

Chapter 14

The Science of Decadence

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The study of decadent literature reveals a complicated relationship between science, nature, and decadence. Many writers of the fin de siècle appeared to reject the natural world in favour of an ‘artificial paradise’ of their own making (Symons, 1893: p. 866). Arthur Symons, for example, defended the artificiality of decadence by asking, ‘[I]s there any “reason in nature” why we should write exclusively about the natural blush if the delicately acquired blush of rouge has any attraction for us?’ (Symons, 1896: p. xiv). Yet, decadence itself is an organic metaphor, extending the natural processes of decline and decay to societies and the arts. Rather than a rejection of nature, Decadent art can be seen to readily embrace new scientific theories that changed the way people thought about the natural world.

The relationship between literature and science is not, however, one-sided. As Gillian Beer has suggested, there is ‘two-way traffic’ in ‘not only ideas but metaphors, myths, and narrative patterns’ that moves between scientists and non-scientists (Beer, 2000: p. 5). The pessimism of nineteenth-century science stemmed from the brutal world of industrial capitalism in which it was developed. Decadent writers then incorporated both scientific ideas and language into a literary style obsessed with decay and decline. Finally, science returned to decadent literature to pathologize certain modes of artistic expression as yet another sign of the impending degeneration and death of the human species.

Three key scientific theories of the nineteenth century underpin the decadent fixation on decline, decay, and degeneration: uniformitarianism, evolution, and the conservation of energy.

All three theories identify impermanence in natural structures previously believed to be permanent and stable.

i

Uniformitarianism caused a seismic shift in the way people understood their relationship to the earth. Charles Lyell's *Principles of Geology* (1830–1833) popularized the theory of uniformitarianism, which suggested that the changes observed within the geologic record occurred slowly over long periods of time. This view contrasted with the previously accepted theory of catastrophism (propounded by scientists like Georges Cuvier), which posited that geologic changes were caused by sudden, catastrophic events, like the flood described in the book of Genesis. In contrast to a Biblical understanding of the age of the earth, which suggested the planet was 6,000 years old, uniformitarianism introduced the concept of 'deep time', or the idea that the world had existed for millions or billions of years (scientists did not agree on figures during this period). Thus, the nineteenth-century public was confronted for the first time with the idea that the earth had existed long before humanity's arrival—and would continue to exist long after.

Humanity's belief in its own centrality was further shaken by the mounting evidence for evolution, or the transmutation of species. The concept of deep time allowed for the possibility of gradual change within species. The theory of evolution was widely popularized in England by Robert Chambers in his 1844 *Vestiges of the Natural History of Creation* (published anonymously). In *Vestiges*, Chambers presented evidence for the evolution of species, but did not suggest the mechanism by which evolution occurred. This explanation was provided fifteen years later, in Charles Darwin's *On the Origin of Species* (1859), which introduced the theory of natural selection. Pre-Darwinian evolution was often viewed as progressive, with species

evolving towards ever ‘better’ versions of themselves, and could be reconciled with the idea of a benevolent Creator. Darwin’s theory of natural selection, which pointed to random mutation and competition for limited resources as the mechanism of change, could not. Evolution by way of natural selection was as likely to lead to degeneration (evolution to a less complex form) or extinction as to ascent up the evolutionary ‘ladder’.

While uniformitarianism and evolution forced humanity to confront its own impermanence, new ideas in physics raised the possibility of the impermanence of the universe itself. The first law of thermodynamics, developed in the 1850s, demonstrated that energy is constant: it can be transformed, but never created or destroyed. This discovery led quickly to the formulation of the second law of thermodynamics by William Thomson (Lord Kelvin), which stated that ‘although mechanical energy is *indestructible*, there is a universal tendency to its dissipation which produces gradual augmentation and diffusion of heat, cessation of motion, and exhaustion of potential energy through the material universe’ (Thomson, 1862: 388). At its core, this law means that nothing lasts forever—everything eventually succumbs to entropy. In the *Origin*, Darwin deliberately avoided discussing the application of his theories to humanity. Lord Kelvin had no such qualms. He extrapolated the inevitable outcome of the processes of entropy in the physical world: the heat death of the universe. The earth was not a ‘perpetual motion machine’ that could ‘go on forever as it is illuminated by the sun from infinity of time past to infinity of time future’ (Thomson, 1892: 321). The sun, like any other body subject to the laws of physics, is in the process of cooling and contracting, ‘running down like a clock’ until it eventually stops forever (Thomson, 1862: 388).

Thus, uniformitarianism demonstrated that humanity had not always been in existence; extinction suggested that humanity would not always exist; and thermodynamics insisted that the

earth itself would cool, slow, and stop, destroying all life. The term ‘decadence’ suggests the end of an age or a civilization. Kelvin’s work revealed the certainty of the coming end of the world. Though the heat death of the universe was many millions of years away, these scientific theories seemed directly applicable to nineteenth-century life and society. Herbert Spencer, for instance, was quick to appropriate Darwin’s theory of natural selection to a Malthusian celebration of laissez-faire capitalism. Just one year after *Origin* appeared, in ‘The Social Organism’ (1860), Spencer extended Darwinian theory to the social structures of society, developing an extended analogy between ‘the body politic’ and ‘a living individual body’ in order to naturalise nineteenth-century class divisions and the exploitation of the working classes by the elite (Spencer, 1860: 93). Thus, he argued that as bodies have different parts that serve different functions, so too do societies; it is therefore natural that the ‘inferior class’ becomes ‘exclusively occupied in providing the necessaries of life for the community at large’ (105) while an elite few gain ‘supreme power’ (116). Spencer adroitly manipulated this organic metaphor to demonstrate that the economic structures of Victorian society, centred on competition and profit, were mandated by nature itself.

Spencer elaborated on his theory of natural competition in *The Principles of Biology* (1864), in which he insisted that Darwin had given the world ‘unmistakable proof that throughout all past time, there has been a perpetual preying of the superior on the inferior—a ceaseless devouring of the weak by the strong’ (Spencer, 1864: p. 340). Spencer argued that since competition for limited resources is the mechanism through which a species evolves, modern charity disrupts the natural processes of evolution and inhibits the species from improving. His progressive reading of evolution as a means of advancement, then, was made to serve a eugenicist vision in which the ‘diseased and feeble’ were destroyed in order to ‘keep up

the average fitness' of the species (p. 445). Darwin attempted to curtail a eugenicist application of his theories by insisting that sympathy and altruism were signs of advanced evolution in *The Descent of Man and Selection in Relation to Sex* (1871). Despite this, Darwin was indelibly associated with the new morality of Herbert Spencer in the form of Social Darwinism.

ii

The Social Darwinist fear of 'unfit' members of society interrupting the progress of the species is reflected in the newly-emerging fields of criminology, sexology, and sociology. These fields incorporated Darwinian theory in an attempt to police the 'fitness' of the species in the face of apparent degeneration.

In his 1880 work *Degeneration: A Chapter in Darwinism*, E. Ray Lankester delineated the three possible outcomes of natural selection: 'balance', or the maintenance of the status quo, 'elaboration', or increasing complexity, and 'degeneration', or diminishing complexity (Lankester, 1880: p. 29). Here Lankester reflects the realization that a species' 'fitness' to its environment does not necessarily lead to a 'better' version. Simplified structures might just as often ensure the survival of the species. The possibility of degeneration was encapsulated for many naturalists in the barnacle, an animal which begins its life mobile, but as it reaches maturity 'takes to a perfectly fixed, immobile state of life', in which 'its organs of touch and of sight atrophy [and] its legs lose their locomotor function' (p. 35). This state ensures the barnacle's survival, but not its intellectual advancement, and thus counters any progressive understanding of Darwinism. Degeneration occurs when conditions of the environment 'render [an animal's] food and safety very easily attained' (p. 33). Applied to humanity, degeneration may occur *because* of advances in civilization which mean the average man does not need to

struggle for his survival. Lankester makes the application of these ideas to mankind explicit by pointing to the end of the Roman empire, when possession of ‘the riches of the ancient world’ led to degeneration. The fate of the barnacle, then, could be the fate of humanity.

One of the most famous accounts of the degeneration of the human species came from the Italian criminologist Cesare Lombroso. His magnum opus, *L'uomo delinquente* [Criminal Man] was first published in 1876, but was revised and expanded over five editions and twenty years. No English translation of this work was available in the nineteenth century (the first English edition that appeared was by Lombroso's daughter Gina Lombroso-Ferraro, published in 1911, and was a summary of Lombroso's work rather than a translation). Yet, Lombroso's theories, particularly the physical characteristics of the ‘born criminal’, permeated popular culture throughout Europe. Lombroso insisted that crime is not a matter of free will but rather the result of biological and social factors and thus believed that the penal system must focus on the criminal rather than the crime. In the first edition of *L'uomo delinquente* he sought to taxonomize the criminal into various easily-recognizable types. For instance, thieves have small eyes and thick eyebrows, while habitual murderers have hawk-like noses and thin lips (Lombroso, 2006: p. 51). Lombroso's theories hinged on the idea of atavism, or reversion to an earlier stage of evolution. This was made to serve classist and racist ideologies, which linked the lower classes and people of colour to earlier ‘savage’ stages of humanity.

The first edition of *L'uomo delinquente* is aligned with Social Darwinism in its efforts to identify and isolate genetically inferior portions of humanity for the good of the species as a whole. By the final edition, however, pessimism had replaced progressive evolution. Having begun in the first edition by classifying the criminal as an unnatural atavistic throwback, at odds with the modern age, by the third edition (1884) Lombroso came to assert that crime is natural

and exists among all living things: he pointed to the ‘murder’ of insects by carnivorous plants (brought to scientific attention by Darwin’s 1875 *Insectivorous Plants*) to demonstrate ‘the dawn of criminality’ (Lombroso, 2006: p. 168). Lombroso argues that in the earliest stages of humanity, and among nineteenth-century ‘savages’ (or the natives of non-European nations), there is no notion of crime. Thus, justice and sympathy are refigured as the artificial products of modern civilization. The pessimism of this view was extended even further in the fifth and final edition: not only was crime natural, and thus impossible to eradicate, but in order to reconcile modern crime rates with Darwinian law, crime must have ‘a certain social utility’ (p. 352). Lombroso thus suggests that crime is one of the traits actively *selected* by natural selection. Humanity can never be free of it.

Darwinism had a widespread influence on social scientists of the period, but Kelvin’s theories, though not as obviously prominent, were also extremely influential. In many ways the opposite of Social Darwinism, social applications of thermodynamics suggested that decline was linked to *advances* in civilization rather than regression. Thus, in his 1895 *Civilization and Decay: An Essay on History*, Brooks Adams suggests decadence is the result of modernity and the intellectualism of an urban elite. The symptoms of a dying society, accordingly, are the ascendancy of the ‘money-lenders’ (with all its anti-Semitic undertones), the emancipation of women, and the separation of church and state (Adams, 1895: pp. 292-3). In this work, Adams applies the laws of thermodynamics to humanity and reads civilizations as analogous to suns: destined to contract until they begin to cool and die. Unlike fears of degeneration grounded in Darwinian biology, Adams viewed the decline of civilizations not as a possibility, but as a certainty. As the sun must eventually die, Adams argues, so too must all civilizations.

The sexologist Richard von Krafft-Ebing similarly insisted that abnormal sexuality was a side effect of advances in civilization. ‘Periods of moral decadence’, Krafft-Ebing writes, ‘are always contemporaneous with times of effeminacy, sensuality, and luxury’ (Krafft-Ebing, 1894: p. 6). Where Lankester pointed to luxury as a sign that life had become too easy, which resulted in the degeneration of the species, Krafft-Ebing suggests that ‘sensuality’ and ‘luxury’ coincide not with ease of life but ‘with increased demands upon the nervous system’ (p. 6). The resulting nervousness leads to yet more sensuality, the destruction of traditional institutions of marriage and family, and eventually ‘the destruction of the state [...] in material, moral, and political ruin’ (p. 6). Thus, in his 1886 *Psychopathia Sexualis* (translated into English in 1894), Krafft-Ebing traced all perversions of sexual function to hereditary nervous disorders, displayed in one or both of the patient’s parents. His study encompasses sadism, necrophilia, cannibalism, masochism, nymphomania, incest, and homosexuality, all linked to mental and physical illnesses. Though Krafft-Ebing’s focus on heredity employs Darwinian rhetoric, much of his discussion of ‘nervous energy’ is based on Kelvin’s thermodynamics. Krafft-Ebing applies ‘conservation of energy’ to human sexuality to argue that the demands of the fast-paced modern world lead to the dissipation of a limited source of energy. Thus, ‘intense mental activity (hard study) [and] physical exertion’ can diminish the natural sexual function (p. 47). The fast pace of modern life thus emasculates men, robbing them of their normal sexual virility or diverting it into perverse channels.

These ideas were equally applied to women in order to counter the demands for education and equality made by the New Woman in the final decades of the century. The psychiatrist Henry Maudsley pointed to the idea that ‘the energy of a human body [is] a definite and not inexhaustible quantity’ to support his assertion that ‘educational strain’ in young women would

‘drain’ the resources that would otherwise be expended on ‘the physiological changes which constitute puberty’ (Maudsley, 1874: 199-200). By diverting the limited energy resources of the body to the brain rather than the uterus, women would be rendered unfit to be mothers. Female decadent writers were thus often accused of ‘unsexing’ themselves through their intellectual pursuits (209).

Ideas stemming from Kelvin’s work in physics, such as the pessimistic certainty of decline, the belief that the fast pace of the modern world would more quickly dissipate human energy leading to effeminacy and sexual perversion, and fears that nervous disorders could be passed from parent to child, are all evident in decadent literature.

iii

In their attempt to find beauty in ‘even of the loathsome bodily putrescence and decay’ (Swinburne, 1862: 999), authors of decadent literature explored the full range of sexual perversions outlined in Krafft-Ebing’s work. Necrophilia, cross-dressing, lesbianism, hermaphroditism, and sado-masochism pervade Charles Baudelaire’s *Les Fleurs du mal* [JD2] (1857), A. C. Swinburne’s *Poems and Ballads* (1866), and Oscar Wilde’s *Salome* [JD3][JK4] (1891), as well as a host of other decadent works. A number of these ‘perversions’ come together in the figure of the femme fatale, an archetype constructed from the scientific belief that the modern age was blurring the line between men and women, masculinizing women and emasculating men. As we have seen, doctors of the time insisted that female independence came at the direct expense of the feminine ‘duty’ of motherhood. Women who failed to conform to the sexual standards of British society were thus labelled as degenerate by medical and scientific discourses.

The femme fatale is beautiful, exotic, sexually aggressive, violent, and unmaternal. She is, in essence, the opposite of the ideal European woman of the nineteenth century. The perverse nature of a woman seeking sexual or economic independence was reified by science during this period. Krafft-Ebing and other medical professionals insisted that ‘voluntary subjection to the opposite sex’ is natural to the female sex (Krafft-Ebing, 1894: p. 137). A desire for equality, then, was a sign of an unnatural nature. Sexual desire, too, was pathologized. Doctors like William Acton insisted that women did not naturally experience sexual desire (Acton, 1862: p. 101), a position later ‘confirmed’ by Krafft-Ebing: ‘Since woman has less sexual need than man, a predominating sexual desire in her arouses a suspicion of its pathological significance’ (Krafft-Ebing, 1894: p. 48). As a discipline, then, sexology considered female desire a symptom of disease.

Disease was linked to degeneration in the figure of the femme fatale by Darwin’s theory of sexual selection, which suggested that pronounced sexual difference was a sign of advanced stages of evolution. In *The Descent of Man*, Darwin noted that sexual difference was more significant in man than in other primates (Darwin, 1871: p. 316), and suggested that the so-called lower races presented fewer sexual differences than were apparent in white Europeans (p. 321). Thus, he writes that natives of Australia have very little height difference between men and women, while ‘Eastward of India’ and in Africa ‘beards disappear’ or are ‘scanty or wanting’ (p. 321). The femme fatale’s masculine traits or behaviours thus marked her, in Darwinian terms, as racially Other and degenerate. The exoticising and racializing of the decadent femme fatale is apparent in orientalist works like Gustave Flaubert’s *Salammbô* (1862).

The decadent femme fatale, situated lower on the evolutionary ladder than the civilized modern woman, is insistently associated with the natural world and animal instincts. She is

often a perverted or inverted Mother Nature, reflecting a nature that is ‘red in tooth and claw’ (Tennyson, 1994: p. 315). This is the figure that appears in Walter Pater’s famous description of da Vinci’s Mona Lisa in *Studies in the History of the Renaissance* (1873). ‘La Gioconda’ is the embodiment of ‘the animalism of Greece, the lust of Rome’ and like mother nature, she is older than time, ‘older than the rocks among which she sits’ (Pater, 2010: p. 70). She is morally corrupt, artificial, diseased, and perverts the maternal instinct. The femme fatale in Joris-Karl Huysmans’s *À rebours* [Against Nature] (1884) is similarly described: she is ‘the symbolic incarnation of undying Lust, the Goddess of immortal Hysteria, the accursed Beauty exalted above all other beauties by the catalepsy that hardens her flesh and steels her muscles, the monstrous Beast, indifferent, irresponsible, insensible, poisoning’ (Huysmans, 2003: p. 53). The Victorian femme fatale is built upon the model provided by Gothic fiction of the late eighteenth century and Romantic poetry like Keats’s ‘La Belle Dame sans Merci’ (1819) and Coleridge’s ‘Christabel’ (1816), yet she is no longer a supernatural entity. She is entirely natural, or the embodiment of nature, reimagined through the pessimism of Darwinism and Kelvin’s thermodynamics. She represents the long stretch of deep time, the animal, the savage, the degenerate, the end of civilization, and possibly even the end of the world.

Female decadent writers of the period often invoked the femme fatale, though to different effect. In Victoria Cross’s ‘Theodora: A Fragment’, the New Woman and the femme fatale merge into an androgynous and sexually daring new breed of womanhood. Rather than suggesting that Theodora’s masculine qualities mark her as degenerate, Cross aligns this new kind of womanhood with advances in civilization which have abstracted man from nature and his natural drives, allowing new tastes to develop. Here she echoes Symons’ defence of cosmetics quoted at the beginning of this chapter. The narrator of ‘Theodora’ notes that scientific theories

of the day suggest that love is ‘merely the impulse [...] to select a fitting object which will help in producing a Third Life’, but that this instinct is ‘apt to be led astray’ (Cross, 1895: 170-1). Theodora, with her narrow hips and small breasts is ‘unfitted [...] in carrying out Nature’s aim’, but entirely ‘fitted to give [the narrator] as an individual the strongest personal pleasure’ (170-1). Here we see an inversion of Spencer’s Social [UD6] Darwinism. Cross acknowledges that civilization has strayed from nature, allowing the ‘unfit’ to flourish in society, but rather than framing this development as the source of the enfeeblement of the species, she introduces it as a form of liberation. The narrator is freed from the demands of nature to pursue sex for sex’s sake, a ‘gratification which has no claim whatever, in any sense, to be beneficial or useful’ (171).

This celebration, like many of those championed by the New Woman, is complicated by the looming spectre of the species. Theodora, along with other heroines of New Woman writing, eschews motherhood; in the Darwinian understanding of progress, which is always linked to propagation, the failure to reproduce suggests that the new breed of woman will die out before she has a chance to impact the species. This is one example of the anxieties about heredity that haunt decadent writing. This preoccupation can be seen most prominently in Émile Zola’s Rougon-Macquart series, twenty novels which trace degeneration inherited from the matriarch Adelaïde Fouque through four generations of her family. *La Faute de l’Abbé Mouret* [The Sins of Father Mouret] (1875) traces the terminus of one branch of the family. Désirée Mouret is extremely healthy in body, representing all the fecundity of nature, but has the mind of a child. Her brother Serge is an intellectual, but suffers from a nervous disorder that manifests in religious mania. In the naturalistic language of Zola’s novels, their diseases and disabilities are evidence of a tainted bloodline and mark the siblings as unfit to procreate, leading to tragedy.

Like Zola, Henrik Ibsen and Thomas Hardy also translate ‘the sins of the father’ into scientific language, grounding the fatalism of their works in the science of heredity.

iv

The fatalism of decadent literature at times extended to the literal end of the world. The specific apocalyptic destruction of the heat death of the universe appeared in a number of literary works during the second half of the nineteenth century, like H. G. Wells’ *The Time Machine* (1895). The eerie ending of Wells’ novella imagines a desolate future, in which the stationary cooling earth is brooded over by a dying sun, and the only life left are monstrous, slow-moving mega fauna. A similar future is conjured by the poet Arthur O’Shaughnessy in ‘The Line of Beauty’ (1881). In this poem O’Shaughnessy tackles the familiar trope of the immortality of art contrasted with human mortality, but couches it in scientific terms. Thus, he does not just imagine an individual death, or the end of an age, but rather the end of the earth as a whole:

When mountains crumble and rivers all run dry,
 When every flower has fallen and summer fails
 To come again, when the sun’s splendour pales,
 And earth with lagging footsteps seems well-nigh
 Spent in her annual circuit through the sky;
 When love is a quenched flame, and nought avails
 To save decrepit man, who feebly wails
 And lies down lost in the great grave to die;
 What is eternal? What escapes decay? (p. 106)

According to the scientific theories invoked here: nothing escapes decay. The usual optimism of poetry which locates immortality in art is undermined by the spectre of the dying sun.

The threat of decline and death that hovered over the century manifested in an aesthetics of decay in decadent literature. Thus, Swinburne praised and imitated the beauty that Baudelaire found in putrescence, and New Woman writers found liberation in ‘unfitness’. Similarly, in works like Walter Pater’s *Marius the Epicurean* (1885), death, disease, and ruin lead quite naturally to the ‘picturesque’ (Pater, 2008: p. 108): ‘Turn thy body about, and consider what thing it is, and that which old age, and lust, and the languor of disease can make of it. [...]

Consider that thy marbles are but the earth’s callosities, thy gold and silver its *faeces*; this silken robe but a worm’s bedding, and thy purple an unclean fish’ (p. 134). Here the Emperor Aurelius ties what are usually symbols of the artificial in decadence—marble, silk, precious metals—to the natural world, and insists that they are the result of death and decay.

A similar beauty in devastation manifests in the common decadent fantasy of nature reclaiming the earth from mankind, as in Zola’s *La Faute de l’Abbé Mouret* or in Richard Jefferies’ novel *After London, Or Wild England* (1885), which charts human life after the fall of modern civilization. In this post-apocalyptic world, natural law reigns, and thus ‘men for ever trample upon men, each pushing to the front’ (Jefferies, 1886: p. 47). Here we can see the Darwinian ideas which underpin a number of key elements of decadent literature: the new morality of Social Darwinism and the erasure of the line between man and beast.

One of the principal scientific theories incorporated into decadent literature was ‘the survival of the fittest’ (a phrase coined by Herbert Spencer, but later incorporated into Darwin’s *Origin*). Spencer’s application of natural selection to human society foregrounded competition,

death, and extinction, leading Lombroso to assert that ‘statistics as well as anthropological observation indicate that crime is a natural phenomenon—one that some philosophers would deem as necessary as birth, death, and conception’ (2006: p. 92). These ideas were current in decadent literature well before the publication of Lombroso’s *L’uomo delinquente*, however. In his essay ‘The Painter of Modern Life’ (1863), Charles Baudelaire insisted that ‘crime, of which the human animal has learned the taste in his mother’s womb, is natural by origin’ (Baudelaire, 1965: p. 32). Here Baudelaire employs Darwinian language to argue that nature is the source of all that is violent and ugly, and thus aesthetics must be realigned around the veneration of the artificial. The new morality of Social Darwinism thus appears in decadent literature in the form of the mantra ‘art for art’s sake’, which rejects the demands for moral and improving art, and instead foregrounds form and style as the only proper ways to judge art.

Morality based on Darwinian theory suggests that what is ‘good’ leads to survival, and thus, what is ‘right’ brings the individual personal benefit and pleasure. [117] Decadent hedonism, like that preached by Lord Henry and practised by Dorian in Oscar Wilde’s *The Picture of Dorian Gray* (1891), is the direct descendant of Social Darwinism. In his novel Wilde explores the results of taking Darwinian morality to its logical extreme. Lord Henry parrots Walter Pater’s famous ‘Conclusion’ to *The Renaissance* [118], in which he insists that ‘to burn always with this hard, gemlike flame, to maintain this ecstasy, is success in life’ (Pater, 2010: p. 120). Henry thus insists that man should ‘live out his life fully and completely, [...] give form to every feeling, expression to every thought, reality to every dream’ (Wilde, 2006: p. 19). Henry justifies his theories with contemporary science. Like Lombroso, who argued that crime was ‘entirely lacking in primitive man’, Henry insists that repression is unnatural: ‘self-denial’ is the ‘mutilation of the savage’, for which humanity is punished (p. 19).

The basis for the morality preached by Henry Wotton was the realization that human beings are taxonomically mere animals, and thus subject to animal instincts and desires. Alongside decadent hedonism, this knowledge manifests in Gothic villains modelled on the degenerate savage described by Lombroso and his contemporaries. Thus, Robert Louis Stevenson's Mr Hyde is 'troglodytic' and 'ape-like': smaller, hairier, and less well developed than his more human half, Dr Jekyll (Stevenson, 1886: pp. 25, 37). Bram Stoker's Dracula, with his 'peculiarly sharp white teeth' and 'aquiline' nose, is modelled explicitly on Lombroso's description of the 'habitual murderer' (Stoker, 1993: pp. 18). Richard Marsh's *The Beetle* (1897), Florence Marryat's *The Blood of the Vampire* (1897), and Guy Boothby's *Pharos the Egyptian* (1899), among many others, all employ this motif, embedding their monsters within contemporary scientific discourse.

v

In [1899] the authors of Gothic novels invoked science in order to diagnose their characters, the reverse was also true: science looked to literature to diagnose the problems of the age. At the end of *Civilization and Decay*, Adams turns from economic theory to modern art, asserting that 'the history of art coincides with the history of all other phenomena in life', and thus, the art of a period can 'portend decay' (1895: p. 294). Science, therefore, used art and literature as proof of decline and degeneration. At its most superficial level, this took the form of the literary case study, in which fiction becomes evidence. Ignoring Oscar Wilde's warning that 'it is the spectator, and not life, that art really mirrors' (Wilde, 2006: p. 3), the literary case study accepts fiction as a mirror of reality. Thus, Lombroso employed Shakespeare to support his claim that criminal women 'far exceed men in their ferocity and cruelty': 'thus Shakespeare depicts Lady

Macbeth as more cruel and cold than her male accomplice' (2006: p. 67). Krafft-Ebing, too, treats literature as analogous to patient testimony or statistical data. He points to the prevalence of sadism and masochism in 'the latest "decadent" literature of France and Germany' (1894: p. 123) as evidence that these perversions were on the rise in the general population. Rates of homosexuality, too, can be inferred from decadent literature: 'That inversion of the sexual instinct is not infrequent is proved, among other things, by the circumstance that it is frequently a subject in novels' (1894: p. 230). Krafft-Ebing points to Balzac, Diderot, Gautier, and Flaubert as evidence.

In the literary case study, literature is accepted at face value, and made to serve a utilitarian purpose. More often, however, scientists viewed decadent literature as itself symptomatic of decline and degeneration. In the first case, fiction is literalized; in the second, it is pathologized. For many in the fields of criminology, sexology, suicidology, and the like, an artistic temperament was itself a sign of perversion, degeneration, or atavism. Krafft-Ebing defined 'brilliant endowment in art' as a 'psychical anomaly' evident of 'mental degeneration' (1894: p. 225), while Lombroso suggested that criminals love poetry because it satisfies their 'boiling passions' (2006: p. 80). Pederasts, meanwhile, could be identified by their 'exquisite taste in the arts' (Lombroso, 2006: p. 73). This artistic temperament, combined with sexual perversion, was evidence that pederasts were atavistic throwbacks to Ancient Greece, when both flourished (p. 222).

The theory of literature as symptom was taken to its extreme by the physician Max Nordau in his 1892 work *Entartung* [Degeneration]. Couched as a medical text, *Degeneration* is a polemic against contemporary art, which Nordau views as a disease to be identified and eradicated by the physician (Nordau, 1892: p. 15). He insists that 'the originators

of all the *fin-de-siècle* movements in art and literature' are 'degenerates', and further claims that the physician can study their art in the same way he would conduct a medical examination of the body (p. 17). This is possible, he argues, because disease is often mistaken for artistic genius. Thus, what the modern world calls imagination is simply the result of a weak and wandering mind (pp. 21, 56), while artists praised for their stylistic innovations are merely realists with faulty senses. Thus, impressionism is the result of 'visual derangements': 'the degenerate artist who suffers from *nystagmus*, or trembling of the eyeball, will, in fact, perceive the phenomena of nature trembling, restless, devoid of firm outline' (p. 26). Similarly, the symbolist school is populated by 'mystic imbeciles' suffering from diseased minds, for whom 'the activity of the organic nerves preponderates over that of the cerebral cortex', which results in an inability to express themselves clearly (p. 118). Nordau's diagnoses all stem from the assumption that a healthy mind expresses itself as directly, clearly, and literally as possible. Thus, the use of allegory or symbols must be a 'a diseased mental activity' and is indicative of imbecility, delirium, or paranoia (p. 396). Poetry is the chosen form of expression only of those suffering from 'weakness of mind' (p. 88), while rhyme is but a manifestation of 'echolalia' (p. 270). These artists, he implies, are attempting to express themselves realistically and objectively, but their perception of what is real has been warped by disease.

Nordau does not merely diagnose artistic movements and styles as degenerate; he diagnoses individual artists. A. C. Swinburne is of the 'higher degenerate type' (p. 94); Dante Gabriel Rossetti is an 'imbecile' (p. 94); Paul Verlaine is a 'paroxysmal dipsomaniac' and 'impulsivist' (p. 120); Théophile Gautier and Charles Baudelaire both have 'mystically degenerate mind[s]' (p. 300); Henrik Ibsen is an 'anti-social' egomaniac (p. 398); Friedrich Nietzsche is a 'frothing madman' (p. 415); and Émile Zola is a 'sexual psychopath' (p. 500).

Nordau's reach is so far that he is even able to medically diagnose anonymous readers. Those who read decadent literature are therefore 'abnormal subjects' with 'unbalanced minds': 'the neurasthenic, the hysteric, the degenerate, the insane' (p. 451).

Unlike the majority of scientific men considered in this chapter, Nordau believed in a progressive form of evolution. The history of art, he argues, gives evidence of mankind's progress. While literature of the past was entirely in verse, in the nineteenth century poetry is 'only employed for purely emotional portrayal' (p. 543). This demonstrates that knowledge and judgement are conquering instinct and emotion. Thus, Nordau assures his readers, we may look forward to a future in which 'art and poetry will have become pure atavisms, and will no longer be cultivated except by the most emotional portion of humanity—by women, by the young, perhaps even by children' (p. 543).

Nordau's views suggest that art and science are fundamentally incompatible, yet in the nineteenth century the boundary between the two disciplines was especially fluid. Language, structures,^[JD11] and ideas moved freely between the sciences and the arts. Though some nineteenth-century literature evinces fears of the new reality revealed by uniformitarianism, evolution, and thermodynamics, many writers wholeheartedly welcomed this new world view. Decadent art, especially, can be seen to embrace scientific theories, using them to justify the tenets of the movement. The new morality of Social Darwinism thus underpins the amorality of 'art for art's sake', while the certainty of eventual decline and destruction revealed by the second law of thermodynamics justifies the search for beauty in putrescence and decay. Decadence is far from a rejection of the natural world. Rather, nature and the theories that articulate it are among the key building blocks of decadent art.