm of objective biology as to the quite distinct realm of human subjectivity'[106] – and on to the screen of a text – 'the Bible says nothing about race, and functions, in this respect, merely as a screen on which its so-called interpreters project their racial attitudes, fears, and fantasies'.[107] There is, on the one side, the 'objective' world of science and, on the other, the subjective world of fantasy: 'the world of racial classification is, to all intents and purposes, a realm not of objective science, but of cultural subjectivity and creativity, for "race" involves the arbitrary imposition of discontinuities on the continuous variation of the world's peoples'.[108] This is a division, however, which the history of science itself will hardly support: it is not just in the area of theories of race that past science has proved to be the wilful imposition of subjectivity on reality, nor is it only racial discourse which has found 'concealed' meanings in the Bible (as Newton's emblematic readings prove). Once race is 'forged' it cannot simply be erased by pointing to its subjectivity, for it is one of the categories by which our public world is constituted. How otherwise could we have 'race relations legislation', or laws against 'incitement to racial hatred'? Because 'race' does not have any confirmed scientific basis does not mean that it is an empty concept, for all concepts – even the concepts of science, some would argue – 'are examples of cultural construction superimposed upon arbitrarily selected features' of reality. Kidd's project was framed as one in which 'the dethroning of biblical authority was a necessary prelude to the emergence of modern racism' because 'the message of the Christian scriptures constrained the development of polygenist ideas of multiple human origins'. Race and racialism were the products of 'a secularised doctrine untramelled by the monogenist anthropology clearly articulated (or so it seemed) in Genesis, and reiterated in the message of universal brotherly love found in the New Testament'.[109] What he discovered, however, was that the text of the Bible was much more fluid in the 'smithy of the soul' than he had imagined:

> The human imagination is equally capable of interpreting the Christian scriptures in a racialist manner. It often depends less, it seems, on the logic of the scriptures than on the objectives of the interpreter, or indeed on the logic of the system developed conjointly out of the

[106] Kidd, *The Forging of Races*, 18.
[107] Ibid., 3.
[108] Ibid., 7.
[109] Ibid., 271.

> scriptures and their theological accompaniment … As it transpires, polygenist theories of plural creations of races and theories of the pre-Adamic creations of other races did find their way into otherwise traditional readings of the scriptures. Genesis, it turned out, yielded both polygenist and monogenist lessons in anthropology.[110]

But what is true of the Biblical text is no less true of that other text – the text of Nature as read by science. It is forever under revision and reinterpretation, its 'objectivity' a function of a method whose assumptions shape its conclusions. As we saw in the case of Newton's alchemy and theology, science is shaped by much more than what can be proven 'objective', and what counts as science is as much a matter of 'the arbitrary imposition of discontinuities on … continuous variation' as are theories of race.[111] Telling science from pseudoscience is not any easier than distinguishing the 'objective' from the 'subjective'.

The fundamental weakness of Kidd's argument, however, is that it *assumes* racism to be unacceptable but reveals that the Judaeo-Christian tradition provides no bulwark against it. The Bible may say nothing about race, but that does not mean – indeed, as Kidd shows *in extenso*, has not meant – that it can not be made to support racial arguments, despite the New Testament's 'message of universal brotherly love'.[112] This is not because of the perversity of readers of the Bible or because of the evil intent of racists but because of the very nature of scriptural textuality. Nor would Kidd's arguments against racism cease, one assumes, if it turned out that there *were* genetic differences corresponding to some definition of 'race' – such differences would be, I assume, for those of us who share Kidd's rejection of racism, irrelevant to our conception of the rights of human beings *as* human beings. Notably, it is in the very era of the 'dethroning of biblical authority' that the language of the 'rights of men' emerges, replacing 'brotherly love' with the 'Liberty, Equality, Fraternity' that the French derived from the traditions of Freemasonry. That Freemasonry was no less likely to succumb to racism despite principles of brotherhood is clear from the outcome of the American Revolution and the shaping of the US Constitution in which masons were so prominently involved – being the President of a nation committed to equality as well as a Freemason committed to brotherhood, did not prevent Jefferson from being a slaveholder. Freemasonry could become, however, the vehicle for those in search of rights,

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[110] Ibid., 271–2.
[111] Ibid., 7.
[112] Ibid., 271.

as in the case of Prince Hall and the 'African Lodge'. Hall had been made a mason by a British soldier, and then gained a charter for the establishment of the African Lodge from England in 1785, and went on to build a fraternity that now claims over 4,500 affiliated lodges.[113] According to Steven Bullock, 'by invoking fraternity as a member of an international brotherhood, Hall gained the moral authority necessary to challenge the inconsistencies of a white orthodoxy that praised equality, religion and fraternity yet treated blacks as inferiors'.[114] Similarly, those elite members of the colonised who were invited to join Freemasonry as a way of consolidating their commitment to British imperial hegemony could, as Jessica Harland-Jacobs suggests, learn 'to use the brotherhood's ideology of cosmopolitan fraternalism to challenge the "rule of colonial difference" that underlay imperial powers and to demand equality with his British "brothers". After all, Freemasonry, a highly elastic institution, had a history of being put to subversive ends'.[115]

It will come as no surprise that 'Ivanhoe' continues to be one of the most popular names for Masonic Lodges throughout the world. A novel which can be read as an affirmation of racial distinction, or as its transcendence; a novel which places the racially abused – the Jews – at the very heart of its moral issues, by creating in Rebecca the novel's most popular character, and yet ensures their removal from the society at its conclusion, both enacts and critiques the contradictions of our understanding of race since the Enlightenment. The 'science of man' proposed by David Hume, and developed by later Scottish thinkers, turned mankind itself into the object of scientific scrutiny. It seemed to Hume that it was 'impossible to tell what changes and improvements we might make in these sciences were we thoroughly acquainted with the extent and force of human understanding, and cou'd explain the nature of the ideas we employ, and of the operations we perform in our reasonings'.[116] But in what scientific space did Hume's 'man' exist? – his own writings offered many alternatives: Newtonian space? The space of impressions and ideas? the space of conjectural history? the space of national history? the social space of an imperial and commercial modernity? As each of these was explored it was assumed that understanding would reveal a 'harmony' in which truth would always be at one with itself – a harmony equivalent to that which Newton discovered between the truths of the ancients and the truths of the moderns,

[113] http://www.mindspring.com/~johnsonx/whoisph.htm, accessed September 2010

[114] Bullock, *Revolutionary Brotherhood* 158–60.

[115] Harland-Jacobs, *Builders of Empire,* 15.

[116] David Hume, *A Treatise of Human Nature*, ed. L.A.Selby-Bigge (Oxford, 1888), xix.

when he decided/discovered that the colours that composed white light were equivalent to the notes of the harmonic scale as described by Pythagoras, and that the same mathematical relations determined the orbits of the planets.[117] The harmony of the universe, the parallelism of its mathematical relations and the analogical equivalence of the ways in which it could be read, whether as 'nature' or as 'scriptural text', ensured a 'harmony' in which truth was one and everywhere the same. Scott's *Ivanhoe*, on the other hand, threatens to undermine such harmonies: to Rowena's offer that Rebecca stay in England, the Jewess replies: 'that may not be. I may not change the faith of my fathers like a garment unsuited to the climate in which I seek to dwell, and unhappy, lady, I will not be'.[118] Rebecca refuses to conform to the demands of progressive history and insists on the importance of a tradition which seems redundant to her 'fair' inquisitor. The power of tradition shapes the nature of the truth which defines the life of woman; the science of man, and its assumption of the singularity of truth, is what the experience of woman will put in doubt: as Hume was to discover, his rational exploration of the human mind proved only how irrational was its fundamental structure: 'Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them'.[119]

VI Another Ivanhoe

Agnes Armstrong is an Australian Aboriginal artist: her landscapes are based, in colour and structure, on the traditions of Aboriginal art, and done with ochre on canvas. She lives on the Mirima Reserve in Western Australia. One of her paintings is of the landscape where she grew up – Ivanhoe Station.

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[117] See Penelope Gouk, 'The Harmonic Roots of Newtonian Science', in Fauvel, Flood, Shortland and Wilson (eds), *Let Newton Be!*, 122ff.

[118] Scott, *Ivanhoe*, 501.

[119] Hume, *Treatise of Human Nature*, 425.