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CHAPTER 16

Natural history and historical nature: the project for a natural history of Ireland

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This chapter is about the project for a natural history of Ireland which was undertaken from 1645 onwards by the associates of Hartlib who were connected with Ireland in various capacities, principally in the context of the 1640s wars, the Cromwellian military expeditions and the parliamentary and Protectorate government. Charles Webster and T. C. Barnard have already given a full account both of the scientific character of the natural history enterprise and of the mutual social relations of its participants. I am here concerned more specifically with the problem of the paradoxical relation between the ideal of the advancement of learning and the practice of English policies and actions in Ireland.[1] Broadly, the argument is as follows: the project for a natural history contained a genuine moment of enlightenment and constituted real progress in the discussion of Ireland. However, the prejudices and, to some extent, the self-interest of the group that enacted it vitiated the results. Degrees of prejudice and greed varied among the participants, as also among the body of English settlers in Ireland at large. I shall also argue that the texts the project produced were flawed in direct proportion to the level of intolerance and incomprehension of their authors. The problem thus has a broader context in the dilemma between the Baconian spirit of empirical enquiry on the one hand and the equally Baconian equation of knowledge with power on the other. Later social theorists rightly perceive the latter

[1] See Webster, 62–7 and 428–35; T. C. Barnard, *Cromwellian Ireland* (Oxford, 1975); T. C. Barnard, 'Miles Symner and the new learning in seventeenth-century Ireland', *Journal of the Royal Society of Antiquaries of Ireland*, 102 (1972), 129–42; and T. C. Barnard, 'Gardening, diet and "improvement" in later seventeenth-century Ireland', *Journal of Garden History*, 10 (1990), 71–85. See also his 'The political, material and mental culture of the Cork settlers, c.1650–1700', in *Cork: history and society*, ed. P. O'Flanagan (Dublin, 1993) 309–367, which affords much insight into the physical details of plantation and settlement, especially into their development in later decades.

as the domination of nature by science and technology and the suppression and repression of Otherness both within and without the self. A related paradox is the relation between two impulses which seemed to work in opposite directions: the impulse accurately to register the facts of material reality, and the utopian desire to reform the world, to change – to 'improve' – those facts into a new dispensation. This notion of a new dispensation was, of course, heavily laced in the Hartlib circle with Protestant, often even millenarian, hopes.

The natural history of Ireland enterprise was begun by two Dutch physicians, the brothers Arnold and Gerard Boate. Arnold, a Leiden-educated physician like his brother, had a long acquaintance with Ireland, having arrived there before the civil wars, in 1636. He had treated both Archbishop Ussher and Thomas Wentworth, Charles I's lord deputy, before becoming physician-general to the army in Leinster. Arnold was a prominent Hebraist and international controversialist who published several works on the question of the integrity of the text of the Bible. He was intellectually close to Ussher, who helped his medical career in Ireland, and to whom he dedicated some of his writings. Arnold, however, left Ireland in 1644 and went to live in Paris, keeping in touch with Ussher by correspondence. His younger brother Gerard's connection with the country was less extensive. Though he came to Ireland in 1649, serving as a doctor at the military hospital in Dublin before dying there in 1650, he had actually written *Irelands naturall history* in 1645 before he had any first-hand knowledge of the place. Gerard Boate and his wife, Katherine, are, however, listed among the adventurers who financed the English suppression of the 1641 rebellion, and they were granted land in County Tipperary.[2] Gerard's information about Ireland came in large part from his brother, who also, in effect, edited his text. Arnold's prefatory matter says that he communicated the material about Ireland to Gerard in the summer of 1644. They had already collaborated on an earlier project: convinced Protestant reformers in the spirit of Hartlib himself, they had in 1641 – the year of the rebellion – published in Dublin a joint

[2] *DNB*; and see Carl Bottigheimer, *English money and Irish land* (Oxford, 1971), 199. Gerard's descendants put down permanent roots in Ireland, playing a distinguished part in the history of Irish medicine up to the late nineteenth and twentieth centuries (personal communication by their descendant, Mr Bob Russell, who has conducted extensive genealogical research on the history of the Boates in Ireland).

work, *Philosophia naturalis reformata*, attacking the Aristotelian foundations of scholastic philosophy. When Samuel Beckett's *Whoroscope*, his early poem about Descartes, referred to 'the brothers Boot [*sic*]' who 'refuted Aristotle in Dublin', it was, albeit ironically, pointing out a moment of that demystification which is common to Cartesian rationalism and Baconian empiricism.[3]

The *Naturall history* reveals other sources besides the personal information of Arnold Boate. Gerard Boate was in close contact, while in London, with Sir William Parsons and his family from County Offaly, who had left or been driven from their large Irish estates on account of the rebellion. Parsons had been surveyor-general of Ireland since 1602 and, in 1640, he was appointed as one of the lords justices of Ireland. He was an intensely acquisitive planter who had enriched himself greatly in Irish land during most of the four decades preceding 1641.[4] Described by Hartlib as 'a very rational gentleman', he nevertheless appears as a suspicious and fanatical individual, who actively sought to provoke the two ethnically diverse Catholic factions in Ireland into merging in more and more open revolt, with the hoped-for result of having Catholic proprietors removed altogether.[5] Parsons' ambitions, and especially his extreme bitterness towards the Irish and his perception of them as uncivilized and barbarous, are conspicuously evident in Gerard Boate's text. In this it is strongly reminiscent of the bitter and anxious hostility to the Irish displayed in Spenser's *View of the present state of Ireland*, written some fifty years previously. It also, as I shall argue, raises the similar paradox, a recurrent one in Anglo-Irish history, of the poor fit between reformist, advanced Protestant thinking in the English context, and its implications on the ground in Ireland where this tended to be perverted by self-serving acquisitiveness, oppressive intolerance and revulsion at ethnic Otherness.[6]

[3] Samuel Beckett, *Poems in English* (London, 1961), 9–13.

[4] *DNB*; and see Hugh Kearney, *Strafford in Ireland* (Manchester, 1959), 174. Parsons was involved in the plantations of Ulster, Wexford, Longford, Ely O-Carroll, Leitrim and Wicklow.

[5] Hartlib's comment is in his *Ephemerides* (1648), quoted in Webster, 66, n. 113, and concerns his passing medical information to Lady Ranelagh; the paradox is emblematic. For Parsons' Irish attitudes, see *DNB*; for a blisteringly negative, contemporary Catholic view of him, see Henry Burkhead, *Cola's furie: or, Lirenda's miserie* (Kilkenny, 1645), discussed in P. Coughlan, '"Enter Revenge": Henry Burkhead and Cola's furie', *Theatre Research International*, 15 (1989), 1–14.

[6] See Ciaran Brady, 'Spenser's Irish crisis: humanism and experience in the 1590s', *Past and Present*, 111 (1986), 16–49; Patricia Coughlan, '"Some secret scourge which shall by her come unto England"', and Anne Fogarty, 'The colonization of language', in *Spenser and*

In London, the Parsons were part of the circle of Protestant Irish, many of them 1641 exiles, which revolved around the Boyles and especially Katherine, Lady Ranelagh, daughter of the earl of Cork. She was one of the leading intellectuals of the day and an active correspondent both of Milton and of Hartlib. This group was, of course, enthusiastically Protestant in religion and was simultaneously devoted to empirical scientific enquiry and experiment. The work of the great Restoration scientist, Katherine Boyle's younger brother, Robert Boyle, was nurtured in this environment.[7] In terms of Irish history and the struggles of these decades for land and power in Ireland, this group also represented a continuation of the control, cleverness and canny self-aggrandizing policies that had distinguished the career of the first earl of Cork earlier in the century.[8]

The natural history project was left incomplete by the Boates. The first part, published in 1652 by Hartlib, along with a preface by Arnold Boate, was intended to cover only the natural features of the country, together with some sections on their exploitation. The latter included such matters as ironworks, lead and silver mines, and comments on the drainage and improvements so far carried out on the land, as well as the healthfulness of the Irish climate and conditions. In the later parts it was proposed to describe Irish flora and fauna and the inhabitants, using at all times the Baconian empirical approach and the focus on economic potential which, in intention at least, sharply distinguished the work from the chorographic, anecdotal geographies that had preceded it.[9] We might put this another way by saying that the focus of the whole project was a synchronic one; it is a peculiarity of 'natural history' that, despite the implications of the term 'history', it was, of course, conceived as a text in the present tense. The interest of its compilers was usually not in how the situation came about, but in what it actually was

Ireland, ed. Patricia Coughlan (Cork, 1989), 46–74, 75–108; Patricia Coughlan, '"Cheap and Common Animals": the English anatomy of Ireland in the seventeenth century', in *Literature and the English Civil War*, ed. T. Healy and J. Sawday (Cambridge, 1990), 205–23.

[7] See Webster, 62–3, for a fuller account; J. R. Jacob, *Robert Boyle and the English revolution* (New York, 1977); and Kathleen Lynch, *Roger Boyle, first earl of Orrery* (Knoxville, 1965).

[8] See Nicholas Canny, *The upstart earl: a study of the social and mental world of Richard Boyle, first earl of Cork, 1566–1643* (Cambridge, 1982); Canny disputes what he sees as the exclusive role attributed by Barnard and Jacob to the influence of the Hartlib circle in exciting the intellectual interests and forming the scientific outlook of Robert and Katherine Boyle and other Irish Protestants in exile in the decades from 1641 to the Restoration (143–9).

[9] See Webster, 428–9.

and, in the case of these Baconians, in the ways it might be worked upon and improved, changed by will and knowledge. Bacon's ideal of the transformation by science of the material conditions of life was being applied by this group to Ireland: his vision of the 'Enlarging of the bounds of Humane Empire, to the Effecting of all Things possible' by 'the Knowledge of Causes and Secrett Motions of Things' was to be realized in the new dispensation in Ireland.[10] This programme, as Webster has amply shown, already contained within it the idea of man's dominion over nature as the desirable end and aim of his work upon the earth. Within the context of Protestant empiricism and individualism and with the resulting conviction that the advancement of learning in practice was the great task and duty of man, the scientist intellectuals of Hartlib's circle perceived Ireland as literally a God-given opportunity for scientific enquiry, experiment and the practical execution of their various schemes. They presented the horrors of the 1641 rebellion and massacres as having been sent by heaven to the Protestants as part of the divine plan, and came to understand them as a combined ordeal and signal mark of grace, a unique opportunity for radical reform. This sense of a divinely ordained moment of new opportunity is vividly expressed in the 'Epistle Dedicatorie' to Fleetwood which prefaced *Irelands naturall history*, signed by Hartlib but written by John Dury in characteristically heated millenarian language.[11]

Newness is, indeed, much stressed in their writings and those of other English arrivals in Ireland in the Cromwellian period. Images of Ireland as a clean sheet waiting to be written on, a *tabula rasa* on which could now be inscribed the lines of a reformed social order, recur in the writings of the 1650s, as T. C. Barnard has pointed out.[12] The image of English activity in Ireland as an anatomical

[10] Bacon, *Works*, III, 156; quoted in Webster, 342.

[11] The 'great and mighty Changes' in the contemporary political order are linked to the 'advancement of the ways of Learning' whereby the 'Intellectual Cabinets of Nature are opened'; the resulting gains in knowledge will in turn make possible the expansion of plantation in Ireland 'not only by the Adventurers, but happily by the calling in of exiled Bohemian and other Protestants also, and ... of some well affected out of the Low Countries'; the whole is couched in the rhetoric of imminent messianic expectation of God's breaking 'the yokes of Vanity' (*Naturall history*, sigs. A4 6).

[12] See Barnard, *Cromwellian Ireland*, 14, 268; also Coughlan, '"Cheap and Common Animals"', 214–15, for a discussion of the role of such metaphors in the development of English attitudes to and activities in Ireland, especially of Petty's Down Survey. Nicholas Canny has, however, protested at the notion that such metaphors, conveying the sense of a utopian new beginning in, as Bacon puts it, 'a pure soil', occur only in the Cromwellian or revolutionary period, citing earlier, Tudor examples; see *The upstart earl*, 145.

experiment is also evident, especially in the writings of William Petty, who had been an anatomist; one may point out, as indeed Petty himself does, that such experiments required a corpse as their material on which to work.[13] Discussing Foucault's *Birth of the clinic*, which scrutinizes some of the founding assumptions of the institutions of medicine, Jurgen Habermas has noted that 'Foucault conceives of the gaze of the anatomist, trained on the human corpse, as the concrete a priori of the sciences of man'.[14] More generally, we may perhaps understand the perspective of the *Naturall history* as what Habermas calls 'a gaze that objectifies and examines . . . other subjects only accessible as the objects of nonparticipant observation'.[15] This perspective reveals a paradox at the heart of the enterprise. There *are* 'other subjects' being addressed by the Boates: there were, for example, the settlers and their prospective successors, who would, it was hoped, be enticed to Ireland by the promise of righteous economic opportunity. The Irish, however, are objectified, along with their landscape, in the polemic of their representation as savage and uncivil. Foucault's memorable assertion of an 'internal kinship between humanism and terror' and his notion of a consequently 'ambiguous liberation' in scientific knowledge seem applicable to this paradox of the scientifically progressive, ideologically questionable enterprises of these circles in relation to Ireland.[16] The idea of the anatomist's gaze as the indispensable founding moment of humanist science seems the appropriate one when the settlers' and Hartlibians' position is adopted; the sense of that gaze as objectifying and therefore destructive comes into play when one considers the matter from the point of view of the defeated Catholic proprietors of the 1640s and 1650s. T. C. Barnard puts it with a more brutal simplicity when he refers to the settlers' 'sinking deeper into the mire of self-exculpation' in which 'they fabricated myths about the aboriginals'.[17]

History, then, is the history only of evil doings; the future is conceived precisely as a break with it. Here the structure of the millenarian, utopian aspirations shows through, even perhaps to counter or distort the thorough empiricism of these investigations.

[13] See Coughlan, '"Cheap and Common Animals"', 214–15.
[14] Jurgen Habermas, *The philosophical discourse of modernity*, trans. Frederick Lawrence (Cambridge, 1990), 245.
[15] *Ibid.* [16] Paraphrased in *Ibid.*, 246.
[17] Barnard, 'Gardening, diet and "improvement"', 72.

This raises, as I have suggested, a more general philosophical problem about Baconian thought. In the context of the application of Baconian work to Ireland, this question has two facets. The first is the possibly, though perhaps not necessarily, problematic conjunction of self-interest with intellectual enquiry. The former always possessed the potential to distort the latter, although there might be doubt as to whether a truly value-free scientific practice might be held to exist. The second facet, more evident and demonstrable, is the obliteration – physical and/or virtual and imaginative (in the form of a failure to notice them) – of existing arrangements, inhabitants, interests and a whole history embodied in actual social forms.[18] Thus, with the possible exception of Arnold Boate, the contacts of the Hartlibian investigators, arriving as most of them did either in the very late 1640s or the 1650s, during a period of war and large-scale social displacement and expropriation, were with a fairly homogeneous social group consisting entirely of the New English. These were the planters who had shown what the Irish Settlement Acts memorably called 'constant good affection' to the parliamentary and Protectorate regimes, and of other new arrivals like themselves who had functions and offices in those regimes.

What is the atmosphere of the published volume of *Irelands naturall history*? Barnard has called it 'a sober and systematically arranged account which introduced new standards of accuracy', but one may dissent from some of the terms of this praise. Systematic the book may be, but sober it is not, at least not where value-judgements about the respective merits and defects of the Irish and English are concerned.[19] Like earlier writers on Ireland for English audiences, with a view to attracting settlers, Boate does, of course, find some positive things to say. There are passages that emphasize the potential profit to be gained from the fertility and plenty of Irish land and natural resources: the many fine harbours, the 'comfort' of some towns and the existing volume of their 'trafick'. Here, the actual prosperity, certainly in the pre-war period, of areas such as wealthy Munster, shows through even in the Boates' rather sour

[18] This partly wilful, partly unconscious ignorance is especially striking in the case of the culture of the Old English, with their sophisticated European-trained Counter-Reformation clergy and their highly developed legal and political traditions. See Nicholas Canny, *The formation of the Old English elite in Ireland* (Dublin, 1974).

[19] Barnard, 'Symner', 133.

view – a prosperity and degree of infrastructural development clearly revealed in the recent research of revisionist Irish historians.[20] But the informative descriptions of physical features and material conditions are everywhere shot through with vituperative condemnations of Irish behaviour, in which the dominant themes are the rank superstition of the Irish and their lack of capacity to improve the wretched conditions of their lives. The immemorial superstitious credulity of Irish Catholics is exemplified in the devotional recourse to holy wells and to St Patrick's Purgatory. Boate scornfully dismisses the tradition of curative properties in holy wells: 'But experience doth show, that those vertues are not found in the Springs themselves, but onely in the vain imagination of the superstitious people.'[21] The text approvingly recounts the demystificatory investigation of these cults by the earl of Cork and others 'in the last years of King Iames'.[22] Altogether, the book leaves a striking impression of distaste for, and incomprehension of, the culture being described. This rhetoric of alleged uncleanness and disorder – the Protestant horror of Catholicism, the civil, urban aversion to rural, pastoral culture, the closed, clean bourgeois subject's antipathy to his shifting, unfixed, Other – is familiar from the writings of several earlier English settlers and visitors to Ireland.[23] I shall briefly cite two examples. Discussing the Irish bogs, the chapter-heading baldly says: 'Retchlessness of the Irish, cause of most of the Bogs' – that is, the bogs are there because the Irish have not drained them:

So that it may easily be comprehended, that whoso could drain the water, and for the future prevent the gathering thereof, might reduce most of the Bogs in Ireland to firm land, and preserve them in that condition. But this hath never been known to the Irish, or if it was, they never went about it, but to the contrarie let daily more & more of their good land grow boggy

[20] See especially M. McCarthy-Morrogh, 'The English presence in early seventeenth-century Munster', in *Natives and newcomers*, ed. Ciaran Brady and Raymond Gillespie (Dublin, 1986), 171–90; Liam Irwin, 'Politics, religion and economy: Cork in the seventeenth century', *Journal of the Cork Historical and Archaeological Society*, 85 (1980), 7–25; and Barnard, 'Gardening, diet and "improvement"'. See also the useful summary accounts of Irish economic geography and the material effects of the plantations in *The Irish landscape*, ed. Frank Mitchell (London, 1976), 192–203, and *The shaping of Ireland*, ed. W. Nolan (Cork, 1986), 84–103.

[21] Gerard Boate, *Irelands naturall history* (London, 1652), 72. [22] *Ibid.*, 74.

[23] See Coughlan, '"Some secret scourge"', and references therein to the large literature, now including theoretical discussions, on this topic; D. B. Quinn's *The Elizabethans and the Irish* (Ithaca, 1966) provides a very full descriptive account of the content of the usual stereotype. For a specific discussion of how the Boates reiterate these negative constructions of Irishness, see Coughlan, '"Cheap and Common Animals"', 212–13.

through their carelesness, *whereby also most of the Bogs at first were caused [emphasis added]*.[24]

As an empirical–scientific perspective, this seems a little unsatisfactory, not least because it is contradicted within the Boates' own text by the opinions hazarded elsewhere as to the bogs' geological and climatic origins.[25] The governing tone of the whole volume is irritation, sometimes amounting to rage, at the lack of modern skills and improving will and effort on the part of the Irish. The incomprehension shown by the Protestant Dutch observers of a predominantly pastoral and recently even seasonal–nomadic culture is not, perhaps, surprising; but nowhere is this perceived Irish inertia connected to the effects of expanding plantation and imposed English settlement. It is difficult not to suspect that what Joseph Conrad, in another context, called 'material interests' did work to narrow gravely these empiricists' perspective.[26] The respective national roles are assigned: thus the section on 'Leprosie' alleges that its prevalence in Ireland was caused by the filthy Irish habit of eating salmon out of season, when they were diseased and spotty, whereas the English have now regulated this practice with laws, 'hindering those barbarians agaynst their will to feed on that poysonous meat'. The heralded result was that the disease had been 'almost quite abolished'.[27] The settlers' writings, of course, constantly approve of what we might call an 'interventionist' attitude to nature: they praise the gardens, orchards and the few planned parks and new towns of the Elizabethan–Jacobean colonization in Ireland, and nominate the native social arrangements as the antithesis of civility.

After the deaths of both the Boates, Gerard in 1650 and Arnold in 1653, Hartlib actively sought ways of continuing the Irish natural history enterprise. In a characteristically collective spirit, he had a set of 'Alphabetical Interrogatories' printed as an appendix to the

[24] Boate, *Naturall history*, 113.

[25] As, for example, later in this very passage: 'Whereunto many times also cometh the cause of the Grassi-bogs, to wit the store of Springs within the very ground; and all this in places, where or through the situation of them, and by reason of their even plainness and hollowness, or through some other impediment, the water hath no free passage away, but remaineth within them, and so by degrees turneth them into Bogs' (*ibid.*).

[26] See his novel *Nostromo*, which anatomizes the effects of the vigorously expanding, effectively colonizing capitalism of North Americans on South America in the later nineteenth century.

[27] Boate, *Naturall history*, 184.

1652 edition of his work *The legacy of husbandry* and sent them to Ireland for people to answer if they would.[28] This method of conducting the enquiry is of great interest in itself. The notion of an alphabetical arrangement of knowledge prefigures Enlightenment approaches to the assembly and classification of knowledge. Taken together with the appeal for collective participation in that ordering, also, of course, profoundly characteristic of Hartlibian practice, it manifests an ideological shift towards the notion of a shared and public universe of scientific discourse. Like other intellectual developments during the English Revolution, this might even be understood as evidence of the instatement, however short lived, of something like a proto-public sphere in Habermas' sense.[29] The idea of a tabulation of information is a further step towards executing the impulse to order the natural and social phenomena of the universe according to rational principles, to control and organize one's apprehension of, and manner of living in, the natural world. Foucault sees this as 'the nonreflexive form of knowledge proper to the Classical age', in which 'internal and external nature are classified, analyzed, and combined in the same manner – words of language in the universal grammar, wealth and needs in political economy, no differently than species of plants and animals in the Linnaean system'.[30] Foucault's aim is to point out the transparency of classical language, the assumption in such tabular, classificatory discourses that words represent things. This approach was vividly exemplified in the thought of Petty, with his project for 'a Political Arithmetick and a Geometricall Justice'.[31]

Hartlib set out to find specific successors to the Boates, successively encouraging Robert Child and Robert Wood to undertake the task. But Child's work was abortive: he found himself too limited geographically to be able to gather sufficient data, and then he too

[28] See Barnard, 'Symner', 134–5, and Webster, 431–3, for fuller accounts.

[29] See Thomas McCarthy, *The critical theory of Jurgen Habermas* (Cambridge, MA and London, 1978), 12, 381–2. This is suggested to me by David Norbrook's discussion of Milton's *Areopagitica* (London University conference on new historicism, July 1991); see also Francis Barker's different but illuminating application of Foucaultian perspectives to seventeenth-century discourse in *The tremulous private body: essays on subjection* (London and New York, 1984) and '"In the Wars of Truth": violence, true knowledge and power in Milton and Hobbes', in *Literature and the English Civil War*, ed. Healy and Sawday, 91–109.

[30] See Michel Foucault, *The order of things* (1970; London, 1974), chap. 5, 'Classifying', 125–65. The summary account from which I quote is in Habermas' highly critical response to Foucault's argument; Habermas wishes, *contra* Foucault, to preserve the category of a transcendental subject of history (*Modernity*, 238–65).

[31] See *Economic writings of Sir William Petty*, ed. T. H. Hull, 2 vols. (London, 1898), I, 240.

died, in 1654.[32] Petty, Benjamin Worsley and Robert Boyle were all also asked in turn to contribute observations as appropriate. But Boyle returned to England and, in 1655 and 1656, Petty and Worsley were both too engaged with the more pressing business of the Down Survey and its attendant labours to devote themselves to the project. The mathematician and decimal currency advocate, Robert Wood, who in 1656 joined Henry Cromwell's household in Ireland, proved a better prospect. He did contribute to the enterprise, sending back a sequence of replies to the Interrogatories.[33]

Wood's answers go only from 'a' to 'b', but are part of a long correspondence with Hartlib from Ireland between 1656 and 1661 which is, in itself, of considerable interest, though there is not scope to deal with it here.[34] Wood, like Synnot, shows a somewhat more open mind about actual Irish conditions and characteristics than Boate. Thus he argues in August 1657 that an 'effectual course . . . to send over English Colonies' would need to be framed by 'a person that not only understands England very well, but is perfectly acquainted with the present and in some good measure with the former state of Ireland; otherwise he will be in danger to run upon many unpracticable Chimaera's'.[35] On the other hand, there is the following description of Henry Cromwell's plan, also dating from 1657, for a school in Dublin: 'in order to the propagating civilitie as well as Religion among those [*Irish*] countrymen hereafter, who tis hoped will harken to their owne country men with lesse prejudice than the English, against whom they have something of a national antipathy'.[36] Wood's air of faint surprise at the existence of this 'national antipathy' shows how partially he viewed the matter and may strike us as ironic. But he does show a serious commitment to genuinely empirical information gathering about Ireland, enthusiastically promising in May 1657 that, after accompanying Henry Cromwell on his 'Northern Progresse', he would 'be able to speake more experimentally of this land'. Wood's replies to the Interrogatories are laconic. Many of his comments are the usual account of deficiencies in Irish management of agriculture, horticulture and related matters of obvious importance to would-be settlers. Two

[32] See Webster, 432–3; Barnard, *Cromwellian Ireland*, 235–6.

[33] For Wood, see Barnard, *Cromwellian Ireland*, 223–4. His replies are in HP 33/1.

[34] 'Alphabetical list concerning natural history', n.d., HP 31/17/6–7. The full correspondence is in HP 33/1/1–75 and 42/1/15.

[35] HP 33/1/23B. [36] HP 33/1/13B.

representative examples are the size of Irish barrels ('what inferiour measuers they containe') and the inevitable recalcitrance of certain classes of Irish bog: 'red bog, very unfit for drayning'.[37] With very few exceptions, however, his tone is more rueful than choleric. One example is when he notes the inferiority of Irish housing ('their scurvy fashion of houses and cottages'), a very common observation by English witnesses. Mostly he merely lists the questions that arise in relation to each topic rather than offering much in the way of answers. This produces a curious, almost parodic effect; on bloomeries, he mentions 'the fashion of them, charges of making one how many people necessary to attend them'; on beer: 'how brewed in Ireland; what severall wayes, which the best, how to make it lasting'.[38]

More important than Wood's own sketchy replies was his enlistment of Miles Symner, who did most towards the continuation of the project and whose replies, three sheets going from 'Galls' to 'Woolfe', sent to Hartlib in the summers of 1656 and 1657, are more substantial than Wood's and constitute by far the most intriguing text to come out of the whole attempt.[39] It is perhaps relevant that Symner, unlike any of the other participants, spent most or all of his life in Ireland. He was the first professor of mathematics at Trinity College, Dublin, a position which he held from 1652 to 1660 and again after the Restoration, from 1675 to 1686.[40] He had serious practical–scientific interests in many areas, including surveying, engineering and astronomy. He was a friend of Thomas Salusbury, the translator of Galileo. His projects for Irish science foreshadow those of Molyneux and the Dublin Philosophical Society in the 1680s, though it seems his work was unknown to them. He was chief engineer to the army, holding the rank of major from 1648 on, and providing expert service in the handling of fortifications during the campaigns. He participated in the Down Survey from 1656 to 1659, holding the post of commissioner for setting out the soldiers' lands alongside Petty and Vincent Gookin. Symner was well placed economically and politically as well as scientifically. He evidently did not suffer because of his prominent position in the Ireland of the war and resettlement decades although he did not make the specta-

[37] HP 31/17/6 7. [38] HP 31/17/6A, 7B, 7A.
[39] HP 62/45/1A–7B. A fourth sheet existed, but has been lost.
[40] See Barnard, 'Symner'.

cular personal gains achieved by his colleague, Petty.[41] In his *History of the Down Survey*, Petty approvingly attributes to Symner a hesitant and delicate approach to his role as commissioner for distributing the army's lands: 'Major Symner, a person ever generally beloved, and especially in this very army, foreseeing the danger of incurring as much the armyes causeless hatred as he had before enjoyed their well merited good affections, could not with that pleasure attend the clamorouse part of this business, as his publicke spiritt otherwise disposed him unto.'[42]

In a 1648 letter to Sir Robert King, Symner wrote a kind of manifesto justifying his intellectual position. Thanking King for sending him a copy of Petty's *Advancement of learning* (which was dedicated to Hartlib), and expressing a renewed wish that both an 'Office of Intelligence' and the 'Colledge' – familiar from other Hartlibian writings – be set up for investigative spirits and lovers of the new thought, he remarks that his own 'scope is for reall & experimentall Learning' and states that 'I abhor all those ventosities, froth & idle speculations of the Schooles'.[43] In a manner familiar from other Baconians, he inveighs against what he sees as the intellectual emptiness and pernicious influence on the young of the training in logic and disputation which at that time still formed the major part of the university curriculum: 'for after a young Schollar hath got a little prayse for beeing able to wrangle in the Schooles about Universale a parte rei, that puff fils his sayles & makes him steere his cours to find out nothing but vanity'. He sets against this the kind of thought that could arrive at 'Axioms, usefull for further Learning, or Common life'. He modestly deprecates his own ability and instead provides, as instances of this, the attempt by the Irish architect and surveyor, Johnson, to develop a 'universal character' for printing. This had been fostered by Symner before its frustration by the rebellion. He also mentions his own invention and manufacture of 'a quadrant of 6 fot Radius' and encloses an 'Obser-

[41] Barnard notes that he had an estate at Archerstown in County Meath in 1660, and a house in Dame Street in Dublin in 1665. He was archdeacon of Clogher in 1661 and of Kildare from 1667 to 1670 ('Symner', 130–1).

[42] William Petty, *The history of the survey of Ireland, commonly called the Down Survey*, ed. T. A. Larcom (Dublin, 1851), 208. This account dates from 1659.

[43] HP 47/6/1, n.d.; the letter is dated 24 October 1648 in another copy, BL Sloane MS 427, fol. 85 (Barnard, 'Symner', n. 5). Compare the contrast Robert Wood draws between 'the learning of the Schooles' and 'this business which must be built only upon reason & experience' (HP 33/1/39A, 4 January 1658).

vation' of his own, one of several, which 'if it light on Astronomicall palates, will not be unpleasing'.[44]

The sheets of Symner's replies to the Alphabetical Interrogatories are, as I have said, rather different from the Boates' fevered distaste and fury at Irish incivility. Symner engages in no extended denunciations of the Irish as naturally savage. This may, of course, be partly because of the very constraints of the classificatory list form, but the nature of his whole approach seems to preclude totalizing generalizations. In his 1648 letter to King, he does lament the destruction by the friars at Athenry in 1641 of the precious copper-plates of Johnson's experimental work. The friars, he says vividly, 'suffered the tinkers to stop kettles' with the precious plates.[45] But even this is a fairly mild and, in the circumstances, understandable reaction.

Symner's text conveys a very strong and agreeable sense of an immediate encounter with a place and a lively apprehension of its real features, positive and negative. It is neither distantly schematic, theoretical in the bad sense (like some of the more utopian schemes of Hartlibians for Ireland and elsewhere), nor riddled with prejudice (like the Boates' work). Symner, like other observers, shows a delighted astonishment at the great plenty of fish in Irish rivers and off the coast; of salmon, 'I think all the rivers of Europe yeeld not soe much as the rivers of Eirland'; of mackerel, 'I have seen great ripeling there of the water where theire seals are'; and of pilchard, 'the spies walk the hills and see where the sea is rough with them'.[46] He praises the islands, 'faire ones, with good harbours', the strawberry-trees (i.e. arbutus) at Killarney, the quality of the pearls found in freshwater crustaceans. Everywhere there is a stress on personal observation, which seems to be genuinely in the true spirit of empirical method and to fulfil a very basic Baconian prescription. In spite of our awareness of the ideologically questionable circumstances of their composition, these passages have the fresh charm of a

[44] Barnard details the obscure Johnson's work towards a universal character in 'Symner', 136–7; he had performed architectural work for Strafford's never-completed mansion in Kildare before the war. See also James Knowlson, *Universal language schemes in England and France, 1600–1800* (Toronto, 1975), 10. In a letter to Hartlib in March 1657, Robert Wood refers to the book of 'Mr Johnsons real Characters' (HP 42/1/15), having elsewhere expressed scepticism about the potential of the whole idea: 'I doubt the whole businesse of the Universal Character will never prove of any considerable effect' (HP 33/1B, 13 May 1656).

[45] HP 47/16/1A. [46] HP 62/45/1A–7B.

traveller's tale: 'Our boate man hath told me ... I perswaded my servant ... coming over slew loker' (presumably Sliabh Luachra, on the Cork–Kerry border); 'I have stood on a bridge and seen him [*an osprey*] take up a pike of twenty-six inches long'; 'I have seen snow in the mountains by Dublin'; 'I have seene it [*a very large trout*] truely delineated by a painter'. His entry on hedgehogs not only refers to his having eaten them ('their flesh is very good meate roasted or baked') but also intriguingly reports how in Ireland their skins are 'only used for calues noses to keep them from [*sucking*] the Cowes'. On porpoises, he says: 'I have killed one aleven foot long' and 'my Irish boatemen did eate him like a fatt poark'.[47] Symner had travelled widely in Ireland, probably both in his war service and in the course of his work on the Down Survey. Besides places in Leinster and thus relatively close to Dublin, he mentions many others he had visited, of which the following, in counties Wexford, Kerry, Galway and Mayo, are only a selection: Duncannon, Lough Leane, Aran, Dingle Bay to Valentia, and Cleggan Bay. He was capable not just of marvelling at the potential for profitable development and civilized 'improvement' and hence in a more or less self-interested way at the achievements of the English settlers, but also of expressing wonder at the sheer strangeness of Irish natural features. For instance, he describes at unusual length the limestone pavements on the Aran islands, and in a tone of wonder:

> all over the Island like the squared greate stones of some large building fallne down in as good order as a [*bricker?*] now mold a brick ... in Arann close by the coast ... there is an incredible quantitie of greate flag-stones six seauen or eight inches thick 7. 8. or 9. foot broade and som aboue 20 foot long, loose as one would iudge layd upon others, making as itt weare a pauement round about the fort.[48]

Symner, as befits his ethnic and ideological position, does, of course, show negative reactions also, especially to what he sees as the failure of the Irish to perform necessary functions in agricultural maintenance: they allegedly show a 'want of skill' to make honey; they 'cut up all young [*hop*] trees ... and neglect to plant them', showing a 'want of law and skill'; they allow jackdaws to multiply to the detriment of crops, because 'no care' is taken 'to destroy them';

[47] HP 62/45/1–7.

[48] HP 62/45/4–4A: this seems to be a description of the expanse of limestone pavement surrounding the prehistoric promontory fort of Dun Aengus on Aranmore, certainly an impressive sight.

the quality of the gunpowder is very poor because 'here is so little of the ground kept dry that wee have very little', and so forth.[49] These complaints, all to do with the Irish failure to take the land in hand and manage natural resources more actively, echo similar ones made by John Beale in his correspondence with Hartlib about fruit-growing in Ireland. Thus Beale says that the boughs of the apple-trees are allowed to grow 'soe thic, as shewd' the 'negligence, or unskillfullness' of the growers.[50]

Finally, in a characteristically down-to-earth moment, Symner registers the practical difficulties facing Irish 'improving' settlers. In the Commentary under 'gardains', the following answer appears:

> I cannott commend any here very much when I thinke of the Gardains of England and other places but here are som few that endeauore to do sum small matters when the plantation is more forwards that is when Howses Barnes Stables ... trees Quicqsetts aud Kitching Gardins are in som good order [*then and*] nott till then will the most desirous apply themselves to the care of procuriug such delicates. The incommodity of sitting downe on waste lands when there is no wood nor artificer in many miles is nott to bee app[*rehended*] but by them that try.[51]

In 1932, T. W. Adorno delivered a lecture on 'The idea of natural history', later incorporating its main arguments into his *Negative dialectics*.[52] In it he considers 'nature' and 'history' as mutually determining concepts, each of which has a double character, both positive and negative. In the case of nature, there is a positive, materialist pole, which refers to concrete existing being, mortal and transitory, and to the material products of people's labour as well as their own corporeal bodies. The negative pole is to do with a world not yet incorporated into history, not yet penetrated by reason, and hence outside human control. Nature in this sense is what Adorno

[49] An amusing shade of the Boates' type of prejudice would seem to appear in Symner's comment on how dogs 'go off' in Ireland: he says the mastiffs are 'all of English breed and they degenerate and grow into a lesser kinde here' (rather like the Norman English settlers as Spenser describes them), corrupted, presumably, by infectious Irish ways; but in some matters climatically, for instance – Ireland seems, at least potentially, superior: 'the trees that will grow in England with difficulty I think would better grow here' (HP 62/45/1A).

[50] Beale to Hartlib, n.d., HP 52/166. Beale remarks, in a spirit common to almost all these witnesses: 'I conceive the Plantation of Ireland with English, who would bee good examples to stir up a lazy people to abhor their idelenes, & to enrich themselves & yt soyle would bee of much concernement to us.'

[51] HP 62/45/1A.

[52] In the following passage I have drawn extensively on the discussion by Susan Buck-Morss in *The origin of negative dialectics* (Hassocks, Sussex, 1977), 52–7. See Theodor W. Adorno, *Negative dialectics*, trans. E. B. Ashton, (London, 1973) 354–8.

called the mythical, that which is eternally there as the 'fateful construction of pre-given being'. This nature, he says, is perpetuated by the unchanging rituals of the people who have submitted to its domination.

On the other hand, history too has a double signification. The positive one is 'dialectical social praxis', transmitted social behaviour, characterized by the qualitatively 'new' appearing in it. It is, as he puts it, 'a movement not running its course in pure identity' – not, one may add, eternally recurrent, but changing and changeable by collective social will. The negative pole of history is the actual history of human praxis in so far as it merely statically reproduces the conditions and relations of class (and, we may say, of various kinds of oppression) rather than establishing a qualitatively new order. A crucial point in Adorno's argument is the perception that whenever theory posited 'nature' or 'history' as an ontological first principle, this double character in these concepts was lost and, with it, the potential for what he calls 'critical negativity' – that attitude of scepticism, suspicion of transcendental positions and willingness to accommodate change which is the most salient characteristic of his truly dialectical thought. He argues that when the pole of either nature or history became singly dominant, either existing social conditions were affirmed as natural without regard for their historical becoming, or the actual historical process was affirmed as essential and, as a result, irrational material suffering was dismissed as mere contingency (as, for example, he says Hegel does) or ontologized as essential in itself (Heidegger's recourse). He argues that the result in both cases is ideological justification of the given social order. Adorno insists on what he calls the 'concrete unity' of nature and history within any analysis of reality.

While making due allowance for the fact that Adorno was working within a twentieth-century problematic, his analysis nevertheless has a clear, even a startling applicability to the Hartlibian natural history project. Without doubt, as the enthusiastic millenarian language of Arnold Boate's preface alone shows, these men were working from a sense of God's providential dispositions as the equivalent of Adorno's 'ontological first principle', and they were reading the 'irrational material suffering' of the dispossessed and unruly Irish as mere contingency, while their own trials, pains and signs of divine grace were ontologized as essential in themselves – i.e. willed by God to further the coming of His kingdom. Their Prot-

estant sensibilities, their sense of destiny, dignified their efforts, both gains and losses. To them, especially in Boate's published text and in the writings of the most pious such as John Dury, as the passages on St Patrick's Purgatory clearly show, the lives of the ignorant, superstitious Irish were part of the people's unchanging history of submission to the domination of 'pre-given being' – for which Boate read the power of the friars in preserving the oppressive illusion of the holy places. Their own praxis, as Adorno would have called it and, by extension, the praxis of the previous generations of the righteous among the English settlers, could by contrast be understood as historical in the positive sense, characterized by the 'qualitatively new' appearing in it: this 'new' was exemplified in the improvements of the land which had been and were being carried out by these enterprising settlers: the drainage works, mining, clearing of the woods, planting of orchards and all the various experiments with new crops and strains of plant and animal which are so eagerly discussed throughout the Hartlib correspondence. The utopian character of these projections, the fervour of their insistence on making change happen in the favourable context of Cromwell's new dispensation, is the single most striking feature of these writings, even more, as I have argued, than their empiricism.

If we view these matters from the opposite position, that of the Irish and the Old English Catholics, then it seems, using Adorno's perspective, that the natural historians privileged material nature over history. They interested themselves in the natural features of the landscape, the commercial and agricultural opportunities afforded by them, the potential wealth of the country, the whole project of experiment and improvement and ultimately the establishment of its basis in accurate alphabetized description. All this took precedence over – even, we might say, obliterated – Irish history, and especially aspects such as the suppression of indigenous culture and society, the dispossession of the Catholic landowners and the depredations of the Cromwellian military reduction.

Putting it another way, and recalling the stereotyped construction of the Irish as uncivil, as 'a nation exceedingly barbarous in all the parts of their life', as the *Naturall history* puts it, we might say that these incomers, and their mentor Hartlib, who did not visit the place, assigned Ireland – social, cultural, human *tout court* – to 'nature' in the negative sense, and material Ireland to 'nature' in the

positive sense.[53] Looked at from the English and, specifically, the Hartlibians' viewpoint, negative nature was perfectly evidenced in the way of life of the native Irish, with their alleged barbarity evident in so many spheres, the perceived idolatrous nature of their religion and the extreme backwardness of their agriculture, manufacture, science and everything that could be considered progressive. This allowed the natural historians to see themselves as agents of history in the positive sense, bringing change and a praxis of rational action to this immemorially dark place. In so far as they acknowledged history, they dated it from 1641, endlessly recalling the outrages of that period as a kind of negative talisman against any doubt of the rightness of their own actions. The blessed apparent destruction of the old order, monarchical–tyrannical as well as Catholic, which they hoped would soon be 'breaking the yokes of Nations' all over Europe, was to be the foundation of the new.[54] We might recall the 'bleeding Head' in Marvell's 'Horatian Ode' which at the foundation of the Capitol 'Did fright the Architects to run; / And yet in that the State / Foresaw its happy Fate'.[55]

The project of discovering and describing nature, so as to achieve control over it, is one about which, at the other end of the development of western science and technology, *we* may have reservations. More particularly, the totalizing nature of at least some, or perhaps most, of the Hartlibians' attitudes to Ireland – the blank space to be filled, the duly emptied theatre now a locus for the perfect experiment, the corpse to be anatomized – must make us, at the very least, uneasy. But there is, nevertheless, a moment in the Hartlib correspondence about Ireland that we ought also to recognize as progressive: the desire to incorporate the material world into rational human structures, to empower people by rescuing them from what Adorno called 'the fateful construction of pre-given being'. We do not have to endorse the demonization of the native Irish (and of the corrupt Old English) which flaws these writings to varying degrees, though we must of course always keep in mind that the welcome demystify-

[53] It will be recalled that Wood worked hard during the second half of the 1650s to get Hartlib assigned a parcel of Irish land, at Killaghteen in West Limerick (by a neat historical irony it had once been church land and bears a saint's name: Cill Laichtin, the church or cell of Lachtin): HP 33/1/48B, 54A. The efforts were frustrated by the Restoration.

[54] Boate, *Naturall history*, 'Epistle Dedicatory', sig. A7.

[55] *The poems and letters of Andrew Marvell*, ed. H. M. Margoliouth, revised by Pierre Legouis, with E. E. Duncan-Jones, 2 vols. (Oxford, 1971), I, 93.

ing materialism of the natural historians is accompanied by the equally material dispossession of the Catholics (and, as modern theoreticians say, by the repression of Otherness which produces the rational bourgeois subject, the *homo clausus*, in Norbert Elias's phrase). As T. C. Barnard puts it, discussing the English planters' interest in fruit-trees, clover grass and new exotic vegetable-growing, all prime Hartlibian concerns: 'The English might garden while the Irish starved.'[56] But what William Petty ruefully calls 'the clamorouse part' of history (which, he said, Symner 'could not with . . . pleasure attend [*to*]') should not be totalized, either. There must be, as Adorno also pointed out, a 'concrete unity of nature and history' within any analysis of reality. Our attitude to the Hartlibian ideals of peace, unity and prosperity should therefore include a due recognition of the genuine moment of enlightenment in the Hartlibians' thought about Ireland, together with a lively sense of historical irony. As Foucault said about humanist knowlege, it is 'an ambiguous liberation'.[57] We may justly discern, in the role of the Irish as the condemned opposite pole to the new knowledge, the trace of the oppressed Other which already reveals the incipient construction of the bourgeois subject-*ed* self; rationalism's shadow and its Other, driven forth upon the undrained bogs to assume the non-rational, wicked life of 'that wild Nation'.

[56] Barnard, 'Gardening, diet and "improvement"', 71.
[57] Foucault, *Madness and civilization*, quoted in Habermas, *Modernity*, 245.

SAMUEL HARTLIB AND UNIVERSAL REFORMATION

Studies in intellectual communication

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