

Introduction

In our age the discovery and study of single-celled organisms has been followed by a search after the units, the source, the primitive form of expression; and no artist can live by himself, or live altogether in, or by, the impressions once vivid in the eyes of a dead generation.¹

Geoffrey Grigson, *Henry Moore*, 1943

In the decade following the Great Depression and leading up to the Second World War, British society experienced a period of extraordinary cultural innovation, in which the impact of interwar regeneration and discovery uprooted old certainties, leading to an avowedly modern refashioning of British sculpture and biology. The emergence of a legitimate avant-garde as a response to the deadening influence of neo-classicism on contemporary art would lead to the birth of a new movement in sculpture – a powerful expression of artistic modernity that would, perhaps surprisingly, find an intellectual counterpart in the revisionary philosophy of modern biology. In his monograph *Henry Moore* (1943), the critic Geoffrey Grigson identified a common vision that drew together both Modernist sculpture and biology, censuring those who saw contemporary art as symptomatic of a ‘distorted vision and [...] disordered mind’, by claiming that, while not everyone may ‘be familiar with the cells and organs and elements of life [...]’. Biology must be acknowledged’.² A poet by vocation, Grigson founded the literary review *New Verse* in 1933 and would later acquire celebrity in art history for his introduction – in 1935 – of the term ‘biomorphism’ into the lexicon of art criticism. Borrowed from anthropology, the appellation did not describe a resemblance to natural form *per se* but rather emphasised that the organic qualities of contemporary art had, as a point of departure, the smoothly contoured shapes of the natural world.³ Yet while the designation ‘biomorphic’ could, to a considerable extent, refer to natural form in the widest possible sense – encompassing objects as diverse as river-worn pebbles, nuggets of bone and the shapes of animals – it nonetheless relied upon the findings of modern biology to fully articulate the range of meanings to which it was subject. Thus was Grigson alive to the correspondence between the sinuous profile of a sculpture, such as Henry Moore’s *Figure* of 1931 (Figure 0.1), and the globular, asymmetrical appearance of a single-celled organism, noting that the visual knowledge of the sculptor had been permanently enriched by the visions of



Figure 0.1

Henry Moore, *Figure*, 1931. Tate, London

modern biology: ‘When I look at [Moore’s] carvings, I sometimes have to reflect that so much of our visual experience of the anatomical detail and microscopical forms of life comes to us, not direct, but through the biologist’.⁴

The distinctively *modern* implications of biomorphist imagery demonstrate the extent to which biological references in Modernist art criticism of the 1930s moved far beyond any orthodox emphasis upon what might be otherwise described as the traditional aspects of art’s relationship to nature.⁵ Characterised by a fluid vocabulary of smooth-edged curves, flowing outlines and gentle protuberances, Modernist sculpture therefore lent itself particularly well to biologicistic interpretations by critics, as it seemed to echo – albeit abstractly – the vital, burgeoning forms newly captured by scientific photography or theorised by experimental biology.⁶

The startling breadth of discovery enjoyed by biology in the years following the turn of the century encouraged many Modernists to view the subject as the paradigmatic science of the epoch and adopt a ‘biocentric’ attitude which privileged the life sciences and emphasised the centrality of nature in culture.⁷ In artistic terms, a growing disenchantment with the fruits of industrialisation

and mechanisation – what one reviewer of the time described as humankind’s psychological ‘inability to deal with the machine’ – had served to heighten hostility towards those forms of artistic Modernism, specifically geometric abstraction, that appeared to cravenly mimic mechanical imagery and therefore ignore the biological needs of humankind.⁸ By contrast, the incorporation of biological principles into art was seen as a positive development by those Modernists who sympathised with a biocentric viewpoint, seeing this biologicistic tendency as an antidote to the alienating, machinist aesthetic of contemporary abstraction – a development which ostensibly healed the rift between humankind and nature that the industrial age was understood to have precipitated.⁹ Perhaps nowhere was this predilection for biological leitmotifs more evident in modern art than in the folds, swells and pleats of Modernist sculpture, which seemed to represent natural forces and generative energies abstractly conceived.

Biocentrism, the New Biology and British Modernist sculpture

Bernard Reynolds noted in a 1937 defence of Henry Moore in the BBC’s weekly *The Listener* that, unlike those Modernists who sought to parallel the products of the machine age through geometry, a sculptor such as Moore – who was sensitively attuned to the deeper rhythms of nature – could produce ‘biomorphic’ artworks that were characteristically ‘vital’ and life-affirming:

Most contemporary sculptors kill Nature, reduce it to non-sensitive geometric forms (they call it decorative), and translate it into stone. Henry Moore puts life into stone; his forms are ‘biomorphic’. In his opinion, if a piece of sculpture defies the vital laws of natural growth and construction, it is bad [...]. However, he does not copy Nature, he creates within its life-principles.¹⁰

Reynolds’ usage of the term ‘biomorphic’ to connote the way in which Moore’s sculptures, by virtue of their turgescency and undulant curvilinearity, metaphoric-ally alluded to natural forms without directly copying their outward appearance, possessed the unmistakable watermark of Grigson’s critical thinking on biomorphism.¹¹ Certainly, given that Grigson had, just two years earlier, explicitly labelled Moore as the *only* ‘biomorphist producing viable work’ in England, it was perhaps understandable that Reynolds should have chosen this particular designation to signpost the biophilic character of Moore’s oeuvre.¹² Nevertheless, that he elected to emphasise the *biological* vitality of Moore’s art exemplifies the biologicistic disposition of Modernist sculptural discourse and the scientific temper of a biocentric aesthetic philosophy that was channelled by (but not restricted to) the stylistic thematics of biomorphism.¹³

Needless to say, the biologicistic readings of Reynolds and his fellow Modernist critics reflected profounder neo-romantic, nature-centric and biophilic trends in European art and design. While this book will underscore the importance of

positioning this biologicistic sculptural discourse within a British cultural context, it is nonetheless important to situate such an approach within the broader framework of the emergence of ‘biocentrism’ as an intellectual phenomenon in early twentieth-century European Modernist culture. Artistically located at the convergence of various movements in European Modernism (including Art Nouveau, Expressionism, Primitivism, Surrealism and Constructivism), biocentrism, in general terms, rejected anthropomorphism and machinist culture, privileged the life sciences as an epistemological model and highlighted the idea of existential fluidity in nature.¹⁴ Within this philosophical setting, those artworks which partook of a biomorphic appearance were interpreted by critics as dependent upon biological law and therefore emblematic of humankind’s inseparability from the totality of nature.¹⁵ Thus Modernists – such as Wassily Kandinsky and Henry Moore – who incorporated zoological and embryological motifs into their compositions were self-consciously aligning themselves with a biocentric attitude that laid emphasis on notions of regeneration, procreativity and the common origins of life.¹⁶

In its broadest sense, biocentrism represented a particular neo-romantic worldview – prevalent at the turn of the century – which philosophically refuted what many saw as the extreme positivism and materialism of nineteenth-century science. The speedy decline of faith in materialism and mechanism as meaningful epistemological systems during the *fin de siècle* was matched by an upsurge of interest in romantic approaches to nature, many of which favoured instinctive, idealistic, holistic and/or metaphysical attitudes towards nature and which prized the experiential unity of life.¹⁷ The First World War, in this respect, acted as a catalytic event in the development of European biocentrism, functioning as a lightning rod for anti-mechanistic sentiment and encouraging the appearance of a neo-romantic nature philosophy. Just as widespread intellectual disillusionment with materialism fanned the philosophical flames of biocentrism in the years leading up to the First World War, so too anxiety at the devastation caused by mechanised conflict alongside a more general dissatisfaction with the socio-environmental degradation triggered by postwar industrialisation led to the strengthening of biocentric approaches during the 1920s and 1930s.¹⁸ In Britain – as in the rest of Europe – the postwar impression of existential crisis would lead to a profound questioning of mechanistic values and the advent of holistic and biocentric philosophies, providing the spark that would ultimately lead to the establishment of a *biologicistic* conception of Modernist sculpture.

Significantly, it was the emergence of the ‘New Biology’ as a powerful force within reformist factions in interwar science that was to have the greatest impact upon the language of British Modernist sculpture, furnishing it with a biologicistic vocabulary that privileged holistic concepts, metamorphic imagery and epigenetic themes. A complex phenomenon in the history of science, the New Biology represented an array of neo-idealistic scientific perspectives – including such movements as neo-Lamarckism and neo-vitalism – which variously sought to

question the legitimacy of the predominant mechanistic and positivistic scientific attitudes of the period.¹⁹ The catalyst for this shift in outlook was the increasing prominence given to an integrative approach to physiology in the interwar years, which promised to supersede the reductive shortcomings of mechanistic theory. Rather than examining the parts of a biological system in isolation, as mechanistic biologists favoured, proponents of an integrative or holistic approach argued that the study of the properties of the whole was essential to any meaningful understanding of biological function. Instead of simply focusing attention on low-level physico-chemical interaction at a cellular level, the new generation of biologists attended to the higher-level interchanges that typically took place in the tissues or organs, concluding that new characteristics emerged from the parts of a bio-system operating in a state of dynamic interaction.²⁰

While I have here considerably simplified a complicated development in the history of science that will be unravelled more completely as the book progresses, at this point it is worth simply remarking upon the centrality of the New Biology to biological theory in the 1930s and the degree to which it helped biology establish itself as the exemplary science of the period. As Oliver Botar has demonstrated, while the New Biology was not anti-materialistic *per se*, its roots in *fin de siècle* pantheism, mysticism and neo-vitalism ensured that it was a central component of the biocentric attitude which aimed to restore 'life' to the heart of contemporary experience.²¹ Indeed, the perception that biology, through its role as the paradigmatic science, could act as a model for disciplines as diverse as aesthetics and politics – which similarly sought to respond to the anti-mechanistic sympathies of the age – meant that biologicistic frames of thought acquired currency as a legitimate interpretative methodology for artistic Modernism.

Conspicuously, the emergence of a biologicistic sculptural discourse occurred alongside the appearance of a new type of Modernist sculpture in Britain. Influenced to varying extents by the styles of synthetic Cubism, Constructivism and Surrealism, the manifestation of this movement represented – with respect to the conservative artistic sensibilities that had held sway in the country throughout the 1920s – something of a belated British response to the aesthetic challenges posed by pre- and postwar continental Modernism.²² Certainly, in the text 'Going Modern and Being British', the artist and critic Paul Nash maintained that it was possible to achieve both ends, insisting that 'going modern' necessitated some familiarisation with European Modernist trends in art.²³ Demonstrating an industrious conjunction of Modernist practice, Primitivism and monumental classicism, Pablo Picasso and Jacques Lipchitz's form experiments of the 1920s offered a set of powerful precedents, in this respect, for the ambitious brand of sculptural Modernism that developed in Britain in the late 1920s and early 1930s.²⁴

With its bold fusion of the classicism of Aristide Maillol, with the thick-set volumetry of primitive art, Moore's *Reclining Woman* of 1930 (Figure 0.2) can be seen to embody the quintessence of the new sculpture, evincing a partiality towards a vocabulary of heavy-set form that found its aesthetic counterpart in



Figure 0.2

Henry Moore, *Reclining Woman*, 1930. National Gallery of Canada, Ottawa

the Mesoamerican sculptures of the British Museum and the paintings of bathers that Picasso created at this time. Such artworks, by virtue of their conceptual audacity, paved the way for the radically abstract sculptures produced in the middle years of the 1930s, such as Hepworth's sexually suggestive *Two Forms* (1933) (Figure 0.3), which critics characteristically appreciated as symptomatic of either a solipsistic type of nihilism or evidence of an artistic interest in contemporary design.²⁵ So profoundly did the objects of the new sculpture differ from the Neo-Cubist and neo-classical styles that preceded them that Modernist critics agreed that only a wholesale change in terminology could effectively detail the aesthetic transformations wrought by the modern movement in art. In 1935, the chief apologist of artistic Modernism in Britain – the critic Herbert Read – remarked in the first edition of *Axis* magazine on the bewildering proliferation of terms used to describe modern art:

In the criticism of modern art we have reached a stage at which the everyday vocabulary of criticism is proving inadequate and therefore confusing. Developments of the last twenty years have given rise to various new types of art, which, although they may have their parallels in past epochs, have never existed as self-conscious entities.²⁶



Figure 0.3

Barbara Hepworth, *Two Forms*, 1933. Tate, London

The editor of *Axis*, Myfanwy Evans, similarly despaired of being ‘lost amongst individuals who protest at clarification’.²⁷ However, despite the proliferation of ‘isms’ in modern British art in the 1930s, both critics and practitioners generally recognised no implicit connection between ideological persuasion and style, applying biologicistic frames of interpretation to naturalistic, biomorphic and geometric artworks alike. And while biomorphic abstraction was perhaps particularly susceptible to biocentric readings, due to its unique ability to abstractly evoke the forms of life, artworks of a more geometric temperament (such as the Neo-Constructivist bas-reliefs of Ben Nicholson) were equally subject to biologicistic interpretations.²⁸ Henry Moore – who flitted between the varying styles of Primitivism, Surrealism and abstraction throughout the 1930s – was continually subject to biologicistic analyses, even as Naum Gabo, a dyed-in-the-wool Constructivist, whose stark experiments in geometric design would seem to have singled him out as an unrepentant adherent to a machine-age aesthetic, emphasised the nature-centric character of his work and its biologicistic capacities. Just as biomorphic abstraction was deemed to shun superficial appearances while simultaneously representing

the quintessence of natural form, so Gabo saw the hard-edged orthogonality and ascetic parabolic curves of Constructivism as indicative of the artist's aptitude for discerning the underlying structures of the natural world. His notion that 'the constructivist has renounced the representation of natural forms' while concomitantly aiming 'not to reproduce Nature but to create and enrich it' verbalised a belief that Constructivism possessed a deep understanding of bio-systems, creating within their limits, *even as* it eschewed artistic naturalism.²⁹ The certainty that the contemporary artist was somehow privy to biological principles was linked to the conviction – here expressed by the film-maker John Grierson – that 'biology [was] getting into [the] blood' of interwar society through such agents as cinema and the popular press and was therefore reshaping the aesthetic of Modernist sculpture.³⁰ Consciousness of the efficiency of modern media in transmitting biological ideas to a wider audience was contemporaneously bolstered by the birth of 'decorative micrography' – a genre of art photography which delighted in artful images of microscopic forms, rendered pictorially but in a way that was wilfully respectful of scientific fact.³¹ Thus such trends in popular culture shaped the impression that the ubiquity of biological imagery in contemporary society had profoundly impacted upon the psyche of the artist, subconsciously equipping him or her with a biologicistic knowledge of life which percolated through into the very fabric of the artworks themselves. As Grierson noted in 1930, while reviewing an exhibition of sculpture by Hepworth, John Skeaping and Moore: 'It is not that they are anything of scientists, but they do seem to appreciate the principles on which living things stand up from the earth and get around it'.³²

Far from being marginal to Modernist aesthetics, it is my central premise that the New Biology *fundamentally* influenced critical responses to the new sculpture, furnishing critics and artists with a complex biologicistic vocabulary through which to elucidate the stylistic originality of sculptural Modernism. To be sure, the New Biology was seen by artistic Modernists to have particular significance for the arts, not least because it had become increasingly engrossed by questions of form.³³ For Modernist sculpture, especially, biological concepts appeared prescient, as – like a sculptor – the modern biologist was concerned with accounting for the production of form in hitherto undifferentiated matter, explaining how the spatial relations of the organism affected its developmental trajectory and how the flux of time impressed itself upon the form of living flesh.³⁴ Certainly, the very *three dimensionality* of the sculptural arts – in which forms are purposefully arranged so as to heighten the viewer's appreciation of volume – necessitates not only the consideration of *space* but also of *time*, a notion best illustrated by a passage from Gotthold Lessing's eighteenth-century aesthetic thesis, *Laocoön*:

All bodies, however, exist not only in space, but also in time. They continue, and at any moment of their continuance, may assume a different appearance and stand in different relations. Every one of these momentary appearances and groupings was the result of a preceding, may become the cause of a following, and is therefore the centre of a present action.³⁵

Just as the fossilised state of an organism was understood to be the manifestation of petrified time and its embryological state was seen to embody functional time (either side of which could be hypothesised a sequence of forms stretching endlessly forwards or backwards in time)³⁶ so – in the words of Rosalind Krauss – Modernist sculpture existed at ‘the juncture between stillness and motion, time arrested and time passing’, the instant at which the sculpture was visually apprehended hence representing a single moment in a countless series of possible moments, all of which collectively symbolised the perceptual continuity of experience.³⁷

Conceived at a time when Henri Bergson’s philosophy of an *élan vital* still possessed popular currency in art and science, the dynamic and fluxional epigenetic forces presupposed by the New Biology acted as an inspiration to those still in thrall to the creed of neo-vitalism and provided a powerful interpretative methodology to those who sought to explain the extraordinary spatio-temporal qualities of Modernist sculpture.³⁸ Even as the new sculpture was busy incorporating aspects of synthetic Cubism, Primitivism and Surrealism into its stylistic repertoire, the New Biology was effecting a synthesis between the hitherto separate areas of embryology, cytology, genetics and biochemistry, producing the basis for a unified theory of living systems within a pioneering holistic disciplinary framework.³⁹ Thus it is my intention to tell how these developments came to be linked in the minds of British Modernist sculptors and their critics, who recognised in the New Biology a ready set of concepts and metaphors through which to explicate the biologicistic aesthetic of the new sculpture.

Theories and methods

The centrality of biology to the Modernist project has, in recent years, been subject to a range of scholarly studies which have located biologicistic currents in a wide array of artistic practices, ranging from historical analyses of ‘biocentric Constructivism’ in the early twentieth century to theoretical explorations that seek to identify a tangible ‘Bio-Art’ strand in the polychromatic tapestry of contemporary art.⁴⁰ Naturally, the area of contemporary scholarship that is most pertinent to my current study is that which has focused upon biocentrism as a historical phenomenon. Seen as part of a blossoming environmental consciousness that swept through Europe in the early twentieth century, biocentrism (or, more generally, ‘nature-centrism’) has been identified in several studies as a series of overlapping, though not necessarily analogous, discourses which shared a group of attitudes and rhetorical formulae pertaining to nature, biology and epistemology. While these discourses diverged from one another in important ways, at the same time they mutually valued a number of key biocentric principles, including faith in the primacy of life processes, in biology as the prototypical science of the age, a deeply held anti-anthropomorphism and an implicit or categorical environmentalism.⁴¹

As a concept which helps to demarcate the interconnectedness of biological, nature-centric and cultural discourses, biocentrism provides a useful historical construct in which to situate British biologicistic attitudes, as it allows a considerable variety of beliefs about biology and nature – present within artistic Modernism – to be accommodated within its conceptual frame. Inasmuch as biocentrism recognises an anti-mechanistic, biophilic tendency in Modernist philosophy and aesthetics, it is a useful key term in helping to identify and categorise biologicistic attitudes in British sculptural discourse, not least because of the philosophical overlap between European Modernism and its British variant.⁴²

Biomorphism is, similarly, a critical term that is important to the subject of my enquiry – not least because of its rootedness in an English intellectual tradition.⁴³ Characterised ‘by reference to an imagery of irregularly curvilinear shapes that are closed or tending towards closure’, biomorphism’s stylistic relatedness to the objects of the natural world (and biocentrism more generally) makes it a logical bedfellow for a study that seeks to understand the interrelatedness of the New Biology and sculptural Modernism in Britain.⁴⁴ While art historical studies of biomorphism have stressed its origins within the diverse influences of Victorian anthropology, psychoanalysis, museology and philosophy – disciplines and epistemologies which are beyond the thematic remit of this book – the part that the New Biology played in forming the biomorphic hypotheses of Grigson and others necessitates that biomorphism is considered as an integral component of the biologicistic discourse that emerged around British Modernist sculpture.⁴⁵

That said, the broad array of influences to which biomorphism was subject has inadvertently resulted – in terms of the discussion of the New Biology – in a degree of scientific generalisation: technical terms such as organicism, mechanism and neo-vitalism can be discussed in the literature imprecisely, meaning that the subtleties of interwar scientific debate are occasionally lost.⁴⁶ By therefore concentrating upon the epistemological relationship between the New Biology and Modernist sculpture, I intend to flesh out wider the scientific context in which biomorphism operated, identifying it as one factor among many that helped to shape the biologicistic parameters of sculptural discourse in interwar Britain. Certainly, as a stylistic category, ‘biomorphism’ has epistemological limitations when considered as a byword for biologicistic intention in artistic Modernism. Though receptive to the imagery of the New Biology, biomorphism’s expressive form-vocabulary of sweeping curves and whorls – which evocatively recall the shapes of unicellular organisms, embryos and buds – was by no means the only style through which biocentric attitudes found articulation. As Oliver Botar and Isabel Wünsche have proven, there was ‘no *necessary* connection between ideological background and style’ and many Modernist artists – Naum Gabo and Ben Nicholson among them – did not feel compelled to work in a biomorphic style *even as* they espoused biologicistic worldviews.⁴⁷ Indeed, as Jennifer Mundy has argued, biomorphism’s iconographic kinship to the forms of nature means that certain biologicistic concepts – such as organicism – which ‘embrace a wide range

of possible visual expressions [are often] incompatible with any description of biomorphic art'.⁴⁸ For example – as I will demonstrate in Chapter 3 – the idea that certain Modernist artworks could appear 'organic' – that is referring to *internal* organisational principles rather than *external* form appearance – meant that it was possible for contemporary critics and sculptors to think of a composition as adhering to biologicistic laws without it necessarily appearing to be *biomorphic*.⁴⁹ As such, this book will chart the deeper currents of biologicistic meaning flowing between Modernist sculpture and the New Biology that biomorphism, as a particular category in the history of art, would otherwise overlook.

By examining the *biologicistic* parameters of Modernist sculpture, I am identifying interwar sculptural discourse with a type of *biologism*, by which I mean a particular kind of aesthetic philosophy which employed knowledge structures consciously drawn from biology to elucidate the principal features of contemporary art. The *Oxford English Dictionary* defines 'biologism' as the 'interpretation of human life and behaviour from a (purely) biological point of view' and thus a biological offshoot of the wider philosophical movement of *scientism*, which assumes that the methods of study appropriate to science are epistemologically applicable to other areas of human knowledge.⁵⁰ Biologism as a philosophical construct has many variants, although all forms of biologicistic discourse take biological knowledge as their epistemological starting point.⁵¹ More broadly, a biologicistic attitude intersects with a biocentric worldview as – like biocentrism – it assumes 'the growing ascendancy of biologically based accounts of human life' and so affirms biology's epistemic status as the paradigmatic science of the epoch.⁵²

In addition, I classify the psychological character of Modernist biologism as *biophilic* in nature. Defined as 'a love of life' or 'love or empathy with the natural world',⁵³ 'biophilia' refers to 'the psychological tendency in humans to be attracted to all that is alive and vital'.⁵⁴ Conceptually linked to the nature-centric, neo-romantic component of biocentrism,⁵⁵ 'biophilia' will here be used to indicate a specific Modernist empathy towards *biological* systems rather than a weaker philosophical identification with 'nature' as a general concept.

In sum, this book aims to move beyond current understandings of biology's relationship to artistic Modernism – as they are presently defined by the scholarly parameters of biocentrism and biomorphism – by exploring the latent biologism and biophilia of Modernist sculpture in Britain from within the epistemological framework of the New Biology.

British sculpture and Modernism

As Charles Harrison has observed, there is always a danger, when pursued uncritically, that a study of British Modernism will concern itself with 'achievements that were largely marginal [within] a climate of persistent resistance and retrenchment in the face of more uncompromising European developments'.⁵⁶

However, to ignore the historical and cultural specificity of artistic Modernism is to perpetuate a discourse that has enabled Modernism to achieve epistemological hegemony – arguably to the detriment of our understanding of the ways in which the individuals and localities that collectively contributed to the Modernist project envisaged Modernism itself. Christopher Wilk has emphasised that artistic Modernism was ‘not only international in its outlook and practice, but [also] “extraterritorial”’ – a proto-imperialist discourse perpetuated by the global dissemination of Modernist ideas by nomadic artists, designers, architects and thinkers in the 1920s and 1930s.⁵⁷ Correspondingly, Modernism’s discursive supremacy within art history is somewhat problematic when considering biologicistic discourse through the conceptual prism of biomorphism. Despite having its origins in late-nineteenth-century British culture (first emerging as a term in the writings of the anthropologist Alfred Court Haddon),⁵⁸ biomorphism is commonly discussed by scholars as an intercontinental stylistic phenomenon that – as an offshoot of artistic Modernism – largely ignored boundaries, be they cultural or political.⁵⁹ Thus although biomorphism clearly informed the stylings of the international avant-garde, to position it (however understandably) within a multinational milieu inevitably means downgrading the importance of the ‘local’ conditions under which the New Biology came to inform sculptural Modernism in Britain.

Late interwar Britain makes a particularly compelling case study through which to understand the relationship between Modernist sculpture and the New Biology. In the first instance, the 1930s is a significant decade when attempting to understand the reception of artistic Modernism in Britain as a whole. While Modernism had briefly flourished in Britain through the machinations of the prewar Vorticist movement, it had been rapidly supplanted in the interwar period by a French-inspired variety of Post-Impressionism. It was only during the 1930s that artistic Modernism came to be truly consolidated through the tardy arrival of Constructivism, synthetic Cubism and Surrealism, the ‘dispersal of German culture throughout Europe under Nazi pressure’,⁶⁰ and the establishment of home-grown avant-garde periodicals and journals – such as *Unit One* (1934) and *Axis* (1935–37) – which served as mouthpieces for Modernist activity.⁶¹ Jane Beckett has spoken of the unparalleled velocity of this change, recognising it as the product of a ‘complex interaction of political and economic forces’ which impacted upon ‘housing, education, industry and social issues’ as well as ‘the social organization of art production’, through new configurations within the art market and novel critical approaches.⁶² Certainly, the pervasive sense of existential crisis which emerged in response to these social and economic transformations provoked a wide range of reactions from Modernists, stretching from a self-conscious regression into the art of the past to a neo-romantic engagement with nature and the New Biology.⁶³

In terms of the avant-garde, Surrealism – which had first appeared as a coherent force in 1924 following the publication of André Breton’s *Manifesto of*

Surrealism – would finally emerge as a legitimate, if somewhat only tentatively supported, movement within the British art scene during the mid-1930s, with the 1935 publication of David Gascoyne's *First Manifesto of English Surrealism* and the 1936 International Surrealist Exhibition at the New Burlington Galleries in London.⁶⁴ Historically the antithesis to Surrealism's deeply held anti-rationalist aesthetic, Constructivism would also gain a firm foothold in the British avant-garde as the influx of ex-Bauhaus faculty members fleeing Nazi persecution – such as Naum Gabo, Walter Gropius and László Moholy-Nagy – acted as a powerful stimulus to the arts, introducing new trends in European Modernist abstraction and leading to the production of exhibitions, such as Nicolette Grey's 'Abstract & Concrete' show, and periodicals, such as *Circle*, which provided forums through which Constructivist values could be disseminated.⁶⁵ In particular, the commitment that Constructivist artists displayed towards an ideology of abstract art and industrial design that was rooted in scientific theory played a key role in creating the conditions through which British sculptural Modernism and the New Biology could be seen to productively interact.⁶⁶ Both Surrealism and Constructivism dominated understandings of contemporary art in Britain during the mid-1930s yet – despite their traditionally fraught relationship – many Modernists moved freely between both ideologies, seeking, furthermore, to intertwine international Modernism with home-grown conceptions of neo-romanticism and handicraft.⁶⁷

Caught between the opposing ideological crosswinds of Surrealism and Constructivism, biomorphism – as we will see in Chapter 4 – emerged explicitly as an attempt to synthesise the diverse stylistic trends to which contemporary art was subject in the 1930s.⁶⁸ Conceived as a type of 'impure' abstraction, Grigson defined biomorphism as embodying those abstractions that 'exist between Mondrian and Dalí', unambiguously locating biomorphism at the stylistic junction halfway between the severe orthogonality of geometric abstraction and the psychologically inflected hyperrealism of Surrealism.⁶⁹ Importantly – from the standpoint of this thesis – his theorisation of biomorphic abstraction was published in 1935 (in the Modernist magazine *Axis*) under the title 'Comment on England', and formed part of a larger discussion of the special cultural conditions under which contemporary British art operated. Although Grigson sought to apply European aesthetic criteria to his argument, his essay left little doubt that his coinage of 'biomorphism' was 'a recognition of the context in which modern artists necessarily had to operate in England, and a warning against two extremes which [he] believed to be sterile and derivative'.⁷⁰ Indeed, he specifically singled out 'Moore and Wyndham Lewis as the only English artists of maturity in control of enough imaginative power to settle themselves actively between the new Pre-Raphaelites of *Minotaure* and the unconscious nihilists of extreme geometric abstraction'.⁷¹ And – as Alan Powers has demonstrated – the emphasis upon the re-enchantment of nature and national tradition which typified Grigson's neo-vitalist conception of biomorphic abstraction was an integral component of the wider neo-romantic revival that took place in Britain in the 1930s and which, in turn, was a symptom

of the biocentric neo-romanticism which arose in Modernist circles in early-twentieth-century Europe.⁷²

While the New Biology was a phenomenon which spanned Europe and North America and was not, in any meaningful sense, intellectually limited to Britain, many of its principal advocates and theorists – including such luminaries as the philosopher Alfred North Whitehead, the evolutionary biologist Julian Huxley, the physiologist John Scott Haldane and the experimental embryologist Joseph Needham – were British and lived and worked in England during the 1920s and 1930s. Many of these figures contributed, in some way or other, to the burgeoning market in self-educational literature that developed in Britain during the interwar years and which saw scientific writers – such as James Jeans and Lancelot Hogben – publish ‘popular’ books on scientific topics which went on to sell in the tens of thousands. Certainly, publishers were keen to capitalise upon the growing market of individuals who were willing to part with modest sums of money in order to educate themselves about a range of scientific topics. Many of these works – as in the case of H.G. Wells, Julian Huxley and G.P. Wells’ encyclopaedic *The Science of Life* (1929) – tackled the findings of the New Biology.⁷³ Moreover, the attention paid by British newspapers to the marvels of the ‘Biological Revolution’, which, as science pundits emphasised, augured the possibility of test-tube babies and lengthened life spans for humankind, created a climate of interest in the New Biology within Modernist circles that helped cement the impression that biology was the exemplary science of the epoch.⁷⁴

This book traces a broadly thematic trajectory, the overall aim of which will be to demonstrate the palpability of biologicistic ideas in Modernist sculptural discourse in Britain between the years 1930 and 1939. Each chapter will discuss a different biological topic and examine its potency in relation to the work of Moore, Nicholson, Gabo, Hepworth *et al.* in the tumultuous years sandwiched between the Great Depression and the start of the Second World War.

Chapter 1 adopts the most theoretical tone in the book, as it attempts to theorise an epistemological frame in which to understand the complex inter-relationship that existed between Modernist sculpture and the New Biology in the interwar years. Here, I sketch out a brief overview of the ways in which art-science relations have been hypothesised by historians and examine the critical legacy of C.P. Snow’s, now infamous, ‘Two Cultures’ paradigm. This chapter lays down some of the historical groundwork for the chapters that follow by analysing the popular science industry in the 1920s and 1930s and exploring the ways in which the New Biology was publicly presented by proselytising scientists and the popular press. To contextualise the narrative arc of the book, this chapter will study how the biologicistic character of interwar sculptural discourse was part of a much wider Modernist response to modern science. I will here investigate the wider avant-garde response to the new science and argue that science was perceived by

many Modernists both positively and negatively – as both an inspiration and a disenchantment to the modern artist – and resulted in the emergence of a distinctive *scientistic* discourse within contemporary aesthetics which paved the way for the biologism of the 1930s.

Chapter 2 will explore how ‘metamorphosis’ (and attendant ideas about evolution, embryology, growth and development) influenced Modernist sculpture in the 1930s. I begin with an assessment of the ‘new evolutionary synthesis’ and how this scientific development problematised notions of evolutionary change through positing competing neo-vitalist and materialist conceptions of embryological growth. I will focus especially on the work of Hans Driesch, whose concept of the embryo as a self-adjusting, epigenetic field did much to strengthen the philosophical fortunes of neo-vitalism within the Modernist community. I will then address the role that a neo-vitalist understanding of metamorphosis played in the development of the biologicistic art theories of Henri Focillon and Stephen Haden-Guest. This neo-vitalist theorisation of art history will be seen to have had a significant impact on Modernist sculpture, not least in the readiness with which critics and artists were willing to ascribe ‘vital’ principles to objects that appeared to be derived in some way from evolutionary or developmental forces. Indeed, this chapter will focus on the impact of embryology on Modernist sculpture (most particularly in relation to Surrealist theories of the object) by exploring the iconography of ‘the egg shape’ which preoccupied sculptors like Hepworth and Moore throughout the 1930s. I will conclude by gauging how neo-vitalist philosophy and experimental embryology conspired to produce a kinaesthetic understanding of Modernist sculpture, whereby the asymmetry of the sculptural object was seen to activate a new relationship between viewer and sculpture in which spatio-temporal extension was viewed – in objecthood terms – as symptomatic of vital, developmental forces.

In Chapter 3, I will discuss the subject of organicism in relation to Modernist sculpture. Essentially, a philosophical idea that tackles the ontological problem of the compositional relationship between the *parts* of an object and the *whole*, organicism will thus be seen to re-emerge in the New Biology as a means of comprehending the physiological constitution of living things. I will here argue that at the same time as organicist sensibilities were developing in the New Biology, Modernist sculptors (such as Moore and Hans Arp) began experimenting with a wholly new sculptural idiom in which the archetype of the sculptural object was disbanded, to be replaced by a collection of objects arranged seemingly haphazardly upon a plinth. I will contend that organicism provided Modernist sculptural discourse with a powerful holistic and biologicistic philosophy through which to explain the rationale behind ‘multipart’ sculpture, one which epitomised the anti-reductionist, neo-romantic and organicist tendencies to which British culture was contemporaneously subject.

Chapter 4 will look at the relationship between morphology and sculptural Modernism. Advances in biochemistry and experimental embryology, obtained

by the New Biology in the interwar period, led to a scientific reappraisal of the importance of morphology to biological study. I will contend that this resurgence of interest in biological ‘form’ was mirrored by the curiosity Modernist theoreticians exhibited towards the morphology of art. Spellbound by the recurrence of certain types of ‘form constant’ in both art and nature (most especially the Golden Section ratio), art critics – such as Herbert Read and Matila Ghyka – drew upon romantic nature philosophy, Goethean idealist morphology and the New Biology to explain the ubiquity of the spiral form as a compositional standard in artworks and the natural world. I will show that Modernist sculptors, keen to align themselves with the neo-romantic sensibilities of neo-vitalism, recognised spirals as symbolic of life’s quintessence and represented spiriform shapes in their art as ciphers of neo-vitalist intent. The morphological revelation that certain forms predominated in the natural world will subsequently be examined from the standpoint of monism and how the perceived unity of nature – promulgated, most especially, by crystallography – fed into a Modernist debate over the synchrony of modern art. Despite the apparent divergence between Constructivist abstraction and Surrealist hyperrealism – which appeared to represent inorganic and organic nature, respectively – critics hypothesised their essential unity: a monistic vision of art which drew inspiration from the monistic suppositions of the New Biology. I will conclude here with a discussion of the highly politicised form–function debate – which was driven partly by the political imperatives of Constructivist theory – which took place in artistic Modernism and how morphology provided Modernist critics with a scientific means through which to demonstrate the social utility of modern sculpture. The ‘biotechnical’ hypotheses of the science writer and design theorist Raoul Francé will, in particular, be seen to have provided Modernist sculpture with a functionalist, biologicistic base.

In Chapter 5 I will focus on the impact that new scientific visualising technologies (primarily photomicrography) had on modern sculpture in the 1930s. Beginning with a lengthy discussion of the popularisation of photomicrographic and microcinematographic imagery in the interwar years, I will assess the artistic influence of these close-up images of nature initially from the standpoint of the critical reception of Karl Blossfeldt’s macrophotographs by the Modernist community – chiefly in relation to the ‘bioromantic’ and ‘associationist’ theories of the art critics Paul Nash and Reginald Wilenski. I will here also take the opportunity to suggest that, far from simply embodying positivist values, the troubling distortions of scale permitted by microscopy appealed to contemporary artists due to their *de*-sublimatory potential. At this point I will indicate a far closer relationship between the philosophy of the Georges Bataille and British Modernist sculptural theory than has hitherto been suggested. I will then explore the analogical relationship Modernist critics and artists – such as Geoffrey Grigson and John Piper – staged between contemporary sculpture and biological imagery. Aside from providing biomorphic abstraction with its distinctively modern stylistic connotations, I will also suggest that microscopy furnished Modernism with

an authoritative, scientific terminology which rhetorically conflated perspicacity of vision with misogynistic empowerment.

A brief epilogue will conclude the book by investigating the continuation of a biologicistic discourse in modern art in the years immediately following the Second World War. In this way I hope to demonstrate that the biologicistic aesthetic formulated by Modernist critics and sculptors in the years 1930–39 had a tangible impact on the artistic philosophy of the subsequent generation of artists.

Notes

- 1 G. Grigson, *Henry Moore* (Harmondsworth: Penguin Books, 1943), pp. 8–9.
- 2 *Ibid.*, p. 9.
- 3 J. Mundy, 'Comment on England', in C. Stephens (ed.), *Henry Moore* (London: Tate Publishing, 2010), p. 28.
- 4 Grigson, *Henry Moore*, pp. 8–9.
- 5 J. Mundy, *Biomorphism*, unpublished PhD thesis (London: University of London, 1986), pp. 111–12.
- 6 On the wider European avant-garde engagement with images of generation and procreativity, see G. Maldonado, *Le cercle et l'amibe: Le biomorphisme dans l'art des années 1930* (Paris: CTHS/INHA, 2006), pp. 82–4, 200–2.
- 7 See O. Botar & I. Wünsche, 'Introduction: Biocentrism as a Constituent Element of Modernism', in O. Botar & I. Wünsche (eds), *Biocentrism and Modernism* (Farnham: Ashgate, 2011), pp. 2, 5.
- 8 Anon., 'Circle Review', in *The Listener*, Vol. XVIII, No. 447, 4 August, 1937, p. 259.
- 9 O. Botar, *Prolegomena to the Study of Biomorphic Modernism: Biocentrism*, László Moholy-Nagy's 'New Vision' and Ernő Kállai's *Bioromantik*, unpublished PhD thesis (Toronto, University of Toronto, 1998), p. 23.
- 10 B. Reynolds, 'Letters', in *The Listener*, Vol. XVIII, 15 September 1937, p. 575.
- 11 See also Mundy, 'Comment on England', p. 28.
- 12 G. Grigson, 'Comment on England', in *Axis*, No. 1, January 1935, p. 10.
- 13 For a brief history of the term 'biomorphism' and the various intellectual currents from which it originated, see J. Mundy, 'The Naming of Biomorphism', in O. Botar & I. Wünsche (eds), *Biocentrism and Modernism* (Farnham: Ashgate, 2011), pp. 61–73.
- 14 Botar, *Prolegomena to the Study of Biomorphic Modernism*, pp. 6–7.
- 15 *Ibid.*, p. 23.
- 16 On Kandinsky's usage of biological motifs in the 1930s, see V.E. Barnett, 'Kandinsky and Science: The Introduction of Biological Images in the Paris Period', in O. Botar & I. Wünsche (eds), *Biocentrism and Modernism* (Farnham: Ashgate, 2011), pp. 222–3. For a general discussion of this topic, see Maldonado, *Le cercle et l'amibe*, pp. 82–4.
- 17 O. Botar, 'Defining Biocentrism', in O. Botar & I. Wünsche (eds), *Biocentrism and Modernism* (Farnham: Ashgate, 2011), pp. 15–16.
- 18 Botar, *Prolegomena to the Study of Biomorphic Modernism*, p. 9.
- 19 Botar, 'Defining Biocentrism', p. 23.
- 20 G. Allen, *Life Science in the Twentieth Century* (Cambridge: Cambridge University Press, 1978), pp. 103–6.
- 21 Botar, *Prolegomena to the Study of Biomorphic Modernism*, p. 200.
- 22 See: F. Gore, 'Introduction', in S. Compton (ed.), *British Art in the 20th Century – The Modern Movement* (London: Royal Academy, 1987), pp. 10–11; A. Causey, 'Formalism and the Figurative Tradition in British Painting', in S. Compton (ed.), *British Art in the 20th Century – The Modern Movement* (London: Royal Academy, 1987), pp. 20–3.
- 23 P. Nash, 'Going Modern and Being British', in *Weekend Review*, 12 March 1932, quoted in C. Harrison, *English Art and Modernism, 1900–1939* (New Haven: Yale University Press, 1994), p. 254.

- 24 Harrison, *English Art and Modernism*, p. 225.
- 25 On the perceived nihilistic nature of abstract art, see: D.S. MacColl, 'Visual and Vocal Art', in *The Listener*, 9 May 1934, pp. 799–800; a formidable response to modern art, aspects of MacColl's criticism shall be discussed in later chapters. On the relationship between modernist sculpture and interior design see: A. Bertram, 'Artists Indoors', in *The Listener*, 1 November 1933, pp. 660–1; in this article Bertram linked abstract art to interior design by suggesting that the simplicity of abstract art allowed for a harmonious rapport with the pared-down aesthetics of Modernist decorative taste. Anne Wagner discusses the sexual nature of *Two Forms* in: A.M. Wagner, 'Miss Hepworth's Stone *Is a Mother*', in D. Thistlewood (ed.), *Barbara Hepworth Reconsidered* (Liverpool: Liverpool University Press, 1996), pp. 63–4.
- 26 H. Read, 'Our Terminology', in *Axis*, No. 1, January 1935, p. 6.
- 27 M. Evans, 'Order, Order!', in *Axis*, No. 6, summer 1936, p. 6.
- 28 For a fuller discussion of the relationship between biocentric interpretative models and style, see Botar & Wünsche, 'Introduction', pp. 3–4.
- 29 Naum Gabo, 'Constructive Art', in *The Listener*, Vol. XVI, No. 408, 4 November 1936, p. 846.
- 30 J. Grierson, 'The New Generation in Sculpture', in *Apollo*, Vol. XII, November 1930, p. 350.
- 31 A. Thomas, 'The Search for Pattern', in A. Thomas (ed.), *Beauty of Another Order: Photography in Science* (New Haven: Yale University Press, 1997), p. 106.
- 32 Grierson, 'The New Generation in Sculpture', p. 350.
- 33 On the importance of form to biology, see D. J. Haraway, *Crystals, Fabrics and Fields: Metaphors That Shape Embryos* (Berkeley: North Atlantic Books, 2004), pp. 38–45.
- 34 *Ibid.*, p. 39.
- 35 G. Lessing, *Laocoön*, E. Frothingham (trans.) (New York: Noonday, 1957), p. 91.
- 36 See G. Canguilhem, 'On the History of the Life-Sciences Since Darwin', in *Ideology and Rationality in the History of the Life Sciences*, A. Goldhammer (trans.) (Cambridge: MIT Press, 1988), p. 108.
- 37 R. Krauss, *Passages in Modern Sculpture* (Cambridge: MIT Press, 1981), p. 5. Krauss takes her methodological cue from the fact that 'the history of modernist sculpture coincides with the development of two bodies of thought, phenomenology and structural linguistics, in which meaning is understood to depend on the way that any form of being contains the latent experience of its opposite: simultaneity always containing an implicit experience of sequence' (pp. 4–5). While I harbour similar beliefs about the pertinence of biology to Modernist sculpture, I aim to demonstrate its importance to interwar interpretative strategies rather than using biological principles as methodological tools in their own right.
- 38 Although Bergson's faith in an immaterial life force had waned in importance due to developments in physics and biochemistry, its unambiguous rejection of determinism made it something of a *cause célèbre* among neo-vitalists and freethinkers, who questioned the rigid determinism presupposed by contemporary science. As George Woodcock has demonstrated, Bergson was a formative influence upon Read, helping him to productively move beyond 'a bleak rationalism'. On the scientific influence of Bergson, see P.J. Bowler, *Reconciling Science and Religion: The Debate in Early-Twentieth-Century Britain* (Chicago: University of Chicago Press, 2001), pp. 348–9. On Read and Bergson, see G. Woodcock, *Herbert Read: The Stream and the Source* (London: Faber & Faber, 1972), p. 195.
- 39 See Allen, *Life Science in the Twentieth Century*, pp. 113–14.
- 40 For an example of the diversity of art historical approaches to biologicistic currents in modern and contemporary art, see Eduardo Kac (ed.), *Signs of Life: Bio Art and Beyond* (Cambridge: MIT Press, 2007).
- 41 See Botar & Wünsche, 'Introduction', p. 2. Oliver Botar has, in particular, been at the vanguard of scholarship seeking to define biocentric currents in Modernist culture and art practices. See Botar, *Prolegomena to the Study of Biomorph Modernism*.
- 42 Biocentrism was undoubtedly a wider philosophical trend to which British sculptural Modernism was conceptually beholden, yet its very flexibility, even porousness, as a term means that it casts its art historical nets wider than the parameters of my study demand. Though intimately connected to the emergence of the New Biology, biocentrism was concerned with a multiplicity of concepts – including psychobiology, mysticism, anti-anthropomorphism, environmentalism and *Naturphilosophie* – which, though pertinent to biologicistic thought, somewhat stray beyond the

- parameters of my study, which is narrower in its emphasis upon the impact of the New Biology on British Modernist sculpture.
- 43 See Mundy, *Biomorphism*, p. 15.
 - 44 *Ibid.*, pp. 13–14.
 - 45 *Ibid.*, pp. 114–21.
 - 46 Mundy, for instance, states that ‘the organicist tradition in biology’ was a ‘minor [though] still forceful tradition’ at the start of the twentieth century but overlooks the fact that mechanism and vitalism precisely found synthesis in the 1930s through the organicist paradigm. See Mundy, *Biomorphism*, p. 120. Maldonado, on the other hand, bases her discussion of the influence of biology almost entirely on the work of D’Arcy Wentworth Thompson – thus severely limiting the evidential scope of her analysis. Moreover, she confusingly links the evolutionary theories of Thompson and Bergson together, even though both thinkers had quite antithetical comprehensions of the mechanism of biological development. See Maldonado, *Le cercle et l’amibe*, pp. 195–7, 199–207.
 - 47 Botar & Wünsche, ‘Introduction’, p. 4.
 - 48 Mundy, *Biomorphism*, pp. 13–14.
 - 49 Mundy agrees that while certain biomorphic artworks, in terms of their dynamic compositional arrangements, could perhaps be described as ‘organic’, by and large the term referred to biologicistic principles that operated beyond the stylistic parameters of biomorphism. Indeed, she asserts that with ‘equal justification [...] artworks which tend to the geometric, and the regular, may also be described as “organic” in reference to nature’s constructive principles’. Mundy, *Biomorphism*, pp. 13–14.
 - 50 *Oxford English Dictionary* online, ‘biologism, *n.*’, at www.oed.com/view/Entry/19225 (accessed 25 February 2013).
 - 51 See A. Laitinen & G. Maude, ‘Biologism, Politics and International Politics’, in *Acta Sociologica*, Vol. XXIX, No. 2, 1986, p. 113.
 - 52 See D. Skinner, ‘Racialized Features: Biologism and the Changing Politics of Identity’, in *Social Studies of Science*, Vol. XXXVI, No. 3, June 2006, p. 461.
 - 53 *Oxford English Dictionary* online, ‘biophilia, *n.*’, at www.oed.com/view/Entry/251066 (accessed 25 February 2013).
 - 54 J.P. Simaika & M.J. Samways, ‘Biophilia as a Universal Ethic for Conserving Biodiversity’, in *Conservation Biology*, Vol. XXIV, No. 3, June 2010, p. 903.
 - 55 See Botar, *Prolegomena to the Study of Biomorphic Modernism*, p. 7.
 - 56 Harrison, *English Art and Modernism*, p. viii. Although Harrison here is discussing *English* art (a term that is even more fraught with ethno-centric prejudices than *British* art), many of the points he raises on the epistemological difficulties of assessing the particular nature of *English* Modernism can be seen to apply to the study of *British* Modernism in general.
 - 57 Christopher Wilk, ‘Introduction: What Was Modernism?’, in C. Wilk (ed.), *Modernism: Designing a New World* (London: V&A Publications, 2006), p. 15.
 - 58 Mundy, *Biomorphism*, pp. 15, 85–8.
 - 59 Maldonado, for example, speaks of tracking ‘the ramifications of biomorphism in England, in Germany, in Northern and Eastern Europe, in Spain and in Italy, as well as the United States’. Maldonado, *Le cercle et l’amibe*, p. 14.
 - 60 Causey, ‘Formalism and the Figurative Tradition in British Painting’, p. 22.
 - 61 See Harrison, *English Art and Modernism*, pp. 231–93.
 - 62 J. Beckett, ‘Circle: The Theory and Patronage of Constructive Art in the Thirties’, in J. Lewison (ed.), *Circle: Constructive Art in Britain 1934–40* (Cambridge: Kettle’s Yard Gallery, 1982), p. 11.
 - 63 David Peters Corbett, Ysanne Holt and Fiona Russell have written of Modernists attempting to ‘re-situate English art historically and geographically by redrawing the map of art history, re-orientating English art and re-mapping its history’ during the early 1930s. D. Peters Corbett, Y. Holt & F. Russell, ‘Introduction’, in D. Peters Corbett, Y. Holt & F. Russell (eds), *Geographies of Englishness: Landscape and the National Past, 1880–1940* (New Haven: Yale University Press, 2002), p. xii.
 - 64 For information on the establishment of Surrealism in Britain, see Michel Remy, *Surrealism in Britain* (Aldershot: Ashgate, 1999), esp. pp. 71–100.
 - 65 Beckett, ‘Circle’, pp. 16–17.

- 66 *Ibid.*, pp. 17–18.
- 67 Peters Corbett, Holt & Russell, ‘Introduction’, pp. xv–xvii.
- 68 Mundy, *Biomorphism*, p. 80.
- 69 Grigson, ‘Comment on England’, p. 8.
- 70 A. Powers, ‘The Reluctant Romantics: *Axis* Magazine 1935–37’, in D. Peters Corbett, Y. Holt & F. Russell (eds), *The Geographies of Englishness: Landscape and the National Past, 1880–1940* (New Haven: Yale University Press, 2002), p. 253.
- 71 Grigson, ‘Comment on England’, p. 10.
- 72 Powers, ‘The Reluctant Romantics’, pp. 264–5.
- 73 P.J. Bowler, *Science for All: The Popularization of Science in Early Twentieth-Century Britain* (Chicago: University of Chicago Press, 2009), p. 10.
- 74 J. Huxley, ‘Tissue Culture and Human Habits’, in *The Listener*, Vol. IX, No. 231, 14 June 1933, p. 953.