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# Pasts Beyond Memories: The Evolutionary Museum, Liberal Government and the Politics of Prehistory

# **Tony Bennett**

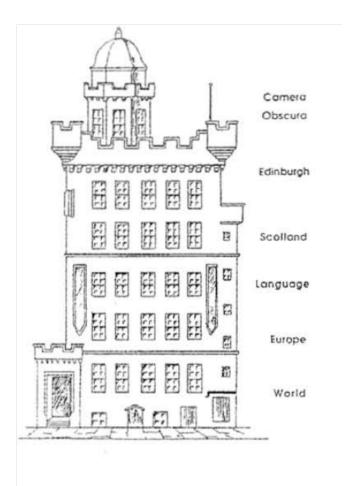


Figure 1: Diagrammic Elevation of the Outlook Tower, Edinburg. From Patrick Geddes (1915) *Cities in Evolution*. London: Williams and Norgate, p324.

This article is concerned with the relationships between late-nineteenth century developments in geology, palaeontology, natural history, ethnology, and archaeology on the one hand, and, on the other the changing concerns of liberal government. It is argued that the key to understanding these relationships consists in new understandings of the person as an archaeologically layered entity and its role in contemporary debates concerning the ambiguous role of habit in the mechanisms of progress. The need for cultural and moral mechanisms that would both preserve the legacy of the past that had been passed on to the present as a series of archaeological layers in the person while also breaking with the restraining force of that legacy was a key factor in the emergence of moral reform liberalism and, later, new liberalism. These issues are considered with special reference to the writings of Walter Bagehot, Thomas Huxley and Patrick Geddes considered with reference to their implications for the practices of evolutionary museums. The theoretical context for the

discussion is provided by Foucauldian accounts of liberal government. This supplies a perspective from which the classed, raced, and gendered aspects of the relations between latenine teenth-century museum practices, liberal government and the archaeological structure of the person are considered.

Perhaps one of the most influential literary evocations of the scene of savagery is the moment in Joseph Conrad's *Heart of Darkness* when, as he nears his journey's end, Marlow, surprised by the whirl of black limbs on the river bank, asks:

The prehistoric man was cursing us, praying to us, welcoming us - who could tell? We were cut off from the comprehension of our surroundings; we glided past like phantoms, wondering and secretly appalled, as sane men would be before an enthusiastic outbreak in a madhouse. We could not understand, because we were too far and could not remember, because we were travelling in the night of first ages, of those ages that are gone, leaving hardly a sign - and no memories (Conrad 1969:59).

All of the aspects of what Johannes Fabian has characterised as the 'denial of coevalness' (Fabian 1983:31) that characterised the colonial structure of anthropological discourse are present here: the placing of the Other in a different time from that of the observer, and the equation of distance from Europe with travelling backwards in time. 'Going up that river: Marlow notes, 'was like travelling back to the earliest beginnings of the world, when vegetation rioted on the earth and the big trees were kings' (Conrad 1969: 55). In this way, the scene of prehistoric savagery is connected to – emerges out of- the deeper pasts of primeval time, the untold ages of geological and natural history.

These ages, these 'pasts beyond memories', were still, by the time *Heart of Darkness* was published in 1910, relatively new pasts – the term 'prehistory', like 'the dinosaur', made its first appearance in the 1840s1 – that had been produced by the labours of geology, palaeontology, natural history, archaeology and anthropology. Through the techniques that they had developed for reading rock formations, fossilised remains, ruins, tools, technologies and ornaments as the remnants of long past epochs, these disciplines had broken the connection that had previously limited the known past to the remembered past that had been transmitted to the present through the storage systems of writing or oral tradition. Limitless vistas of pasts going back beyond human existence, let alone memory. rapidly came into view through the once mute, but - now that they had been coaxed to yield their secrets - eloquent traces they had left behind.

The questions I want to pose here concern the role that these pasts played in reformulating the aims and strategies of liberal government in late nineteenth and early twentieth century Britain in terms of both the new forms of self governance they aimed to foster and the categories of person that such strategies encompassed (as well as those whom they excluded). I shall, however, broach these questions from a particular perspective by considering the role that was played by the evolutionary museum in translating these 'pasts beyond memories' into a distinctive memory machine, an 'evolutionary accumulator', that functioned as a means for acting developmentally on the social.2

The nub of these matters consists in the mutation in the conception of the person - or, at least, that of the white, adult, male person - that was produced when the newly excavated deep pasts of prehistory were viewed in the light of theories of evolutionary inheritance. 3 For these

'pasts beyond memories' were regarded as being active and effective within the present through their functioning as a layer in the formation of the modern person whose make-up was increasingly visualised archaeologically as so many strata superimposed one on top of the other. This is clear in *Physics and Politics* in which Walter Bagehot, more widely known for his work as a legal and constitutional theorist, set out to explore the implications of Darwin's work, and of evolutionary thought more generally, for the manner in which the tasks of government should be conducted and the ends toward which it should be directed. An archaeological conception of the person is evident from the opening pages:

If we wanted to describe one of the most marked results, perhaps the most marked result, or late thought, we should say that by it everything is made 'an antiquity'. When, in former times, our ancestors thought of an antiquarian, they described him as occupied with coins, and medals, and Druids' stones; these were then the characteristic records of the decipherable past, and it was with these that decipherers busied themselves. But now there are: other relics; indeed, all matter is become such. Science tries to find in each bit of earth the record of the causes which made it precisely what it is; those forces have left their trace, she knows, as much as the tact and hand of the artist left their mark on a classical gem ... But what here concerns me is that man himself has, to the eye of science, become 'an antiquity.' She tries to read, is beginning to read, knows she ought to read, in the frame of each man the result of a whole history of all his life, of what he is and what makes him so, - of all his forefathers, of what they were and of what made them so (Bagehot 1873:2-3).

What role did this conception of the person play in the transition from the classical liberalism of the mid-century period, with its parsimonious assessment of the good that government could do, to the more active moral and educative role that was proposed for government in the formulations of *fin de siecle* 'new liberalism'?", If, as·I hope to, I am to answer this question, it will be necessary, first, to place this conception of the person in a broader perspective and, in doing so, to specify more precisely the archaeological principles governing its organisation.

#### The Archaeological Gaze of the Historical Sciences

This is all the more necessary given the scope for confusion regarding my use of the term 'archaeological' in view of the influence of Michel Foucault's argument that an 'archaeology of knowledge' should concern itself with the intrinsic description of the regularities and irregularities governing the organisation of statements within a given region of discourse. For the sense I have in mind - which is closer to conventional usage - is the opposite of that intended by Foucault who acknowledged the novelty of his own use of the term in recalling that there was once 'a time when archaeology, as a discipline devoted to silent monuments, inert traces, objects without context, and things left by the past, aspired to the condition of history and attained meaning only through the restitution of a historical discourse' (Foucault 1972:7). It is, then, this sense of archaeology that I have in mind, while also wishing to broaden it, in suggesting that a common set of rules governed the formation of objects in nineteenth-century palaeontology, geology, natural history, anthropology, and, of course, archaeology and that these gave rise to a shared way of visualising the relations between past and present. My aim, then, is to offer a glimpse of what an archaeological analysis (in Foucault's sense) of this 'archaeological gaze' might look like.

I have, as a second note of explanation, grouped these different disciplines together under the collective heading of 'the historical sciences' in view of the respects in which, in their nineteenth-century formation, their procedures were derived from those of 'conjectural history'. This term was coined by Dugald Stewart in 1790 to describe the procedures of speculative accounts of the transition from rude to civilised society which, in contrast to the empirical procedures that had been developed for the physical sciences, could not, as Mary Poovey puts it, 'rely on written records, eyewitness testimony, or any kind of evidence that met the strictest definition of "experience" (Poovey 1998: 221). The distinctive character of such histories thus consisted in their retrospective deduction of the probable forms of the past based on the fragmentary evidence of their still-existing remains. By the 1830s, this procedure of conjectural reasoning had been shaped into a distinctive epistemological paradigm which - in applying to the procedures of geology, palaeontology, and natural history just as much as to those of archaeology and anthropology - bridged the gap between natural and human history. William Whewell, the philosopher who first coined the term 'science', summarised this conception in his description of what he called the palaetological sciences by way of differentiating their concerns with 'pasts beyond memories' from those of recorded history:

Such speculations are not confined to the world of inert matter; we have examples of them in inquiries concerning the monuments of the arc and labour of distant ages; in examinations into the origin and early progress of states and cities, customs and languages; as well as in researches concerning me causes and formations of mountains and rocks, the imbedding of fossils in strata, and their elevation from the bottom of the ocean. All these speculations are connected by this bond, - that they endeavour to ascend to a past of things, by the aid of the evidence of the present. In asserting, with Cuvier, that 'The geologist is an antiquary of a new order,' we do not mark a fanciful and superficial resemblance of employment merely, but a real and philosophical connexion of the principles of investigation. The organic fossils which occur in the rock, and the medals which we find in the ruins of ancient cities, are to be studied in a similar spirit and for a similar purpose (Whewell 1837:482).

Whewell goes on to provide a telling example of what I have in mind here in suggesting that an archaeological gaze governs how the relations between past and present were visualised in these sciences when he outlines how the present can be read to identify the pasts that have been sedimented within it as a consequence of the remnants of each historical period being carried over and compressed into the next one, thus preserving a record of time's passage in the sequential layering of its accumulations. 'The relics and ruins of the earlier states,' as he puts it, 'are preserved, mutilated and dead, in the products of later times' so that it is 'more than a mere fanciful description, to say that in languages, customs, forms of society, political institutions, we see a number of formations superimposed upon one another, each of which is, for the most part, an assemblage of fragments and results of the preceding condition' (ibid: 484).

We can see this archaeological gaze at work some thirty years later in the lecture 'On a piece of chalk' which Thomas Huxley gave to the workingmen of Norwich in 1868. Huxley's promise to his audience was that, by considering carefully the evidence of a tiny, seemingly insignificant piece of chalk of the kind 'which every carpenter carries about in his breeches pocket', they will be able to read, with their own eyes, 'the history of the globe' (Huxley

1868:4). Here is how, a little later in his lecture, an archaeological gaze is manifested as Huxley metaphorically places his imaginary bit of chalk under a microscope to reveal the history that has been stored up within it:

Thus there is a writing upon the wall of cliffs at Cromer, and who so runs may read it. It tells us, with an authority which cannot be impeached, that the ancient sea-bed of the chalk sea was raised up, and remained dry land, until it was covered with forest, stocked with the great game the spoils of which have rejoiced your geologists. How long it remained in that condition cannot be said; but 'the whirligig of time brought its revenges' in those days as in these. That dry land, with the bones and teeth of generations of long- lived elephants, hidden away among the gnarled roots and dry leaves of its ancient trees, sank gradually to the bottom of the icy sea, which covered it with huge masses of drift and boulder clay. Sea-beasts, such as the walrus, now restricted to the extreme north, paddled about where birds had twittered among the topmost twigs of the fir trees. How long this state of things endured we know not, but at length it came to an end. The upheaved glacial mud hardened into the soil of modern Norfolk. Forests grew once more, the wolf and the beaver replaced the reindeer and the elephant, and at length what we call the history of England dawned (ibid: 27).

That it was possible to visualise the relations between past and the present in these terms was due, in the main, to the combined effects of two closely related developments. The first consisted in the conceptual re-orientations and technical developments that allowed dug-up things - bones and fossils as well as artefacts - to be historicised and assigned a place within an increasingly finely calibrated and sequentialised past consisting of so many layers accumulated one on top of the other. The second consisted in the developments of techniques for reading these pasts which freed the historical sciences from their tutelage to philology and other textualised methods of interpretation. Alain Schnapp argues that the work of seventeenth-century antiquaries was crucial with regard to this second development in developing the method of what he calls an 'archaeological "autopsy'" (Schnapp 1996:1 81). This was a new way of reading which, relying more on the senses of sight and touch than on the principles of philological analysis, helped to form a new language of history, one whose signs comprised the visible marks on buried remains - human, natural and geological – that provided the material evidence for 'pasts beyond memories'.

It was through this method of 'archaeological "autopsy", Schnapp argues, that 'archaeology won its independence - by delivering a text of another nature than that of the literary tradition' (ibid: 181), thus freeing it from its tutelage to the Renaissance *episteme* by yielding a vision of the earth as 'a repository of interpretable traces' (ibid: 213) inscribed directly on the surfaces of things as sets of physical marks. The development of a grammar that would allow the relations between these pasts to be deciphered took a little longer. Schnapp sees the crucial development here as being in the development of the typological or comparative method - 'the ancestor,' as he describes it, 'of all archaeological reasoning' (ibid: 241) - in view of the ways in which it enabled the field of pre- recorded history to be both spatialised and temporalised. It did the former by proposing ways of reading the design traits common to objects found within a particular territory which established a distinctive provenance for them within that territory while simultaneously excluding as foreign objects those not exhibiting the above traits. While this allowed cultures to be territorialised on the basis of their

artefactual remains, their historicisation followed from the development of techniques designed to detect the change of design traits through time within the same territorial culture.

This aspect of archaeology's temporal grammar, however, depended on the principles of stratigraphical analysis which, imported from geology, allowed for the development of excavation techniques which provided for a layered approach to the management of archaeological sites which, in its turn, allowed the past to emerge into view as a series of layers superimposed, in an irreversible sequence, one on top of the other. If Georges Cuvier's use of stratigraphical techniques in his palaeontological excavations had provided the basis for a systematic chronology, rooted in geological time, the key developments that enabled connections to be made between the history of the earth, natural history and human prehistory are attributable to the work of Christian Jurgensen Thomsen, the leading figure in earlynineteenth-century Scandinavian archaeology. Thomsen's main innovation was to produce a universal and generalisable method for reading the human past in suggesting that similar technologies might be read as evidence of comparable levels of cultural development. Translated into the basis of the three-age model (the stone, iron and bronze ages) he developed for his museum displays, Thomsen's method provided a means for organising increasingly large clusters of objects into their respective stages within a chronological system that was both universalisable and empirically verifiable. 6 Rendering the artefactual domain readable in new ways, this allowed human prehistory to be made publicly manifest in the form of a narrative which, in the now readable testimony of the past's artefactual remnants, connected human pasts to the deeper times of geology and natural history, and to the present, in a common and irreversible sequence. 'Every object and every monument,' as Schnapp puts it, was now 'destined to find its place in a general process of stratification which is linked to the history of the planet' (ibid: 32 1).

Here, then, is a broader discursive context for the archaeological construction of the person as consisting of so many layers of inheritance, laminated one on top of the other, that is evident in Walter Bagehot's conception that 'man himself has, to the eye of science, become "an antiquity". There were, of course, other, more ruptural ways of thinking about the relations between past and present than those of a unilinear and continuing evolution, and, in some contexts, these remained influential into the 1880s. Their force in Britain, however, was relatively muted after the demise of catastrophism in the 1840s and, by the 1860s had given way almost entirely to a conception of the relations between past and present as being governed by principles of regular and even evolutionary succession in which each stage of development - be it that of a species, of human life, or of a civilisation - built on, and retained within itself, the accumulated results of previous stages. The question I now want to ask is: how and why did this new conception of the person give rise to new ways of thinking about the nature, conduct and purpose of government?

# The Archaeological Construction of Character and 'New Liberalism'

Stefan Collini's work on the mutation in character associated with the transition from classical *laissez-faire* liberalism to the 'new liberalism' of the late nineteenth century provides some useful initial bearings from which to approach this question. In the earlier period of *laissez-faire* liberalism, when the aim of government was to produce self-reliant individuals who would not be a burden on the state or a drag on the economy, government was regarded as an activity that was best performed when least performed. If, by contrast, the

new conception of man as an archaeological entity who had been shaped by the cumulative weight of the past and who - just as importantly - stood in need of continuing development if society itself were to progress became a reason for urging state action in the cultural and moral sphere, this was because of the obstacles that it was believed impeded the development of the personal capacities that were judged to be so important for the continuing development of society. At the same time, however, this orientation was consistent with earlier liberal strategies of rule to the degree that it pitted itself against the over-extension of the state's remit that it imputed to the contemporary formulations of eugenics.8

The manner in which these obstacles were perceived had its roots in a distinctive set of anxieties concerning the role of habit in the development of character. In being accorded a distinctive role in mediating between consciousness and unconsciousness, between desire and compunction, habit understood as a socially-enforced form of learning via repetition – constituted what Mariana Valverde characterises as a 'despotic mechanism' at the heart of liberal programmes of ethical governance (Valverde 1996:361). It served, she suggests, as a form of self-despotism that reconciled two otherwise contradictory features of liberal governance - the stress on individual autonomy on the one hand, and the denial of the capacity for autonomous self-government to particular classes of persons, including the working man. Habit, in such cases, provided a bridging mechanism, a form of socially-enforced learning that would eventually lead to the acquisition of a built-in and autonomous capacity for self-improvement.

If this was a general characteristic of mid-century liberalism, the concerns associated with the role of habit in the development of character later assumed a more specific form owing to their association with what Collini calls the 'century's distinctive preoccupation with the shaping power of time, with the slow, sedimentary processes of development, be it of geological layers or of linguistic forms or of legal customs' (Collini 1991:97-8). These generated the fear that what Walter Bagehot had called 'the cake of custom' (Bagehot 1873:53) would become so thick that any spur to innovation - and therefore any progressive social momentum - would be lost. The circuit breaker in this politics of character between, on the one hand, the fear of stagnation and, on the other, the need for a 'striving, self-reliant, adaptable behaviour endorsed by the imperatives of character' (Collini 1991:109) was, as Collini puts it, a 'muscular liberalism'. This consisted in the contention that state-aided reformations of character giving rise to a more progressive disposition of the self - organised in relations of tension between its archaic, customary components (or habit) and an openended commitment to self-development through time - would act instinctively on future generations through a pseudo-Lamarckian mechanism of the inheritance of acquired characteristics.

A closer look at Bagehot's arguments will repay our attention here in view of their influence on the social and political thought of Charles Darwin, Thomas Huxley and Henry Pitt Rivers. 9 The lynch pin of Bagehot's understanding of the relations between 'physics and politics' - that is, of the implications of evolutionary thought for the practice of government - consists in his concept of 'stored virtue'. This allowed him to construe social development as a specific process, governed by its own distinctive laws, in which moral and cultural forces combine with natural ones to provide a progressive mechanism - but a contingent and fragile one – through which the accomplishments of one generation could be transmitted to the next. This mechanism was, in its essentials, an adaptation - via Herbert Spencer - of Jean-Baptiste Lamarck's use-based account of the transmission of acquired characteristics to the acquisition

and transmission of distinctive human or social skills. Just as, for Lamarck 'the more frequent and steady use of any given organ gradually strengthens this organ, develops it, increases its size, and gives it a power proportional to the duration of this use' (cif. Barthelemy-Maudaule 1982:75), so, for Bagehot, it is the frequent and steady use of skills acquired via the social mechanism of drill – the model, in Bagehor's account, for all forms of human learning - that allows those skills to become sedimented in the person. 'The body of the accomplished man,' as Bagehot puts it, 'has thus become by training different from what it once was, and different from that of the rude man; it is charged with stored virtue and acquired faculty which come away from it unconsciously' (Bagehot 1873:6).

It is, however, the next step Bagehot takes that is crucial in conjuring up an entirely speculative mechanism by hypothesising - as a moral complement to Herbert Spencer's notion that the effects of mental exercise could be inherited 10 – that the skills acquired by means of drill are deposited in the nervous system through a kind of muscular mnemonics and are (hence transmitted innately to the next generation as a set of acquired characteristics. It is thus, he argues, that 'the descendants of cultivated parents will have, by born nervous organisation, a greater aptitude for cultivation than the descendants of such as are not cultivated; and that this tendency augments, in some enhanced ratio, for many generations' (ibid: 8). It is this 'transmitted nerve element' that comprises "'the connective tissue" of civilisation', providing 'a physical cause of improvement from generation to generation' which serves as a 'continuous force which binds age to age, which enables each to begin with some improvement on the last' (ibid.).

It is in this way, then, that 'pasts beyond memories' come to be integrated into a memory system that is organic in the sense, as Laura Otis (1994) describes it, that it inscribes the past in the body.11 The person, in this construction, emerges as a thoroughly archaeologised entity - a way-station in a process of continuing advancement - in which the effects of time are stored up and accumulated for transmission from one generation to the next. Yet if progress thus depends on the progressive accumulation of the effects of habit, custom - the social form in which habit manifests itself can also become a barrier to progress if its effects are not offset by other tendencies. Societies that were once in motion either fossilise: Bagehot interprets modern savages as the frozen remnants of pre-historic ways of life, having no more connection with the real civilisation of the present than do 'fossils in the surrounding strata' (Otis 1994:113). Or they may be driven into odd, dreary and uncomfortable courses through the repetition of curious habits that have proved to be historical cul-de-sacs. The task of maintaining 'the connective tissue of civilisation' and augmenting its progressive momentum thus required that the 'stored virtue' that had been deposited in the nervous-cum-historical constitution of modern man be distinguished from the regressive bad habits that had also been inherited from the past. This detritus of the past had to be scaled away within an internal dialectic of reform that would detach a modernising and progressive relation to the self from the prospectively degenerative momentum of a legacy that received its most potent symbol in the doctrine of survivals according to which the savage, as a remnant of the prehistoric past within the present, also functioned as an archaic component in the make-up of the modern person. 'The civilised mind,' as Tylor put it, 'still bears vestiges neither few nor slight, of a past condition from which savages represent the least and civilised man the greatest advance' (Tylor 187 1:68-9).

Conrad offers a vivid illustration of this conception in *Heart of Darkness* where the scene of savagery discussed earlier is also depicted as a prehistoric layer that survives intact in the

historical make-up of modern man when Marlow is forced to acknowledge his kinship with the 'wild and passionate uproar' of the savagery he encountered:

Ugly. Yes, it was ugly enough; but if you were man enough you would admit to yourself that there was in you just the faintest trace of a response to the terrible frankness of that noise, a dim suspicion of there being a meaning in it which you - you so remote from the night of the first ages - could comprehend. And why not? The mind of man is capable of anything - because everything is in it, all the past as well as all the future (Conrad 1969:63).

But it is only modern man whose constitution is archaeologically stratified in this way. The savages themselves were outside of time. As he says of the native members of his crew:

... I don't think a single one of them had any clear idea of time, as we at the end of countless ages have. They still belonged to the beginnings of time - had no inherited experience to teach them, as it were (ibid: 69).

The distinction is crucial: the denial of an archaeological constitution to the savage is essential to the role it plays in the archaeological layering of the modern self by providing, in the form of an interiorised Other, a set of coordinates through which that self is able to act on itself so as to mobilise itself, developmentally, in progressive relations of time. 12 It will be instructive to look more closely at the organisation of this modern self before returning to its relationship to late nineteenth-century liberalism.

#### The Architecture of Modern Self

Gilles Deleuze's discussion of the functioning of 'the fold ' in Foucault's account of the structure of the self will help make my point here. Deleuze's concern is with the role played by doubling - for Foucault, a process through which an outside is interiorised in the constitution of the person and the structure it gives rise to of 'an inside which is merely the fold of the outside' (Deleuze 1999:97). As a result of this folding operation, the self is formed through its relation to a non-self or Other that has been folded into the self as an immanent presence. This outside that is immanent within the self creates an interior space within which the self can act on itself. 'It is as if,' Deleuze says, 'the relations of the outside folded back to create a doubling, allow a relation to oneself to emerge, and constitute an inside which is hollowed out and develops its own unique dimension ... '(ibid: 100). The resulting formation is 'an affect of self on self' (ibid: 101) through which relations of power are translated into a principle of internal regulation in which the mastery of others is doubled - echoed and rehearsed - in a mastery of the self.

The text Deleuze has in mind here is Foucault's discussion, in *The Use of Pleasure*, of 'the "virile" character of moderation' in the sexual ethics of the freeman of classical Greece:

In this ethics of men made for men, the development of the self as an ethical subject consisted in setting up a structure of virility that related oneself to oneself. It was by being a man with respect to oneself that one would be able to control and master the manly activity that one directed toward others in sexual practice. What one must aim for in the agonistic contest with oneself and in the struggle to control the desires was

the point where the relationship with oneself would become isomorphic with the relationship of domination, hierarchy, and authority that one expected, as a man, to establish over his inferiors ... . (Foucault 1985:83).

If, as Foucault concluded, 'moderation was man's virtue' (ibid: 83), this did not mean that women could not, or were not expected, to be moderate. Rather, it meant that this was a condition which they could realise only imperfectly and through subordination to their husbands. Only men could initiate *enkrateia*, and only men could fully achieve it. If the structure of this practice was essentially masculine, this entailed, Foucault argued, that its opposite - immoderation - represented a form of passivity that was viewed as essentially feminine, a self lacking the fold of an internally doubled exterior that could make the self the site of an unremitting work on the self.

We can see here readily enough the scope for analogy in understanding the role played by representations of the savage as an archaic layer within the archaeological make-up of modern man. Clearly colonial in its structure in providing for the mastery of a level within the self of the coloniser that was connected to the exercise of mastery over the colonised, it is equally clear that, for this to be so, the colonised must function as the essential antithesis of this structure. The colonised, that is, must embody the lack of an archaeologically layered architecture of the self, and so also be depicted as lacking any inherent capacity for self-development, in order to serve as the interiorised Other through which the historicised fold that constitutes the inner temporal structure of modern man is organised.

However, the structure of this fold and its operation can only be fully understood if account is taken of the ways in which it functions simultaneously across relations of race, gender and class. Ann Stoler's criticisms of Foucault are helpful here. In reviewing Foucault's account of the formation of a bourgeois class body based on the principles of health, hygiene, descent, and race, Stoler takes issue with his tendency to see the discourses of sexuality implicated in the formation of bourgeois practices of the self playing this role independently of relations of race. 'Did any of these figures,' she asks of the masturbating child, 'the hysterical woman', the Malthusian couple, and the perverse adult, exist as objects of knowledge and discourse in the nineteenth century without a racially erotic counterpoint, without reference to the libidinal energies of the savage, the primitive, the colonised - reference points of difference, critique, and desire?' (Stoler 1995:6-7). In concluding that they did not, she urges the need to take a 'circuitous imperial route' (ibid: 7) in tracing the emergence of the bourgeois body and self in order to understand how, in both colonial and metropolitan contexts, 'bourgeois bodies were constituted as racially and relationally coded from the outset' (ibid: 53). The metaphorical transposition of the languages of race and class - in comparisons of the denizens of 'darkest England' with those of 'darkest Africa' which allowed the working classes to be viewed as 'a race apart' - played a crucial connecting role here. 'It captured in one sustained image,' Stoler says, 'internal threats to the health and well-being of a social body where those deemed a threat lacked an ethics of "how to live" and thus the ability to govern themselves' (ibid: 127). This incapacity is accounted for by denying the working classes, just as much as savages and - to anticipate a point to be considered more fully shortly - women, that archaeological organisation of the self that allowed it to be viewed as part of a cumulative, trans-generational developmental project.

The forms of mastery of the self produced by the archaeological constitution of modern man thus depended on, and supplied the conditions for, a mastery over a set of interconnected

classed. raced and gendered others. This, in turn, provided the conditions for an archaeological construction of the social whose depths, Stoler suggests, were polyvalent:

... the sexual model of the promiscuous working-class woman in nineteenth-century industrialising England construed her as a 'primitive relic of an earlier evolutionary period,' ... who stood in contrast to 'the moral model of ... middle-class sexual restraint and civility' (ibid: 128).13

Bagehot's conception of the political community rests on similar principles. It, too, is archaeologically stratified. In reflecting, in his 1867 text *The English Constitution*, on the unequal development of the human race, Bagehot - contrasting the imagined life of the savage past with that of civilised Europe - suggests that the gulf between the two seems unbridgeable. It is, however, an opposition that he proceeds to mediate by noting how such pasts survive within the body politic as a series of archaic layers:

Great communities are like great mountains - they have in them the primary, secondary and tertiary strata of human progress; the characteristics of the lower regions resemble the life of old times rather than the present life of the higher regions (Bagehot 1963:63).

His own period was no exception:

We have in a great community like England crowds of people scarcely more civilised than the majority of two thousand years ago; we have others, even more numerous, such as the best people were a thousand years ago (ibid: 62-3).

This archaeological stratification of the political community informed Bagehot's understanding of democracy. The fact that the vast majority of the population were backward and so still governed by the 'cake of custom' entailed a limited suffrage: the conduct of government, Bagehot argued, should be limited to the 'educated ten thousand' who had reached the level of the 'age of discussion'. This is in truth, then, less a concept of democracy than an attempt to redraw the boundary lines that the tradition of civic humanism had earlier drawn in its definition of the political community, These distinguished, on the one hand, those whose station in life and economic independence qualified them to participate in public discussion of matters of civic importance because they could do so disinterestedly from, on the other hand, those who, by dint of the menial nature of their occupation and their inability to rise above the level of self-interest and the immediacy of their daily lives, were excluded from such discussions.14 The important difference, however, is that, in Bagehot's construction, the boundary line is drawn not in terms of a distinction of occupation but in terms of the different relations of different social strata to the sedimented remains of the past that had been deposited in the present. The 'connective tissue of civilisation' was, in effect, a split one severed along the fault-line separating those still frozen in fossilised ways of life and the representatives of progress and innovation in the present.

# The Modern Self, Culture and Society

Yet such conservative conclusions did not necessarily follow from the archaeological conceptions Bagehot deployed. To the contrary, for a broad spectrum of liberal opinion, a

central issue was how far to extend the reach of the architecture of the modern self and who to include within it by dispersing the ability to form and develop a self that was poised in a restless tension between its archaic and progressive components. It was in the context of these concerns that the 'new liberalism' advocated limited forms of state intervention in the cultural sphere in order to avoid the alternative solution - that of forcibly detaching the present from the archaeological remnants of past stages of evolution - that was represented by statist programmes of eugenics. This, in turn, provided the discursive co-ordinates for a conception of the museum as a storage vehicle - a memory machine - which, in some formulations, displaced, and, in others, complemented the muscular mechanism of habit in providing a cultural means of accumulating the lessons of the past and, in bringing those lessons to bear on the present, acting developmentally on the social.

It will be instructive here to look briefly at another account of the relations between evolution and character in view of its role in paving the way for an acknowledgement of the role of cultural forces in the dynamics of social evolution. The account I have in mind is that offered by Thomas Huxley in his discussion, in *Evolution and Ethics*, of the relations between government and self-government. His discussion proceeds through the use of gardening as a metaphor for government. Evoking an imagery which aptly captures the essence of Foucault's account of liberal government, Huxley argues that this metaphor is correctly interpreted only when government aims to enlist men as gardeners of themselves in a project of ethical self-cultivation that is superintended by the state rather than seeking to intervene directly in their growth and cultivation through state-directed programmes of eugenic management:

In the modern world, the gardening of men by themselves is practically restricted to the performance, not of selection, but of that other function of the gardener, the creation of conditions more favourable than those of the state of nature; to the end of facilitating the free expansion of the innate faculties of the citizen, so far as it is consistent with the general good (Huxley 1893: 101).

It is the development of conscience - which Huxley derives naturalistically from the human capacity for sympathy - that establishes a space, a fold, within the constitution of the person within which this activity of self-government can be installed. This space is organised in terms of a contrast between two different layers of the person, albeit that, in Huxley's formulations, this archaeological structure takes a distinctive form which transfers its accumulative aspects from the individual to society. The reasons for this have to do with Huxley's rejection of the concept of use inheritance as this ruled out the possibility that the person might be composed of so many progressive layers of accumulated experience, sedimented one on top of the other. Instead, the internal architecture of the Huxleyan self is governed by a vertiginous division between two layers, defined in a simple bipolar relationship to one another in which 'the innate aggressive impulses of the ancestor' are moderated by 'the acquired social restraint of the cultured being' (Paradis 1898:20). The deep time of the prehistoric past thus survives in the inner constitution of the modern person, but it survives directly, the product of 'millions of years of severe training' (Huxley 1893: 143), and in direct confrontation with the socially-produced 'man within' (Huxley 1894:88).

For Huxley, the savagery of primitive man, a savagery forged in the struggle for existence, reappears, in full brutish propensity, as a component in the makeup of each individual and each generation. There is no natural storage mechanism, as there was for Bagehot, for

accumulating the virtue acquired in one generation and carrying it forward to the next: self-assertion and self-restraint are pitted against one another, always and forever, in unmediated antagonism. It is precisely because this is so, however, that Huxley, in transferring this storage mechanism from the inner constitution of each individual to the social environment, provides for a distinctive dialectic of culture: and society in which it is the trans-generational accumulation of means on acting on, curbing and regulating natural instincts that provides for the 'progressive modification of civilisation' rather than an endless repetition of the same inner drama. Every 'child born into the world will still bring with him the instinct of unlimited self-assertion,' but the: circumstances in which the lessons of self-restraint and renunciation have to be mastered mean that 'man, as a "political animal," is susceptible of a vast amount of improvement, by education, by instruction, and by the application of his intelligence to the adaptation of the conditions of life to his higher needs' (Huxley 1894: 102). The consequences of this relocation of the storage mechanism through which acquired virtue is transmitted through time is nicely summarised by Lloyd Morgan, formerly a close associate of Huxley's, in his 1896 text *Habit and Instinct:* 

There must be increment somewhere, otherwise evolution is impossible. In social evolution on this view, the increment is by storage in the social environment to which each new generation adapts itself, with no increased native power of adaptation. In the written record, in social traditions, in the manifold inventions which makes scientific and industrial progress possible, in the products of art, and the recorded examples of noble lives, we have an environment which is at the same time the product of mental evolution, and affords the conditions of the development of each individual mind to-day (Morgan 1896:340).

Huxley's accomplishment in this regard was, in essence, to imbue civilisation with an independent developmental mechanism through which past advances, accumulated and stored in a variety of institutional and technological forms, provided the means, essentially cultural, for acting on the social so as to contribute to its ongoing cumulative development and to curb the disturbing effects of atavistic tendencies wherever these might manifest themselves.

#### The Museum as Evolutionary Accumulator

It is not difficult to see why, as the cultural storage mechanism *par excellence*, the museum should have figured so prominently in Huxley's own educational strategies and those of 'new liberalism' more generally - not to mention the considerable effort Huxley and his allies devoted to ensuring that their followers were appointed to key positions in the new museums of ethnology and natural history that flourished in the last quarter of the century. 15 For by making 'pasts beyond memories' a part of the social environment, the evolutionary museum - speaking, ideally, 16 in the language of things - transformed those parts into a form of social menomics. By accumulating all past times within itself and thus providing a summation of previous development (natural, cultural, scientific and technological), pointing a way forward and providing a pedagogic programme that would contribute to the realisation of this dynamic - the evolutionary museum functioned as a cultural technology for operating on the present.

This was clear enough in the programme Henry Pitt Rivers proposed for the ethnological museum which he envisaged as an evolutionary accumulator, storing - by means of their

survivals - a record of each painstaking step in the processes of cultural and technological revolution that provided a template for future social development as an equally painstaking and gradual process. This conception of the museum's function depend on Pitt Rivers's adaptation of the Thomsen's typological method to construct, by means of the display of technologies, what were purportedly universal developmental sequences leading from the simple to the complex (from the Aboriginal throwing stick to the medieval musket, for example, in his displays of weaponry). By packing in as many illustrations as possible of stages of development intervening between the beginnings and the conclusions of such evolutionary sequences, Pitt Rivers's purpose was to communicate the lesson that society, like nature, makes no jumps. This contention had – by the late nineteenth century - a long and disputed history in which it had been variably connected to conservative, radical and reformist political tendencies in its application to both the natural and social orders, and to the relations between them.17 In the period from the 1850s, however, this 'law' - when put through the Darwinian mill of natural selection - had emerged as the coda for Darwinian liberalism in the implication that natural law dictated that social progress could only be, and must therefore aspire to be, slow and cumulative. The attraction of this view - aptly summarised in Darwin's pithy 'evolution baffles revolution' (cit. Desmond and Moore 1992:294) - is self evident, and especially in the social agitation of the 1880s and 1890s. It gave an embattled liberalism a means of engaging with the increasing influence of socialist ideologies - and with evident success in view of the more or less total commitment of British schools of socialist thought to (his premise of evolutionary thought from me 1890s well into the twentieth century. It also provided a means of rebutting the socially static and conservative implications of Owen's theory of archetypes according to which the development of each species followed the separate path of a foreordained divine plan thus ruling out the possibilities of their being connected in a sequential but - because directionless contingent evolutionary order.18

It is true that, in some interpretations, it is only the conservative, restraining effects of the law that 'nature makes no jumps' that are stressed, leading to the assessment that the post-Darwinian synthesis of the historical sciences functioned solely as a conservative bulwark against the rising ride of socialism. 19 This is, however, a misleadingly one-sided reading of this law which, in its late nineteenth-century interpretation, has always to be read in conjunction with the unstated, but implied, rider: 'but it does progress'. The justification for extending state action in the cultural sphere can only be understood in the light of this dual orientation which, just as it required that the workingman be weaned from the influence of ideologists who fuelled the expectation that his lot might be suddenly and dramatically improved through a ruptural political event, also required that progress be stimulated.

If the restraining and conservative aspect of this orientation predominated in Pitt Rivers's museum designs, the balance is struck differently in the connections that Patrick Geddes proposed between the historical sciences, museums, education and civics. Throughout his work - an unusually fertile, albeit incoherent, mix of social evolutionary conceptions, eugenics, new liberalism, statistics, sociology, urban planning and civics - he retained a strong interest in museums as both a site and metaphor for his activities. He thus took an active part in the programme of public lectures offered by the Horniman Museum when it was brought under the administration of London County Council. In 1905, for example, he offered a course of ten lectures on *Great Cities: Their Place in Geography. and their Relation to Human Development* which, in its form, replicated the archaeological structure of the Museum's exhibits in - for each period of urban life studied - identifying the 'persistence and

continued expansion of (the) preceding elements and influences in modern cities' (Geddes 1905:3).

But it is in his conception of the Outlook Tower that his understanding of the museum's role as a storage device capable of accumulating a succession of pasts, synthesising their directions, and mapping out a future – and thereby, in being applied to the tasks of civic education, serving as a means of acting developmentally on the social - is most fully articulated. Developed in the 1890s, the Outlook Tower was shaped, in part, by the early debates of the Museums Association in which Geddes participated. A totalising device based on a combination of geographical and historical principles, the Tower - in both its physical form in Edinburgh as well as in the broader role it played in Geddes's writings as one of his 'thinking machines' - was intended as a means of focusing the visitor's attention on localised tasks of civic development by placing these in both a world and a historical setting. The visitor's itinerary was to lead from the camera obscura (see fig.1), providing a view of the city and its regions, and then downwards through a succession of floors which placed that urban and civic vista in successively broader contexts, each providing a summary of historical evolution, present conditions and future prospects. The logic at work here is made clear in another of Geddes's 'thinking machines' (see fig. 2) which, in constructing the relations between the ancient, recent and contemporary phases of development and the future in the form of a sequence whose direction has yet to be deciphered, provided a template for applying the accumulation of the past's lessons to the task of future civic development.

# In the Slipstream of Progress

My argument so far has been that the evolutionary museum is productively viewed as a progressive cultural technology whose operation is best understood in terms of the kinds of work on the self it makes possible and organises. 21 The manner in which the inner space of the self was conceptualised as a series of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised a set of vectors within the self in which the repressive effects of archaeological strata organised as the self in which the inner space of the self in which

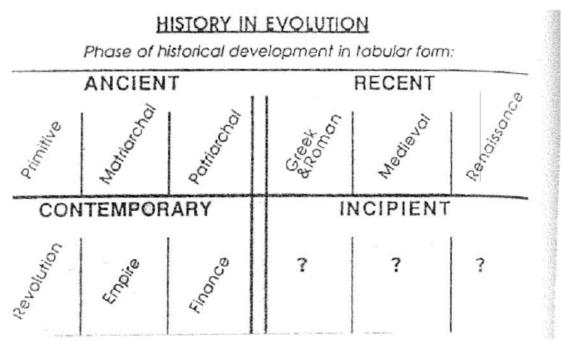


Figure 2: Source: Patrick Geddes (1906) 'Cities: an applied Sociology, part 2', in, V. Bradford (ed.), *Sociological Papers*, London: Macmillan, p. 108.

Yet this could only be true for some types of person and not others owing to the ways in which this architecture of the self was constructed. The major wager of post-Darwinian liberalism was that evolutionary museums would, alongside other instruments of public instruction, extend the reach of this architecture of the self to reach the workingman. Yet and we have only to read Pitt Rivers's musings on the relations between the 'automaton mind' and the 'intellectual mind' (see Lane-Fox 1875:296) to see this – educated opinion remained acutely divided as to whether the working classes yet possessed, or could easily acquire, the kind of double-layered self that was required for the person so see himself as both the product of the past and yet free to modify its force in breaking with habit to forge the future. It was, as a consequence, necessary that the evolutionary museum should hammer its lessons home in a way that would imprint them on the workingman's mind in a more-or-less mechanical fashion which could then be learned by rote, making progress a matter of habit rather than of understanding.22

Yet, in so far as he was white and male, an archaeologically structured self was something which - with help and encouragement - the workingman might come to acquire. The position of women and of the colonised was quite different owing to the respects in which both, in recalling the ancestry of the race, represented an archaic component in the make-up of the modern person whose constitution was thus inherently white and male. Bernard McGrane has written helpfully on the colonial aspects of this formation in noting the degree to which Edward Tylor's social anthropology was concerned less to explain the customs and practices of savage societies than it was, by means of what it said about these, to explain the present through its endless rehearsal of the distance between modern man and his savage ancestors. As a consequence, he argues, anthropology was a discourse which entirely excluded its object from its modes of address. 'Nineteenth century anthropological discourse,' as he puts it, 'secures, identifies, and institutionalises itself by systematically excluding the possibility that a person it considers to be "savage" (i.e., one of "them") might read (and collaborate with)

this statement and "misclassify" himself as an "us" (McGrane 1989:96). This was especially true of evolutionary museums which admitted the colonised as objects of display and research, but never as a party to the discourse about savagery that evolutionary displays embodied. Tom Griffiths gives us a sense of the long historical influence of these conceptions in recording that when, in the 1960s, an Australian museum realised that Aborigines might count as members of its public, it felt obliged 'to warn potential Aboriginal visitors that they might find exhibits disturbing should they enter the building' (Griffiths 1996:95).

The position of women was different again to the degree that their demotion to representing archaic layers of the self involved an assault on the influence they had earlier enjoyed as the domestic mediators of an altogether more benign and provident nature. The reasons for assigning women an ativistic status that confined them to the archaic level of the self varied across the different schools of evolutionary thought that defined the late-nineteenth- century intellectual landscape. In the case of Darwin, the mechanisms of use, inheritance combined with those of sexual selection worked to retain women in a state of acquiescent passivity which, in ill preparing them for the struggle for existence and obliging their dependency on the naturally more aggressive male, also deprived their psychological make-up of that dynamic tension arising out of the more complexly layered self that men had developed through the ages. In Huxley's case, a melange of arguments led him to view women as 'naturally timid, inclined to dependence, born conservative' (cit. Richards 1983:92) and as, accordingly, for the greater part, destined to 'stop in the doll stage of evolution, to be the stronghold of parsondom, the drag on civilisation, the degradation of every important pursuit with which they mix themselves' (cit. Richards 1989:256).

Yet women occupied an important place in the strategic calculations of post-Darwinian liberalism in view of their role in educating the next generation. Huxley thus grudgingly recognised that social progress would be assisted if women, too, could be helped to lessen the impact of their own archaic presence within the body politic through educational programmes of self improvement, while their educational influence over children meant that - if not for their own sakes - women were important in view of their 'relay' function within the ethical process. Darwin had made this point many years earlier in his notebooks when he had observed 'improve the women (double influence) and mankind must improve' (cit. Desmond and Moore 1992:252). When assessing the responsibility of government for the education of women, it was this second part of their 'double influence' - that is, their role as mothers - that carried the most weight with both Huxley and Darwin. While this might justify women being educated to the degree necessary to perform their domestic roles in the earlier phases of child-rearing, they could see little justification for state expenditure on women in the higher levels of education that might equip them for public, professional or scientific roles. State expenditure here would simply be wasteful to the degree that women's backwardness was determined by ancient biological causes that were still operative in the present. 'What was decided among the prehistoric Protozoa,' Geddes and Thompson argued in The Evolution of Sex, 'cannot be annulled by Act of Parliament' (cit. Richards 1983:93). Huxley, in his 1865 essay 'Education - black and white', was equally adamant that no amount of education would oblige nature to make even the tiniest of jumps in its iron-like ordering of the relations between the sexes:

Nature's old salique law will not be repealed, and no change of dynasty will be effected. The big chests, the massive brains, the vigorous muscles and stout frames of

the best men will carry the day, whenever it is worth their while to contest the prizes of life with the best women (cit. Richards 1983:92-3).

The significance of these developments becomes clearer if they are placed in a longer perspective. Ann Shteir (1996) has shown how, in the earlier mid-century period, attacks on both Paleyean natural theology and the legacy of Linnaeus's binomial system - whose simplicity, Lisber Koerner (1996) suggests, had helped democratise natural history, making it especially popular with women - formed part of a campaign to defeminise science by establishing a masculine culture of experts (Shteir 1996).23 This is not to say that women passively accepted these developments any more than, in the later period, they simply rolled over and played out the 'doll's house' roles to which their stern masters of evolutionary necessity could confine them. Arabella Buckley's revision of the benign narratives of earlier schools of natural history to take account of evolution, yet lend its support to the need for social evolution to aspire to ever higher forms of social mutuality (Gates 1997), and the more broadly based feminist campaigns against vivisection, fuelled by a sympathy for animal life that stemmed from women's classification and treatment as themselves scarcely more evolved than domestic animals (Richards 1997). In these ways, and others, the lessons of evolution were subject to a complex history of acceptance, revision, rebuttal, and derision in the writings of late nineteenth century feminists. Be this as it may, there is no doubt that the programme of the evolutionary museum – allied to the development of natural history teaching in the newly-emerging public schooling system - was part of an active campaign to bring nature under the jurisdiction of an essentially male science during a crucially formative period in the development of state education and a mass public culture. Nor is there any doubt that this assault on the influence that women had previously enjoyed in the domestic sphere as the privileged interpreters of nature's scripts served to re-affirm women's subordination to the sovereign power of the male head of household while, at the same time, redefining the terms in which this was organised by denying women the archaeologically layered self that was judged necessary for persons to be fully and autonomously selfgoverning within the new horizons of deep time that governed late nineteenth-century consciousness.

#### Notes

- 1. The term prehistoric was first used in the title of Daniel Wilson's *Prehistoric Annals of Scotland* (see Putnam 1899: 227) while the term 'dinosaur' was coined by Richard Owen as a collective noun for fossil reptiles. The dinosaur made its first public appearance in the reconstructions of fossil reptiles that Waterhouse Hawkins following Owen's ideas prepared for the 1854 Crystal Palace exhibition (see Mitchell 1998:95-7, 124-6).
- 2. It is important to be clear that the argument developed here is not intended to apply to the evolutionary museums that were developed in other countries over the same period. These were usually the result of distinctive intellectual and political dynamics which need to be understood on their own terms.
- 3. I draw here, in the concept of a 'mutation in personhood', on Carolos Novas's and Nikolas Rose's discussion of the changes in the conception of personhood associated with recent advances in the life sciences. See Novas and Rose (2000).
- 4. I place the term in quotation marks to acknowledge an ambiguity in the literature sometimes reserved, in its capitalised form, for the social reform orientation that was codified as New Liberalism, by L. T. Hobhouse around 1910,the lower case usage is more elastic in being extended to the closing two to three decades of the nineteenth century to identify the breach with classical liberalism that was marked, philosophically, in the writings of T.H. Green and, practically, in liberal advocacy for the important role for the state in the cultural and moral sphere. It is, then, this tendency essentially a bridge between classical liberalism and New Liberalism that I shall refer to as the 'new liberalism'.
- 5. I draw here on Foucault's characterisation of the Renaissance system of classification as one in which signs were a part of things themselves, with the consequence that writing the history of a plant or animal was s much a matter of describing everything that had been said about it in literature, myths, medicine etc, as of describing its organs (Foucault 1970:129).
- 6. Thomsen was the first curator of the National Museum in Copenhagen. He began to arrange the Museum's collections in accordance with the three-age system in 1816, but it was not until 1836 that he published a definitive statement of the system and its underlying principles in an issue of the Museum's guide. See Freeland (1983).
- 7. The most important exception here is Louis Agassiz whose continuing support for the catastrophist accounts of the earth's development remained influential especially in the United States until the 1880s and 1890s. See Lurie (1960).
- 8. My approach to liberalism here as a strategy of rule which seeks to limit the activity of government, but always in contextually specific ways depending on the alternatives it defines itself against, derives from the literature developed in the wake of Foucault's writing on governmentality. See Dean (1999) for commanding survey of this tradition of work.

- 9. Darwin draws explicitly on Bagehot in his own account, in *The Descent of Man*, of the role of the moral faculties in social development (see Darwin 1991: 162). The value it placed on the benefits to be derived from the principle of variability played a considerable role in Darwin's criticisms of the eugenic conceptions of Francis Galton (see Greene 1981: 104-11, and Jones 1980: 20-4). Bagehot's influence on Huxley is discussed by Paradis and Williams (1989: 16-24. His influence on Pitt River's account of the difference between the 'intellectual mind' and the 'automaton mind' is readily discernible, although not explicitly acknowledged (see Lane-Fox 1875).
- 10. See Greene for a discussion of the influence of this aspect of Spencer's thought on the general intellectual climate of late nineteenth-century debate, including Darwin's own views (1981: 101-2).
- 11. Otis's discussion surveys a much broader discursive field than the one I am concerned with, encompassing Ernst Haeckel's contention that ontogeny recapitulates phylogeny and, of course, Freud's layered architecture of the psyche.
- 12. There are clear links with Freudian accounts here. However, rather than treating these as providing a means of understanding colonial discourse as the product of psychoanalytically grounded process of splitting (see BHabha 1994), the approach taken here would account for the structure of the Freudian psyche as a product of the deployment of techniques of self examination within the context of archaeological topologies derived from the historical sciences.
- 13. The quoted passages here are from Tiffany and Adams (1985). For a telling discussion of these intersections, see Marriott (1999).
- 14. See Barrell (1986) for the classic account of the discourse of civic humanism.
- 15. David van Keuren has estimated that, of the 71 new museum collections opened in Britain in the 1870s, 1880s and 1890s, 28 were natural history collections and 5 ethnological collections as compared with a joint total of 3 collections of both types in the whole of the preceding part of the century (van Keurer 1982: 155). Huxley's involvements with the museums, from his first position as a natural history lecturer at the School of Mines to his later role as a major museum power broker, are admirably detailed in Adrian Desmond's two-volume biography of Huxley (Desmond, 1994 and 1997).
- 16. I say 'ideally' as, although the evolutionary showmen imagined they had vanquished the philologist to let the unvarnished truth of things shine forth, the evolutionary museum was in fact characterised by a complex set of relations between words and things. I have discussed this elsewhere (see Bennett 1998b).
- 17. See Bynum (1974) for an extended discussion of the chequered political career of this concept from its interpretation in the context of late eighteenth-century variants of the great chain of being, through the anthropologies of Johann Blumenbach and Thomas Jerrold, both of whom allowed, as Bynum puts it, that with 'man, at least, nature made a jump' (p. 57) to its reinstatement in the context of post-Darwinian evolutionary thought.

- 18. See Desmond (1982) for the best discussion of the contrasting political implications of Owen's and Darwin's conceptions of evolution.
- 19. This is the view that informs Anne Coombes's assessment of the role of museums in this period: see Coombes (1988).
- 20. Beginning his career in Huxley's laboratory (Abrams 1968: 96), Geddes was later closely associated L.T. Hobhouse in the Sociological Society before becoming closed involved with the Chicago School of urban sociology (see Mercer 1997).
- 21. My approach here derives from the approach that Foucault proposes to the relations between the technologies of sign systems, technologies of power and technologies of the self. See Foucault (1988: 18).
- 22. See, for fuller discussions of these issues, Bennett (1995) and Bennett (1998a).
- 23. David Allen's arguments concerning the declining involvement of woman in the organisation of natural history societies in the mid-century period tend in the same direction (See Allen 1994: 143-53).

#### Literature

# Abrams, Philip

1968 *The Origins of British Sociology.* 1834-1914. Chicago and London: The University of Chicago Press.

## Allen, David Elliston

1994 The Naturalist in Britain – A Social History. Princeton University Press, New Jersey.

# Bagehot, Walter

1963 The English Constitution. Collins/Fontana, London.

1873 Physics and Politics: Or Thoughts on the Application of the Principle of 'Natural Selection' and 'Inheritance' to Political Society. Henry S. King & Co., London.

#### Barrell, John

1986 The Political Theory of Painting from Reynolds to Hazlitt: 'The Body of the Public'. Yale University Press, New Haven and London.

# Barthelemy-Maudaule, M.

1982 Lamarck the Mythical Precursor: A Study of the Relations between Science and Ideology. MIT Press, Cambridge Mass. .

#### Bennett, Tony

1995 The Birth of the Museum: History, Theory and Politics. Routledge, London.

1998a Speaking to the Eyes: Legibility and the Social Order. In Sharon MacDonald (ed) *Politics of Display: Museums, Science, Culture*. Routledge, London and New York, pp25-35.

1998b Pedagogic Objects, Clean Eyes and Popular Instruction: on Sensory Regimes and Museum Didatctics. *Configurations: A Journal of Literature, Science and Technology*, vol. 6, no. 3, pp345-71.

#### Bhabha, Homi K.

1994 *The Location of Culture*. Routledge, New York and London.

#### Bynum, William Frederick

1974 Time's Noblest Offspring: The Problem of Man in the British National Historical Sciences 1800-1863 PhD dissertation, University of Cambridge.

#### Collini, Stefan

1991 Public Moralists: Political Thought and Intellectual Life in Britain, 1850-1930. Clarendon Press, Oxford.

# Conrad, Joseph

1969 Heart of Darkness. Bantam Books, London.

Coombes, Annie E.

1988 Museums and the Formation of National and Cultural Identities *Oxford Art Journal*, vol. 11, no. 2.

#### Darwin, Charles

1981 *The Descent of Man, and Selection in Relation to Sex*, Princeton University Press, New Jersey.

#### Deleuze, Gilles

1999 Foucault, Athlone Press, London.

#### Dean, Mitchell

1999 Governmentality: Power and Rule in Modern Society, Sage Publications, London.

#### Desmond, Adrian

1982 Archetypes and Ancestors: Palaeontology in Victorian London, University of Chicago Press, Chicago and London.

1994 Huxley: The Devil's Disciple. Michael Joseph, London.

1997 Huxley: Evolution's High Priest Michael Joseph, London.

#### Desmond, Adrian and Moore, James

1992 Darwin. Penguin, Harmondsworth.

#### Fabian, Johannes

1983 Time and the Other: How Anthropology Makes its Object. Columbia University Press, New York.

# Foucault, Michel

1970 The Order of Things: An Archeaology of the Human Sciences. Tavistock Publications, London.

1972 The Archaeology of Knowledge. Tavistock Publications, London.

1985 The Uses of Pleasure: The History of Sexuality. Volume Two. Vintage Books, New York.

1988 Technologies of the Self. In Luther H. Martin, Huck Gutman and Patrick H. Hutton (eds) *Technologies of the Self: A Seminar with Michel Foucault*. Tavistock Publications, London.

#### Freeland, Guy

1983 Evolutionism and Arch(a) eology. In D. Olroyd and I. Langham (eds) *The Wider Domain of Evolutionary Thought*. D. Reidel Publishing Company, Holland.

#### Gates, Barbara T.

1997 Revisioning Darwin with Sympathy: Arabella Buckley. In Barbara T. Gates and Ann B Shteir (eds) *Natural Eloquence: Women Reinscribe Science*. The University of Wisconsin Press, Madison.

#### Geddes, Patrick

1905 Syllabus of a Course of Ten Lectures on Great Cities: Their Pace in Geography, and their Relation to Human Development. Horniman Museum, Forest Hill.

1906 *Civics: An Applied Sociology*, Part II, Sociological Papers, ed V.V. Branford. MacMillan, London, p108.

#### Greene, John C.

1981 Science, Ideology and World View: Essays in the History of Evolutionary Ideas. University of California Press, Berkeley and Los Angeles.

Griffiths, Tom

1996 Hunters and Collectors: The Antiquarian Imagination in Australia. Cambridge University Press, Melbourne.

#### Huxlet, Thomas H.

1868 On a Piece of Chalk. In Huxley (1896) *Discourses Biological and Geological: Essays*. MacMillan, London, pp1-36.

1893 Evolution and Ethics. In James Paradis and George C. Williams (1989) T.H. Huxley's Evolution and Ethics with New essays on its Victorian and SocioBiological Context. Princeton University Press.

1894 Evolution and Ethics: Prolegomena. In: James Paradis and George C. Williams (1989) *T.H. Huxley's Evolution and Ethics with New essays on its Victorian and SocioBiological Context*. Princeton University Press.

#### Jones, Greta

1980 Social Darwinism and English Social Thought: The Interaction between Biological and Social Theory. Harvester Press, Brighton.

#### Koerner, Lisbet

1996 Carl Linnaeus in his Time and Place. In Nicholas Jardine, James A. Second and Emma C. Spray (eds) *Cultures of Natural History*. Cambridge University Press, Cambridge.

#### Lane-Fox, Col. A.

1875 On the Principles of Classification adopted in the Arrangement of his Anthropological Collections, now exhibited at Bethnal Green Museum. *Journal of the Anthropological Institute*, no. 4.

# Lurie, Edward

1960 Louis Agassiz: A Life in Science, University of Chicago Press, Chicago and London.

#### Marriott, John

1999 In Darkest England: the Poor, the Crowd and Race in the Nineteenth-Century Metropolis. In Phil Cohen (ed) *New Ethnicities, Old Racisms?* Z Books, London, pp 82-100.

# McGrane, Bernard

1989 Beyond Anthropology: Society and the Other, Columbia University Press, New York.

#### Meller, Helen

1990 Patrick Geddes: Social Evolutionist and City Planner. Routledge, London.

#### Mercer, Colin

1997 Geographies for the Present: Patrick Geddes, Urban Planning and the Human Sciences. *Economy and Society*, vol. 26, no. 2, pp211-32.

#### Mitchell, W.J.T.

1998 *The Last Dinosaur Book: The Life and Times of a Cultural Icon*. University of Chicago Press, Chicago and London.

# Morgan, C. Lloyd

1896 Habit and Instinct. Edward Arnold, London.

#### Novas, Carlos and Nikolas Rose

2000 Generic Risk and the Birth of the Somatic Individual. *Economy and Society*, vol. 29, no. 4, pp485-513.

#### Otis, Laura

1994 Organic Memory: History and Body in the Late Nineteenth and Early Twentieth Centuries. University of Nebraska Press, Lincoln and London.

#### Paradis, James G.

1989 Evolution and Ethics in its Victorian Context. In James G. Paradis and George C. Williams *T.H. Huxley's Evolution and Ethics with New Essays on its Victorian and SocioBiological Context*, Princeton University Press, New Jersey.

# Poovey, Mary

1998 A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society, University of Chicago Press, Chicago and London.

#### Putnam, Fredric Ward

1899 A Problem in American Anthropology. Science, vol. X, no. 243.

#### Richards, Evelleen

1983 Darwin and the Descent of Woman. In Oldroyd, D and I. Langham (eds) *The Wider Domain of Evolutionary Thought*, D. Reidel Publishing Company, Utrecht.

1989 Huxley and Woman's Place in Science: The 'Woman' Question and the Control of Victorian Anthropology. In Moore, J.R. (ed) (1989) *History, Humanity and Evolution*. Cambridge University Press, Cambridge.

1997 Redrawing the Boundaries: Darwinian Science and Victorian Women Intellectuals. In Bernard Lightman (ed) *Victorian Science in Context*. The University of Chicago Press, Chicago and London.

#### Schnapp, Alain

1996 The Discovery of the Past: The Origins of Archaeology. British Museum Press, London.

Shreir, Ann B.

1996 Cultivating Women, Cultivating Science: Flora's Daughters in England, 1760-1860. Johns Hopkins University Press, Baltimore and London.

Stoler, Laura Ann

1995 Race and the Education of Desire: Foucault's History of Sexuality and the Colonial Order of Things. Duke University Press, Durham and London.

Tiffany, Sharon and Kathleen Adams

1985 The Wild Woman: An Inquiry into the Anthropology of an Idea. Schenkman, Cambridge.

Tylor, Edward

1871 Primitive Culture. 2 vols. John Murray, London.

Valverde, Mariana

1996 'Despotism' and Ethical Governance. Economy and Society, vol. 25, no. 3, pp357-72.

Van Keuren, David Keith

1982 Human Sciences in Victorian Britain: Anthropology in Institutional and Disciplinary Formation, 1863-1908. PhD thesis, University of Pennsylvania.

Whewell, William M. A. 1837 *History of the Inductive Sciences: From the Earliest to the Present Times.* Vol. 3. John W. Parker, London.

1 *m* Th~ *Nlllum/ht* ill *Britain* - *A* S~ill[ *HiMory*. Princeton Universi[)' p~: Princeton. New Jersey.

Bagehoe, Waller

1963 The English ConSlinllioli. London: Collins/Fontana.

1873 Plrysia alld Politics: Or T/JOughli 01/ th~ Applinuioll oft", Printipln oj"NlllUnll St-htion' alld 'blbaitlll/{t"O

Politic. 1 Sociuy. London: Henry S. King & Co.

Bauell, JollII

1986 The PoNtic,11 T;'~ory of I'llillillig fivm Rql10lth to f/"z/itt:

London: Yale University I'n:ss.

'11J~ Body of the Pu.blic'. New HaYeII and&rwdemy-Maudauk, M.

1982 Lttmllrck the MYIMelfi I'r«urwr: A Stud, ofrht &lalitN" bmwm Seima and ItkofqgJ. Cambridge. Mass.:

MIT Press.

Ik"netl, Tony

J995 The Bin/) ofda Muuum: History, Theory. Politics. u.ndolL: Routledge.

1998a Speaking 10 lhe Eyes: Mu~um\$, Legibility and the Social Order. In: Slumn M:u:Donald (cd.) /'olifits of

DiJpllly: Mu.elll//S, Seima, Cuiturr. London and New York Roudedge, pp. 25-35.

1998b Pcd:.o.gogic ObjeclS, Clean Eyes lUld Popular Instruct ion: On Se.uory Rt.""gimes and Mweum Ditbctics.

ConfiK'lr"tions: A /ourn, 1 ofLimmurr, Scima lind TcclmoWgy, vol. 6, no. 3, pp. 345-71.

Bh.abha, I-Iomi K.

1994 11N Location of Cultu.rr. wndon and No;w York: Routledge.

Bynum, William Frederick

1974 7imlr Nobkst OJfipn'ng: TJu I'rohkm ofMlln in u" Britiy, NlitunU HistIJricaJ SciCl/m, 18()(J..1863. Ph. D.

disiKrtarion, Vn i versiryofCambrid~.

Collini, Stefan

1991 Alb/jc *MoramtJ: Political TIHI"ghr (Ind Inu/krtJ.al Lift* ill *Rrillli". 1850-1930.* Oxford: Cla~ndon Press.

Conrad, Joseph

1969 I-!e"rtofl), "ltnm. New York: Bantam Books.

Coombes, Allni, E.

1988 Mu\$C:WIU and fhe Formation of National and Cultur:>l ldcnril ics. Oxford An /ou"lII/, vol. II, no. 2.

Darwin, Charles

19M I *Tht Dr5unl of AI*"", and *Stlletirm in &larill/j tQ Scx*. Prina:lon, NI:w JI:rscy: I'rinceton UnivI:rsiry Press.

Deku?c, GiUes

19'>9 r'tJU{"lluit, u.ndon: Alhione Press.

Dean, Milchell

1999 GtJwrnmmtal.ity: PoUltr and Ruk in Modem &Jciuy. IAndon: SAGE. Publications.

Desmond, Adria"

1982 ArrhrryprJ lind AllcalorJ: PItUuontU!qg" in Vutorilln London. ChiQlgo :and London: UniV('rsity of Chiugo

p=.

1994 Huxky: The D'lJi!~ Discipk. Mithael jQscph: London.

1997 Huxley: £w/uriq,, 't High Prim. London: Midlad JO\$Cph.

Desmond, Adrian and Moore, James

1992 Dllrwin. HarnlOndsworth: Pcoguin.

Fabian, JOh~lUlC"S

1983 Time And the 01,,": HowAnthropo" 'o MaltrJ its Obj«t. Nl"W York: Columbia University Press.

FOUCIUlt, Michel

1970 T/u Ordn o/Things: All Arrliuoicgy oftht HUmAI/ Sri~I=. u.ndon: Tavistock PubliOlrions.

1972 Tbt Arrhal"QlcvufKnoll"cJ~. London: Tavistoc:k Publications.

1985 Tbt UkS of Pkmu": 1k l1fflo>yof Sexlltdiry, Volu1lle Two. New York: Vintage Bo<lks.

1988 T~hnologies o({he Self. In: Luthn H. Manin, Huck GUlman and Pafrici: H. Hulton (<<Is) *Ttdmulopcs* 

oft"e SJf A SeminAr with Michal Foucault. London: Taviw)Ck PuhlicatiOIU, pp. 16.49.

Freela,>d, Guy

1983 Evolutionism and Arch{a)eology. In: O. Oldroyd and I. ungh3JII (cds) TIN Wi,," DomailJ {If £lJtIlu·

bUn/try Thought. Holland: D. R.:idd Publishing Co.

Gares, B3r~ra T.

1997 Revisioning Darwin with Syrnl'afhy: Arabella Buc\clq. In: Barbaro T. Gates and Ann B. Shleir (cds) *Natural*.

£./oquen«: Womm R,i,urribt Sdma, Madison: The UniVl:rsiry of Wi soon sin I'ra::i. Gcddt\$, Patrick

1')05 Syll4bus of 0 Coum of Jnl iLrturn on GrrOI Cirin: Thd, Pol(t ill Gtogrllphy. 11114 thei, Rr/Iltion to HUmtln

*Dew/qpmmt*. Forest Hill: Horniman Museum.

1906 Gillin; II.n II.pp/iet! Soci()/qgy. Part II, Sociologicall':tpers, cd v.v. Branfo rd, London: M'lcmillan, p. 108.

Gr«:ne, John C.

1981 Seimer, JIko/qgy. II.JuI World Vit'//): EsUlJS in ,he History of /;il()lut;o1l<lry Idt'as. Berkeley and Los An1,'Cles:

University of California Press.

Griffirlu. Tom

1996 H"n~n and Co/keton: Tht Amiquar1it11 IlMgi"'l.rio11 in AusfraiM. Mclhourne: Cambridge Uni\'cl'!il)'

Press.

HUIil:y. Thomas H.

18G8 On a Pica of Chalk. In: HUIIc:y (1896) Dis",unn Bi0l8:ital and Grologirn[ ESIII]J. London: Macmillan,

pp. 1-36.

1893 Evolution 3nd Erhics. In: Jama Paradis and Gt:utgc C. Willi3ms (1989) 1: H. Hwx:/q} EVO/"I:o" Illld

EthiN with N~ aJit]f 011 in ViClomrn alul SodoBiologiln[ Con(n."I. New Jersey: Princeron University P=

1894 Evolmion and Ethics: Prolegomena. In: J'lmes Paradis and George C. Willianu (I ')89) *T. If. Huxlryi l:.'vo["* 

Jion and ErhiN with Ntw mays ()1/ its Virtorian and SocioBiologiral Co"tr.o:l. New Jersey: Princelon Uni.

venilY Press.

Jona, Crela

1980 5«;11./ Dnrwi"iJm Ilnd 1:."llis" Soti,,1 Thoulh/:

Brighton: Harvelt"t Press.

Koerner, Lisbet

Tk Inttrflction Imruun Biofotietd and S«i41 TWqry.

19% Carl Linnacus in his Time and PJ:lC('. In: Nicholas }3«lill:, James A. &cord and Emma C. Spray (eds)

Cultum of NallIrnl Hutory. Cambridge:: Cambridg~ University Press.

lane-Fol. Col. A.

1875 Olllhe: l'tillciples ofClassiflC:l.lion adopted i!ltltc Arrangement of his AnrhropolugiC31 CoJl ecdolls, now

<: I!Jibired at th ~ Bethnal Creen Museum. joum"t of the Am], ropologicall llnrtiom, no. 4.

Luri~, Edwud

1960 Louis AgdSIiz: A Lift ill Stitnu. Chicago and London: University of Chicago Press.

M:uriott, John

1999 [n Darkest England: Ihe Poor, rhe Crowd and ft.,c in the Ninetee:nth-century Metropolis. In: PI,il

Cohen (ed.) NnlJ Etlmicities, OU RaciJmJ? I..ondon: Z Books, pp. 82-100.

McCrane, Bernard

1989 &yo''' AmhropolOfJ: Sonny and t},e Olhu. New York: Columbia Univ~T\$; ly Press.

Me:II~r. Helen

1990 Patriek ~rldts: Soci"l £Wllliiolliff allii City Pllmnfr. London: Ruudcdge.

M~nxr, Colin

1997 Geogmphi .. ..s (0" the Pr~nl; Pal rick Ccddes, Urb~ n Plarming ~l1d the Human Scitness. *Eeollo*"'1 and

Sor~g, vol. 26, no. 2, pp. 211 · 32.

Mirchell, W. J. 1:

1998 TiN Last DilllJUlur Book: Tk Lifo and Timet of a Cultumllcon. Chiagt> 3nd London: University of

Chiago Prcs.s.

Morg<ln. C. Uoyd

18% H"hit and IllStilla. London: Edward Arnold.

Novas, C~rlos and Nilwlas Rose

2000 Generic Risk 3nd the Birth o( the Som2tK;; Individual. *EcoIUlmy 411a Sociny*, vol. 29. no. 4, pp. 485-S13.

Olis, Laun

19<); Orgllllic Mtmory: HisUJ? 4"" Bod, ill the Ill". NilltU'mtIJ and EArly Iwmtitt!J umurits. uncbJ" and

London; UnivcQi()' of Ncbl';lsh Press. p-Jr,Idi.s, J:uncs G.

1989 Evolution and Ethics ill its Vianrian Cont(.:J(t. In: James G. P-Jr-~dis and George C. Williams *T./J*.

Huxley's Evolutioll and Erhies with New l!sJ4ys 011 irs Victo rian alld SucioJjj%gicai COn/ext. New Jers~y:

PrinCdon University Press.

Poov<:y, M~ry

1998 A HilWry oj zhe Modern Fact: Prob/mlS oj J010W~dgf in the Scimrn IIJWfIl/th "nd Soday. C hicago and

London: University "r Chic-ago Press.

putn:un, Fredric Ward

1899 A problem in Amuic:m anthropology. *Scinta*, vol. X, no. 243.

Richards, EvdJeeu

1983 Darwin and the ~m of Woman. In: Oldroyd, D. and T. I,,""gham (eds) TI", Wu/er Demain II[F..IIOfutionary

*Thollght.* U(r~h r: D. Reid.::! Publishing Compa.ny.

1989 Huxley and Womall'~ Place in -'cienet:: 'J 'he ~Wom~n Qu~tion~ :Ind the C.. umrol of Vinor;"11 Anthropolo~.

III: Moore,].R. (ed.) (1989) *Humry. HlllflaniryaluJEvoluh"on*. G.mbridge: Cuubridge University

p=.

1997 ReJr~wjllg the B{mndaries: Darwinian Sciene(' and Vkmrian Women Inu~lk-": luals. In: Bern:mJ Lightnun

(cd.) Victoriall Sciena in Q)1It~. Chicago and London: The University of ChiCJgo Press.

Schn ... pp, Alain

19% T« DiJCQIIn] of the Pmt: The Origilll of ArchtztlJkJgy. London: Brili~h Museum Prrss. Shu:ir, Ann B.

1996 ('It/tillflring """m( n, Glbizl/lling Scimu: Flora's Daughull i'l Engkmd, I761J-I86u. Bal timore and Londun:

Johns Hopkill5 Univenity Press.

SlOlt:r, Laura Ann

1!r.}5 &a and tlx £d"cRlion ~JDmre: nN(ltu/t's Hislhry lJfStxulllity IIml t« Cownia/ OlYkr of

Things. Durham

and London: Duke:: Univ('rsity Pre.~.
Tofrany, Sharon and K,llhlcc::n Adams

1985 Tlu Iflild \WIman: An Inquiry into the Allhropofot.y IIf all Idell. C:ambridge:

Scht:nklD:ln.
T ylor, EdW\lrd

, 117' Primitiw Culturr. 2 vols. London: John Murray.

Valverde, Mariana

1996 'Despolism' and Elhic-...J Govern~nc('. *E(I)110111J aluJ Sm:it'tJ*. vol. 25, 00. 3, pp. 357-72.

van Keurell, David Keilh

1982 llU1Il1l1i Scimen in Victorian Britain: A7IIhropoiogy in InlritulionallInd Disciplinary F-ormanon, 186.3-

1908. Ph. D. thesis, University of Pennsylv~ni:l..

Whewd], William M. A

1837 Hidllry of "" IndllctilW Scimm: hom tIN Eanim J(), II( PrtJ(lIl Ttmrs. London: John W ParkC'r, vol. 3.