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978-1-108-83648-7 — The Prosthetic Imagination
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Introduction
Mimesis and Prosthesis

> I want you to feel wonder at the transformations of men's shapes and destinies into alien forms, and their reversion by a chain of interconnection to their own.
>
> Apuleius, *The Golden Ass*[1]

What is the relation between the mimetic and the prosthetic? How does the process of making pictures or likenesses of reality (in paint, in film, in prose) relate to our fashioning of artificial bodies, the manufacturing of the plastic forms with which we augment and enhance our naked extension into the world, what Freud calls the mere 'inch of nature' which we are given?[2]

This question was given a rather palpable form for me when, as part of my initial preparation for writing this book, I spent some time with a prosthetic surgeon who specialises in facial prosthetics. The surgeon – Charles – took me to a room in which there were a number of wooden cabinets, where he stored facial prostheses in drawers. He wanted to show me some of them, he said, to give me a sense of the range of different kinds of prostheses he made. He had these faces in his possession because, as his patients aged or grew, he regularly updated their prostheses. The faces I was looking at (which he somewhat uncannily referred to by the names of their ex-owners, so recognisable were they, so distinct) were cast-off faces, the strange, fragmentary, expired faces of selves that had been outgrown.

As I regarded these abandoned, oddly sad objects, it struck me that the prosthesis serves, in some senses, a function opposite to that of the aesthetic representation. It is perhaps the task of the artwork, the portrait, the self-portrait, to capture a moment in time and preserve it, still it – in Virginia Woolf's phrase to 'make of the moment something permanent', 'Mrs Ramsay saying "Life stand still here."'[3] It is the task, on the other hand, of the prosthesis to allow its user or wearer or owner (these words are laden) to enter into passing time, real time; its task is not to still life (as in the grave

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More Information

Italian phrase *natura morta*) but to animate it, to put it into motion. It is required to perform something adjacent to the work of the time machine in H. G. Wells' *Time Machine*, to achieve, as the time traveller says, precisely that which the portrait, the still and complete image, cannot. 'Here is a portrait', the traveller says, 'of a man at eight years old, another at fifteen, another at seventeen, another at twenty-three'.[4] Each of these portraits is bound in already materialised time and space, in three dimensions, but it is the gift of the time machine to reach beyond these dimensions, towards what the traveller calls 'Four-Dimensioned being' (p. 9) – the being extended in time, the being not yet made, to which the time machine grants magical access, and to which it is the more material task of the prosthetic to cleave. The prosthetic surgeon's job is always in process, as he or she has to do the work of time for his or her patients, even as the prosthetic itself (unlike the artwork) must age – wear out or wear into the life with which it is so closely conjoined (to the extent that it shares its name with its owner) until the moment it is discarded, the moment when its work and its life as a prosthetic are finished, and it can be stowed away in a cedar drawer.

There is a tension, then, at the heart of the prosthetic as an object, between stasis and movement, between its reproduction of a particular moment of being and its role as a conduit that brings its user or wearer into relation with moving time, with time still to come. And this tension is at the heart of a second revelation that I had during my time with Charles. A moment nearly always comes, he told me, in the early stages of his relationship with his patients, when he asks how far a particular patient wants him to aim for a likeness of their face as it was before injury or trauma, and how far they would prefer him to make a face for them that will be best adapted to their post-injury or post-surgical needs. There is a difficult, complex charge to this question, one bound up with the relation between prosthetics and the reality of injury and suffering, as well as with the uncertain conjunction between the prosthetic as a medical tool and the prosthetic as an artwork. Charles felt himself, he told me, to be at once an artist making a likeness of a face from the past – a face that has gone but that still exists in memory and in image, and thus might be reproduced – and a manufacturer, making a new face that is not a representation but the thing itself, the face itself in which its wearer (owner, user) will present him- or herself to the world in the very midst of their becoming. The prosthetic face will not remain an inert object, an inanimate representation, but will affix itself to the living framework of the head, will become a part of its wearer's unfolding, evolving identity, as Stephen Hawking's prosthetic voice becomes part of his thinking and

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More Information

being, the accent of his living relation to self and to others, rather than or as well as an artificial supplement for a real voice that is lost.[5]

This tension or contradiction between the extra-temporal and the temporal, between representing a missing thing and being the thing itself, is native to the prosthetic condition, and present in every prosthetic object. As David Wills puts it in *Prosthesis* – the most penetrating analysis of the prosthetic condition we have – the 'duality of every prosthesis' resides in its 'search for a way between emulating the human and superseding the human'.[6] But if such duality is intrinsic, in this way, to the very being of the prosthetic, it is also historically determined, not an abstract contradiction, but a lived one, bound up with the real forces that produce our material lifeworlds. Changing historical conditions in the long history of human technologies determine the balance that is struck within the prosthetic object between representing a missing thing and becoming the thing that is missing. Indeed, we are now living at a moment when the historical quality of the prosthetic condition is in a process of rapid and profound change – when both the technological and the theoretical constitution of prosthetic material is being radically reformed and when, as a result, our understanding of the relation between the mimetic and the prosthetic, between representing a thing and being that thing, also enters into transition. This rapid and intense shift in prosthetic technologies is visible in changes that have taken place even in the short time that has elapsed since I spent my time with the prosthetic surgeon (the time I have spent writing this book). When we met in 2015, Charles explained that he was not then able to use the evolving technology of 3D printing to manufacture facial prosthetics – the grading of the printed material was not fine enough to produce smooth facial contours, and so he had to sculpt his faces by hand and by eye. But, since David Tse pioneered the first 3D printed prosthetics in 2014, the technology has rapidly advanced and is now widely used – a development that touches on a broader technological revolution, of which the prosthetic revolution is a part.[7] The emergence of the printed prosthetic face is a manifestation of a shift, everywhere visible in the technicity of contemporary life, from material to information. Handmade or machine-tooled prosthetic faces give primacy to material; the face is made of matter, and so in making artificial faces we shape them, likewise, out of matter. We work, like Pygmalion sculpting Galatea, on a lump of unformed, unmeaning material, coaxing that material into a human shape, according it a human meaning and expression; 3D printed faces work the other way around. This technology gives primacy not to the material but to the informational. The human signature, the human

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More Information

expression, is preserved not in bodies which the prosthetic seeks to imitate but in computer language, in the codes from which we derive images, memories, every element of our contemporary prosthetic environment. In this latter logic, we do not sculpt prior material into human shape but employ printing technologies to give information – information as the prior state – reproducible material form. The face is stored on the computer, in the 'cloud' – like a Facebook profile – and can be printed out, reprinted, edited, augmented and adapted in ways that are limited only by the capacity of the hardware to keep up with the software.

This shift from material to information as the ground of shared being can, as I say, be felt everywhere in contemporary culture and amounts to the emergence of a new prosthetic age, a new era in the production of artificial life, one which is still unfolding as I write. It is tempting to suggest that there is no part of the contemporary public sphere that is left untouched by this transformation, by the predominance of information over material that has one outcome in the arrival of the printed prosthetic face. The dwindling of the hard forms in which art and entertainment are disseminated partakes, of course, of this logic. The shift from vinyl to magnetic tape to compact disc to Spotify; the shift from typewriting to word processing, from the codex to Kindle; the shift from film to video to Netflix (note the historically inevitable appearance of the trade name): in each case we move from a scenario in which an idea is bound into material, to one in which the idea floats free of its instantiation, in which the idea can enact itself through its instantiations again and again with no deterioration, no cost to or erosion of its essential informational quality. This progressive movement from material to information lives out the logic theorised by Alison Landsberg in her 2004 book *Prosthetic Memory*, in which she explores the 'construction of prosthetic memories' from 'mass cultural technologies' such as cinema.[8] And if we can see this logic manifest in contemporary forms of information technology and data storage, then we can see it too in new biomedical developments that are transforming our understanding of the editability and fungibility of the body. The info-technological developments which lead to the 3D printed face have a biotechnological equivalent in the recent development of 'bioprinting' – a procedure in which living material can be printed directly onto the body from what is known as 'bioink', and which has allowed, in the field of facial prosthetics, for the construction of 'biomasks' which achieve 'effective and rapid restoration of aesthetic and functional facial skin'.[9] Damaged faces can be recovered by being bioprinted, just as ancient buildings that are lost or destroyed can be reprinted; but the most far-reaching technologies for

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Excerpt
More Information

the editing and manipulation of the body are those associated with genetic engineering technologies (most famously the use, in 2013, of the Crispr gene-editing mechanism to edit the human genome).[10] As Philip Thurtle and Robert Mitchell suggest, in the introduction to their 2004 collection *Data Made Flesh*, genetic-engineering technologies erode the 'apparently solid distinction between "information" and "the flesh"', forcing upon us a new way of understanding what they call the 'material poesis of informatics', a new way of thinking about the passage from 'the virtual world of information to the actual world of flesh and bone'.[11] As contemporary information and biomedical technologies give a new priority to the informational, a priority in which geneticists tend to think of 'genetic information as an "essence" that only contingently receives "expression" in bodies' (p. 1), so we enter into a new prosthetic age, an age in which we are led to recognise that all biopolitical extension is in some degree prosthetic. Under these conditions, the opposition between the mimetic and the prosthetic itself becomes difficult to sustain. It can seem no longer to be the case that there is a prior, non-prosthetic body out there in the world, to which mimetic representations strive to be faithful, and which only requires prosthetic addition when it is injured or curtailed. Rather, the logic of contemporary technicity suggests that all biomateriality is the contingent bodying forth, the transitory 'thingifying', of an idea that is in its nature informational. Mimesis, as the second order representation of a prior, unaugmented reality, starts to become inoperable and gives way to prosthesis as the presiding logic of our relation to ourselves and to the world. Accordingly we are encouraged, as Katherine Hayles puts it, to think of our body as 'the original prosthesis we all learn to manipulate'.[12]

Contemporary technologies, then, are reshaping the way we understand the relation between thought and thing, shifting the balance between the mimetic and the prosthetic; if this is so, it is also the case that the theoretical and philosophical languages with which we account for the relation between mimesis and prosthesis undergo a related transformation – a transformation that one can see unfolding over the past century of critical thought. It is striking, for example, that Freud's conception of the prosthesis as an addition to the inch of nature we are given rests on a clear demarcation between the given body and its artificial, human-made extensions. As Jacques Derrida puts it, Freud, 'as a classical metaphysician', holds the 'technical prosthesis to be a secondary and accessory exteriority'.[13] 'Each individual' of our species, Freud writes in *Civilization and Its Discontents*, 'first appeared on this earth' as 'a feeble animal organism', a 'helpless suckling'.[14] This is the experience of life without techne, life

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Excerpt
More Information

without artificial extension; but the historical passage of civilisation, Freud argues, sees the development of an increasingly complex array of tools which allow the helpless suckling to dominate his or her surroundings, through an act of prosthetic addition. 'With every tool,' he writes, 'man is perfecting his own organs, whether motor or sensory, or is removing the limits to their functioning':

> Motor power places gigantic forces at his disposal, which, like his muscles, he can employ in any direction; thanks to ships and aircraft neither water nor air can hinder his movements; by means of spectacles he corrects defects in the lens of his own eye; by means of the telescope he sees into the far distance and by means of the microscope he overcomes the limits of visibility set by the structure of his retina. (p. 279)

These tools (as well as the camera, the gramophone, the telephone) act, Freud suggests, as prosthetic extensions of the body – like artificial muscles, mouths, eyes, ears, that perform bodily functions in an enhanced way (a technological enhancement of the body that has been traced with great imagination by Friedrich Kittler in *Gramophone, Film, Typewriter*); but if this is so, it is still the case, for Freud, that the prosthesis, while partaking of the qualities of the body, is quite distinct from it, a distinction which lies at the root of civilisation's discontents. Prostheses make 'man' godlike, in that they allow 'him' to achieve those miraculous feats that, in our mythology, we ascribe to the gods. 'Man has, as it were, become a kind of prosthetic god' (p. 280), but this is an artificial godliness, which requires us to put on a kind of Cervantine armour, a superhero costume (Ironman or Batman whose powers are prosthetic, not Superman whose powers are innate, or Spiderman whose powers are genetically engineered), which is not of our own organic nature but must be grafted onto us in ways that might make us itch, or chafe, or come out in a rash. 'When he puts on all his auxillary organs he is truly magnificent', Freud remarks in a disconcerting phrase that predicts the body-horror imagery of David Cronenberg, 'but those organs have not grown on to him and they still give him much trouble at times' (p. 280).[15]

It is on this boundary between the real and the artificial, the non-prosthetic and the prosthetic, still operational in Freud's 1930 essay, that the most influential twentieth-century accounts of mimesis can be seen to rest. Erich Auerbach's 1946 work *Mimesis* – still the most compelling analysis of mimetic forms we have, despite numerous attempts to overhaul or surpass it – is given shape by this topology, this sense that the given body, the crawling, suckling inch, precedes and underlies the technologies

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that are belatedly attached to it. Auerbach's great achievement is his capacity to expose the seam between reality and the historical forms of representation which we have invented to account for it – a seam which runs parallel to that uncomfortable, intimate junction that Freud imagines between the body and its auxiliary organs. In mining this seam as it runs through the history of Western cultural expression, Auerbach tells the story of a gradual weakening of the bond between reality and representation, a gradual lessening of the power of reality to assert itself as such, and a corresponding strengthening of the role of representation as the sphere in which our realities are experienced and mediated. In Homer's poetry, and then in Greco-Roman antiquity, Auerbach argues (in tandem with Georg Lukács), reality is fully bodied forth in poetic form; the 'basic impulse of Homeric style', he says, is to 'represent phenomena in a fully externalised form, visible and palpable in all their parts'.[16] In Homer we are 'lured' into a '"real" world' which 'exists for itself, contains nothing but itself' (p. 13), just as later 'Greco-Roman specimens of realistic presentation' are still 'perfectly integrated in their sensory substance', and so 'do not know the antagonism between sensory appearance and meaning' (p. 49). The subsequent (Judeo-Christian) history of mimesis, in Auerbach's account, is the story of a growing gap between sensory appearance and meaning, between reality and representation. In his beautiful reading of Cervantes, he sees this gap opening wider, as seventeenth-century European reality becomes increasingly at odds with the languages which seek to describe it – the comedy of *Don Quixote* arising, he argues, from the perception that Don Quixote's wayward seeing is 'completely senseless' and 'incompatible with the existing world'. Don Quixote's imaginary vocation as a knight errant 'not only has no chance of success, it actually has no point of contact with reality' (p. 344). Cervantes' novel is thus a test of the match and mismatch between reality and representational forms, a relation which Auerbach traces through the eighteenth and nineteenth centuries, and up to the modernists – in particular Proust, Joyce and Woolf – where the fictional world is bound less and less by a duty to match itself to 'objective reality', which becomes, accordingly, hazy and uncertain. Where Homer's world is 'fully externalised', Woolf gives us only pictures of 'inner processes' (p. 529) which are not held together by a stable external reality. This is a fictional scenario in which the 'narrator of objective facts has almost completely vanished' (p. 534), in response to a European historical situation, in the early decades of the twentieth century, which is 'pregnant with disaster' (p. 551). In a 'Europe unsure of itself', Auerbach writes, 'overflowing with unsettled ideologies and ways of life', the modernist novel develops

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a 'method which dissolves reality into multiple and multivalent reflections of consciousness' (p. 551). Catching an echo of Joyce's *Ulysses*, which finds in the 'cracked lookingglass of a servant' a 'symbol of Irish art',[17] this is a method which serves as a 'mirror of the decline of our world' (p. 551); but if this is so, it is never the case, for Auerbach, that representations overcome reality, or free themselves from its prior claims. The mimetic urge survives, here, in its representational mode, even as the bonds which attach narrative to reality, interior to exterior, come asunder. In Woolf's *To The Lighthouse* 'we are after all confronted with an endeavour to investigate an objective reality' (p. 536), but one which no longer yields itself to older forms of objective narration. In giving themselves up to a mobile and fragmentary narrative method, Joyce, Proust and Woolf come much closer than older narrative forms could to the new reality of twentieth-century Europe and are able to give vivid expression, even in their apparent retreat into 'interior processes', to a shared, common world. 'What realistic depth is achieved in every individual occurrence', Auerbach marvels, 'for example the measuring of a stocking' (p. 552). Modernist dissolution does not lead, as Lukács fears it must, to an abandonment of our commitment to shared realities, but quite the reverse.[18] Through the action of such dissolution, 'something new and elemental appeared: nothing less than the wealth of reality and depth of life in every moment to which we surrender ourselves without prejudice'.[19] At the ground of the modernist method, and as a result of the 'complicated process of dissolution which led to fragmentation of the exterior action', Auerbach finds the basis of a shared reality which survives the distorting grotesqueries of Nazism – one which preserves the 'elementary things which men in general have in common', one in which 'what [we] have in common' might 'shine forth' (p. 552).

Freud and Auerbach, then, map the tendencies of modernism and psychoanalysis onto the persistent junction between the given and the prosthetic body, between reality and our representations of it. But implicit in both of their thought is the possibility, present but held back, that these same tendencies lead to a scenario in which reality folds into representation – that the overcoming of the distinction between the informational and the material that is the tendency of contemporary technicity might also – must also – find expression in contemporary thought. The unfolding of this possibility is in large measure the story of the literary and critical theory of the second half of the twentieth century. When Paul Ricoeur laments the 'stubborn prejudices' that 'tend to identify the notion of image with that of a replica of a given reality', he is referring both to the dawning of this possibility and to the obstacles that remain in the path of its

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realisation.[20] His 1979 essay 'The Function of Fiction in Shaping Reality' is important for its concise expression of this deep and far-reaching theoretical transformation-in-process, in which the terms of the relationship between reality and representation, between the non-prosthetic and the prosthetic body, are overturned. 'It is a fact', Ricoeur writes, that 'no articulate theory of imagination is available which does justice to the basic distinction between image as fiction and image as copy' (p. 118); we are still, in 1979, he argues, in thrall to what he elsewhere calls a 'representational illusion', which dictates that the fictional image is a second-order phenomenon which seeks to stand in for a first-order reality, that 'an image' in a prose narrative is 'a physical or mental replica of an absent thing' (p. 119).[21] The 'representational illusion', at work in Auerbach's 'important post-war book, *Mimesis*', Ricoeur writes in his 1980 essay 'Mimesis and Representation', 'stems from the impossible claim' that a representation is able to 'unit[e] the interiority of a mental image in the mind' with 'the exteriority of something real that would govern from outside the play of the mental scene'.[22] If we are to develop a better understanding of the relationship between mimesis and representation, he argues, we have to recognise that the fictional image does not act in this way as an intermediary between interior processes and external realities. The fictional image does not merely *stand in* for an absent reality, is not simply a replica of a missing thing, but, like the prosthetic, it is that thing itself. It does not mediate between inside and outside but acts to 'dissolve the opposition between inside and outside, which itself arises from the representational illusion' (p. 151). A fictional image, a fictional world, Ricoeur writes, might reproduce elements of reality, but it is also in its nature to be self-referring, to invent situations, people, places which have no model outside of the language world of the fiction, which are not structured by an opposition between 'the text as its own interior and life as exterior to it' (p. 151). 'In the case of fiction', he says, 'there is no given model, in the sense of an original already there, to which it could be referred' (p. 120). An image in a fiction does not refer to a reality beyond it – there is no real white whale, no real Ahab, of which Melville's pictures are a likeness; rather, it refers only to itself and draws only on the authority of the fiction to endorse it, and so it is not a second-order *copy* of reality, but a first-order *piece* of reality. 'Because it has no previous referent', he says, 'it may refer in a productive way to reality, and even *increase* reality' (p. 121). Through a process of what he calls 'iconic augmentation', the narrative imagination can be '"productive" not only of unreal objects, but also as an expanded vision of reality. Imagination at work – in a work – produces

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itself as a world' (p. 123). It is this capacity not to 'refer' to reality but to 'produce' it that constitutes what he calls 'the central paradox of fiction', 'namely, that only the image which does not already have its referent in reality is able to display a world' (p. 129).

Ricoeur gives expression to this shift from reference to production in the midst of a burst of critical activity in the late seventies and early eighties that helped redefine our understanding of the mechanics of narrative;[23] but the terms in which he conceives of the dissolution of the opposition between inside and outside, reality and representation, are part of a much wider theoretical revolution that has its genesis a decade earlier, in 1967, with the publication in rapid succession of three transformational works by Jacques Derrida – *Speech and Phenomena*, *Of Grammatology* and *Writing and Difference*. These works together establish the basis for a fundamental rethinking of the relationship between writing, speech and presence, a rethinking which puts the junction between reality and representation that runs through the work of Freud and Auerbach under a certain kind of erasure. In place of a prior presence and a secondary representation, these works develop a logic of the 'trace' – the trace as the form in which a presence that is always beside itself, always already displaced or effaced, comes to being in the throes of its own displacement. 'The trace is not a presence', Derrida writes in *Speech and Phenomena*, 'but is rather a simulacrum of a presence that dislocates, displaces, and refers beyond itself'.[24] Writing marks the absence of the origin to which it refers, but it is only in the marking of that absence, only in the experience of the trace that it leaves, that the absent origin comes to possibility. Presence, Derrida writes, 'is no longer what every reference refers to'. Rather, 'it becomes a function in a generalized referential structure.'[25] As he puts it in *Of Grammatology*, in a phrase that has given rise to more misunderstandings than almost any other in his work, '*il n'y a pas de hors-texte*': '*There is nothing outside of the text*.'[26] Just as Ricoeur argues that the fictional image refers not to something outside itself but to its own referential world, so Derrida insists that the people in Rousseau's *Confessions* – the 'real life of these existences of "flesh and bone"' – have no existence outside of the text. 'Beyond and behind' that flesh and bone, Derrida writes, 'there has never been anything but writing', never anything but 'supplements', but the 'trace', which is the textual mark of a 'real' that is only conjured by that writing itself, in the process of its disappearance.[27] 'Nature', the 'absolute present', these things, Derrida writes, 'have always already escaped, have never existed' – 'what opens meaning and language is writing as the disappearance of natural presence' (p. 159).

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