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Life Among the Machines: James Joyce's Ulysses and Early Twentieth-Century Technology

Patrick Casey, *The University of Western Ontario*

Supervisor: Dr. Michael Groden, *The University of Western Ontario*

A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in English

LIFE AMONG THE MACHINES: JAMES JOYCE'S ULYSSES AND EARLY TWENTIETH-CENTURY TECHNOLOGY

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Patrick Casey

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London, Ontario, Canada

THE UNIVERSITY OF WESTERN ONTARIO
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CERTIFICATE OF EXAMINATION

Supervisor

Dr. Michael Groden

Supervisory Committee

Dr.

Dr.

Examiners

Dr.

Dr.

Dr.

Dr.

Dr.

The thesis by

Patrick Joseph Casey

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ABSTRACT

This project investigates the cultural impact of the various technological innovations that appeared around the turn of the twentieth century, and how modernism contends with the increasing presence of technology in everyday life. It focuses on the work of James Joyce, whose attitudes toward technology differ significantly from many of his contemporaries, and on his novel *Ulysses*, which takes place in metropolitan Dublin and features many of the everyday technologies of the early twentieth century.

The first chapter examines the relationship between technology and the vitalist theories of Henri Bergson and Hans Driesch, arguing that the popularity these theories enjoyed arose from anxieties about the eroding barrier between the human and the machine. The principal characters in Joyce's novel stand on opposite sides of the vitalist debate.

The second chapter describes how the gramophone troubled traditional associations between the voice and the living breath as the guarantor of the presence of an authentic, living speaker. It looks at how various inventions provided metaphors for, and promoted belief in, supernatural phenomena like telepathy and metapersonal memory, arguing that Joyce's understanding of the "uncanny" side of technology leads him to satirize such enthusiasms in *Ulysses*.

The third chapter opens by considering the gendering of mass culture as opposed to high art, and looks at the role pornography plays both in *Ulysses* and in the reception of Joyce's novel. It investigates how mechanical reproduction complicated the traditional associations between women, nature, and technology, and

how these complications prompted a turn toward more physical and vitalistic conceptions of masculinity.

KEYWORDS

James Joyce, *Ulysses*, technology, modernism, vitalism, Henri Bergson, Hans Driesch, phonograph, cinema, photography, pornography, Mutoscope, bicycle, physical culture

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Introduction:
Modern Times, Modern Technology

The idea for this project started to germinate when, in one of the graduate seminars I took in the first year of my Ph.D., we had a screening of Charlie Chaplin's *Modern Times*. One scene that particularly amused us as a class occurs when the factory manager in the film has Chaplin's Tramp character demonstrate a new feeding machine. The machine consists of a cob of corn mounted on a spool, which moves back and forth like a typewriter; the machine presses the cob into the Tramp's face with relentless regularity as Chaplin's character struggles desperately to keep up. I had already been thinking about Joyce and *Ulysses* in conjunction with early twentieth-century science and technology generally, but this film, and the feeding-machine scene in particular, set me to considering technology in a different way. Specifically, I asked myself: why did we find this scene funny? Certainly the contortions in Chaplin's facial expressions were a factor, as was the mere absurdity of the notion that a machine to feed workers in this manner could be seriously considered a necessity; in a more cerebral vein, this absurdity could be seen as a satire on the late-nineteenth- and early twentieth-century enthusiasm for scientific management and the streamlining of labour processes, as espoused by figures like Frederick Taylor, Frank Gilbreth, and Henry Ford. This is the manner in which Siegfried Giedion reads this scene in *Mechanization Takes Command* (1948), where he calls it a "human response to this phase" of industrialization (125). However, as Giedion also points out, the feeding machine is not so far-fetched an idea: "a few years later, does not reality begin to approach that symbol of eating in factory tempo?

At lunch counters, do not endless belts carry hot plates from kitchen to customer? … do not counter after counter wind like mountain paths to feed as many men as quickly as possible?" (126).

It is not so much the notion of the efficient feeding of workers that is absurd, then, as it is the specific device chosen to perform the task. The clue to the scene's humour rests in the feeding machine's approximation of human motion. Specifically, it is the machine's uncaring attitude towards the Tramp's obvious (well, obvious to us as viewers) difficulty in keeping up—its ignorance of the human user—that makes us laugh. But why should we expect anything different from a machine? Why should we expect it to "notice" that Chaplin's character can't keep up—why do we recognize it as a poorly conceived and constructed device when it fails to do this? Why do we expect a non-living thing to display the very opposite of ignorance, that is, awareness or sentience?

In *The Body in Pain*, Elaine Scarry proposes the seemingly radical thesis that we do in fact expect made objects to display this kind of awareness, contending that "object-awareness is the acceptable, expectable, and uncelebrated condition of civilization" (296)—"uncelebrated" because we are in the "habit of *taking object-awareness as the norm*" (293; Scarry's italics). In constructing an object, she argues, we project into that object the awareness of human sentience. Thus, while an artifact cannot itself be "sentiently aware" of human discomfort or pain, "it is in the essential fact of itself the objectification of *that awareness*" (289; Scarry's italics). In order to demonstrate how we assume "object-awareness" to be the unacknowledged norm, Scarry makes reference to the product liability trial. There, she writes, "the dispute is

not about whether made things ought to accommodate sentience: the defense attorneys do not argue that made things ought not to do so, nor that they ought not to be *expected* to do so: they assume that objects should (at least up to a certain point) do so, and argue that this particular object did fulfill its responsibilities" (302). One of the sources Scarry cites is Oliver Wendell Holmes, who in the first essay in *The Common Law* (1881) traces this "presumption of object-responsibility" (Scarry 294) back through the history of liability law to the deodand "'as an accursed thing,' in the language of Blackstone" (Holmes 9) and to the *noxae deditio* in early Roman law (13).[i] Holmes's objective in doing so is "to show that the various forms of liability known to modern law spring from the common ground of revenge" (33)—a revenging impulse which, when directed towards objects, Scarry suggests, is "premised on the prior assumption of animism" (295). Indeed, Holmes acknowledges that we often do take revenge on inanimate things: "The hatred for anything giving us pain, which wreaks itself on the manifest cause, … leads even civilized man to kick a door when it pinches his finger" (13).[ii]

Thus, Holmes writes, in cases of homicide it had generally been necessary to specify the value of the implement causing death "so as to secure the forfeiture," adding: "It is said that a steam-engine has been forfeited in this way" (24). Holmes calls attention to the fact that in cases of an instrument causing death, "the fact of *motion* is adverted to as of much importance"—such importance that "motion gives life to the object forfeited" (24), leading Holmes to make the pronouncement: "A ship is the most living of inanimate things" (25). This assumption is so deeply ingrained in legal systems, he claims, that "it is only by supposing the ship to have been treated as

if endowed with personality, that the arbitrary seeming peculiarities of the maritime law can be made intelligible" (25).

In the case of the feeding machine in *Modern Times*, then, the movement of the machine exacerbates our already existing expectation of object-awareness; its motion makes it seem alive. Whether we follow an animistic impulse in projecting ignorance on to the machine itself, or step back and recognize this as a case of the machine failing due to a deficiency in its design, in either case we acknowledge that as a device it is clumsy. The feeding machine is an objectification of an insufficient awareness of the human user's needs (the need to eat at a manageable pace, the need to take time to chew and swallow). In other words, the machine should "know better" than to feed Chaplin's character in the way it does. It is not the fact that eating has been translated into a mechanical process that is humourous; rather, it is that the mechanical process chosen as a model (the typewriter) is incongruous with the goals of that process. The moving machine becomes a second character in this scene—the character of a bumbling servant.

Movement and things in motion were topics of great popular interest in the late nineteenth and early twentieth centuries. We have already encountered the names of Taylor, Gilbreth, and Ford, figures important to the field of scientific management, the study of the work process with the goal of eliminiating motions considered inefficient or superfluous. Taylor's work aimed at "a further increase of *mechanical efficiency*," writes Giedion (99), aiming always at "greater production at any price" (98), while Frank B. and Lillian M. Gilbreth "developed methods which led to a visual representation of the work process" (100), methods which "led deeper and

deeper toward the inside of human motion and its visualization" (101). Interest in movement, however, was not limited to industry—it is, Giedion writes, "deeply rooted in our epoch" (106). In both the scientific and artistic communities around the turn of the twentieth century there was "an unprecedented sharpness of analysis in revealing the inside of processes" (100). This analysis was made possible in large part by the invention of new apparatus capable of breaking down the phenomenon of motion. One of the most widely cited is Etienne-Jules Marey's chronophotographic gun, which allowed him to record images of the successive phases of motion in various subjects and "render visible 'movements that the human eye cannot perceive'" (Giedion 24); his contemporary, Eadweard Muybridge, published *Animal Locomotion* in 1887, a collection of photographic studies of animals in motion which proved to be widely popular (Giedion calls them "astonishing," 21). Giedion contends that motion underwrites most, if not all, of modern scientific thought, from "the concept of function and of variables in higher mathematics" to theories in physics on "sound, light, heat, hydrodynamics, aerodynamics," down to atomic theory, in which electrons circle their nucleus "in orbits with a speed exceeding that of the planets" (28). Einstein's theory of relativity, one of the era's most widely publicized scientific achievements, stems from a thought experiment involving two observers, one on board a speeding train, the other standing on the railway embankment. Marey's chronophotographic studies famously informed Marcel Duchamp's *Nude Descending a Staircase*. More generally, Giedion writes, the "dissection of movement" had become "an artistic problem in painting," which moved from dissecting the phases of motion to making "the *form* of movement into an object of expression" (106)—and

not just in the visual arts: in literature, he adds, “James Joyce split words open like oysters, showing them in motion” (28). Overall, as Giedion puts it, “Movement, the ceaselessly changing, proves itself ever more strongly the key to our thought” (28).

The instruments that made motion studies like Marey’s and Muybridge’s possible were part of a larger proliferation of inventions in the nineteenth and twentieth centuries, what Giedion calls an “unceasing flow of inventions” (31). Herbert Sussman refers to a “historically unprecedented profusion” of inventions in nineteenth-century England that “in many ways created our own mechanized world” (4-5). “More specifically,” he writes, “the nineteenth century saw a technological revolution whose transformative principle was the replacement of the muscle power of animals and human beings… with the energy generated by the steam engine and later in the century by electricity” (5). Many critics have called attention to the decades surrounding the turn of the twentieth century as a period of widespread technological innovation: in *The Mechanic Muse*, Hugh Kenner, citing Richard Cork, calls the period between 1880 and 1930 “The Second Machine Age” (11), while Stephen Kern refers to “a series of sweeping changes in technology and culture” between roughly 1880 and the start of the First World War that “created distinctive new modes of thinking about and experiencing time and space” (1). Sussman seems to concur with such an assessment but places the change earlier in the nineteenth century, writing that “what we might call space–time was transformed” by innovations like the railway and electric telegraph: “Distance considered as a function of time radically decreased with steamship travel,” while “time considered as time experienced in the sending and receiving of messages seemed to have been

obliterated as electrical impulses moved words that could be read almost instantaneously" (74).

Along with the railway, the electric telegraph, first patented commercially in 1837,[iii] began to "knit [England] together" in the 1840s (74). By 1848, Greenwich Mean Time had been adopted as a standard by all of the railway companies; later, thanks to Britain's undersea cable system and imperial reach, this standard would become global. Meanwhile, various innovations such as "the steam engine, the railway, the coke-fired blast furnace producing cast iron, and automatic textile machinery merged into the factory system" (Sussman 3), leading to a dramatic increase in mass-produced goods. "Between 1830 and 1850," Giedion writes, "England was hard at work perfecting… machine tools"—that is, tools intended for the manufacture of other machines—an important component in "the intensive industrialization [that] proceeded in most branches between 1850 and 1890" (91).

This industrialization, the increased capacity for mass production, along with advances in transportation and communication, were, as Sussman points out, "crucial to the expansion and maintenance of the British Empire" (88). Not only did innovations like the steamship and undersea cable allow for quicker movement of, and communications between, military and administrative personnel—not to mention the fact that "mass production perfectly suited the manufacture of weapons" (Sussman 93)—but the dramatic increase in England's productivity over the course of the nineteenth century contributed significantly to the imperial impulse itself. Sussman argues that the demands associated with the growth of the factory system, namely the need for greater amounts of raw materials and the need for ever more

consumers to use the increasing quantities of manufactured goods, was a primary factor driving British expansion in Africa and Asia (89). The scramble for colonial territories on the part of industrialized European nations, he writes, "can be seen in part as a desperate attempt to gain quite literally a captive population to purchase the flood of manufactured goods pouring from the factories and foundries" (90). The colonies' primary function was to supply raw materials for the English factory system; British rule, Sussman writes, ensured that colonial territories would not become "competitive producers of finished goods" (91). The complex dynamic of production and consumption in Britain and Ireland that we encounter in Chapter 3 is symptomatic of increasing competition between British and Irish production in a late colonial context.

By the end of the nineteenth century there were many other industrial powers in competition with England, meaning that as a nation it was no longer "supreme in the invention and application of the machine" (Sussman 117). Rather, the inventions that transformed the world of the turn of the century were generally endeavours driven by international communication, competition, and "cross-pollination." The specific inventions that will interest us over the course of this study (the gramophone, the telephone, the cinema) appeared mostly in the last decades of the nineteenth century; by the end of Victoria's reign in 1901, Sussman writes, "the technologies that came to dominate the twentieth century and still flourish in the twenty-first century were firmly in place in England" (118).

One major development in the last decades of the nineteenth century was the replacement of steam power with electricity. With the building of the public power

grid, electricity generated by dynamos in central power stations, like the one Stephen passes in "Wandering Rocks," could be transmitted to factories, homes, and public spaces. The first such stations in England were built in the 1880s. The lighting of public spaces transformed nightlife in the city, both with the introduction of gas-powered streetlamps and with the greater intensity provided by arc- or incandescent light at the end of the century. These two basic methods of electric lighting were in competition over the nineteenth century, with incandescent lighting proving more practical for small-scale, domestic applications and with arclight being used in public lighting, "where brightness was a value" (Sussman 124). Even so, this new form of illumination could provide a point of debate for nocturnal perambulators like Stephen and Bloom, who in "Ithaca" discuss the "influence of gaslight or electric light on the growth of adjoining paraheliotropic trees" (17.44-45).[iv]

Another important development (whose importance we will examine in Chapter 2) involved the transmission and storage of sound. As Sussman describes it, the already existing infrastructure developed for the telegraph was modified to accommodate the telephone. The first public telephone exchanges in Britain were opened in 1879, and the first automatic exchange was set up in 1883. The submarine cable laid across the English Channel in 1891 allowed for telephone communication between London and Paris, while Marconi's innovations in wireless telegraphy led to the first transatlantic transmissions in 1901. Meanwhile, the work of Edison and others on the gramophone led to the storage of the human voice on wax cylinders or zinc discs, and by the end of the century to the mass distribution of sound recordings.

The motion studies referred to earlier were important steps in the development

of the cinema, which depended on the earlier invention of photography. The fascination with movement suggested in these studies and in the cinema, and cited by Giedion as "the key to our thought" (28), expressed itself in other areas as well. We see it in the drive for greater personal mobility, in the installation of underground rail systems in major urban centres, as well as in the development of the automobile and the airplane; in the advances in steamship travel which allowed for the "mass migrations of populations that marked the nineteenth century" (Sussman 87); and as the underlying principle in the assembly line (which the reader will recall is also closely connected to motion studies and scientific management). In fact, Giedion goes so far as to say that "the assembly line becomes almost a symbol of the period between the two world wars" (121).

Giedion is primarily concerned with the ways in which increasing mechanization impinges upon human beings. At issue is the idea of control: "To control mechanization demands an unprecedented superiority over the instruments of production. It requires that everything be subordinated to human needs" (714). Thus, as the title of his work suggests, the question becomes, will mechanization take command, or will the human being retain its control over the machine? Giedion is certainly not alone in voicing this concern; mid-century philosophers Jacques Ellul and Herbert Marcuse regarded technology as having "become autonomous and no longer under human control" and as aiming towards "a *totalization* of its form" (Ihde 33), exemplifying the general negative trend in European thought about technology at this time (see Ihde 32).[v] Ultimately, as we will see in Chapter 1, the concern was not only that the human would lose control of the machine, not only that the human could

become subsumed into the machine, but the nagging concern that the human being itself was a machine, an automaton suffering under the illusion of consciousness.

For the most part this project will discuss specific inventions and technologies; however, it will be useful to develop here at least a working definition of the term "technology," along with an idea of what technology "does." As a starting point, we can take the definition that Don Ihde posits in *Philosophy of Technology: An Introduction.* According to Ihde, technology first of all "must have some concrete component, some material element, to count as a technology"; secondly, it "must enter into some set of praxes—'uses'—which humans may make of these components"; and thirdly, it must enter into a relation with "the humans who use, design, make, or modify the technologies in question" (47). Sussman offers a shorter, though similar, definition in saying that "any material technique for accomplishing a specific task is a technology" (4). From these definitions we take as attributes of technology that it is material and that it is practically oriented.

It is important in thinking about technology not to set up some absolute divide between "nature" and "culture." This is because technology necessarily bridges any such divide by providing a means for interaction between human beings and their environment (this relationship makes up the third part of Ihde's definition). If we "mythically retroproject" to a "first" technology, Ihde writes, we may very well imagine it to have been a "found technology," a "stick picked up and used as a club, or a broken gourd used as a container by a pre-historical man or woman" (48). Importantly, Ihde adds: "This is also the kind of technology which many animals use"

(48). While Ihde terms such animal use "proto-technological," the example nevertheless points out how technology confounds any nature/culture divide—the animal use of tools, even "found" tools, is at the same time "natural" (insofar as it occurs in "Nature") and technological.

Technology, then, is a material means for mediating between the body and the environment; it is a piece of the "outside" world taken and used as a projection or extension of the self, whether taken and used as is, as in the case of a stick or a gourd, or fashioned into an instrument or modified in some way, as in the case of wood transformed into a chair, or flint turned into an arrowhead. These simple examples may seem far removed from what we consider to be "modern" technology. However, even though there exists a deep-seated prejudice that holds "that Modern Technology is… essentially different from all ancient or traditional technologies" (Ihde 20), the basics of our definition still hold; as Sussman points out, the arrowhead "is a technology devoted to the end of making efficient instruments for killing animals. Thus, we can speak of a Stone Age technology or even of advances in Stone Age technology" (4).

To regard technology as an extension or projection of the body is not to consider the instrument merely as a prosthesis. Rather, the artifact is a projection in that, as Scarry puts it, it "restructures the naturally existing external environment to be laden with humane awareness" (305). The made object, she writes, "is a projection of the live body that itself reciprocates the live body" (280). Thus, while we can speak most easily of projection "in terms of specifiable body parts" (281)—a bandage as prosthetic skin, for instance (281-82), or any number of optical instruments as

"projected materializations of the *lens* of the human eye" (282)—it is usually more productive, according to Scarry, to specify the relation between an artifact and a part of the body "in terms of sentient attributes" (283). Thus it is that Scarry comes to talk of artifacts as objectifications of sentient awareness, as we have already seen; using technology, human beings transform the outside world into a place accommodating human sentience: "it is the work of the imagination… to make the inanimate world animate-like, to make the world outside the body as responsible as if it were not oblivious to sentience" (306).

The importance in the relationship between the human maker and the animate-like made object lies in the action of the object upon its maker; as Scarry puts it, "the human act of projection assumes the artifact's consequent act of reciprocation" (307). Scarry refers to the artifact as a "lever" or "fulcrum" in order to call attention to two important attributes: first, that the made object is "only a midpoint in a total action: the act of human creating includes both the creating of the object and the object's recreating of the human being" (310); second, that this midpoint in the total action, the object itself, "is also the site of a magnification" (315)—in other words, reciprocation exceeds projection. Thus, Scarry writes, when we try to understand the process of making, our "attention cannot stop at the object" (307); we must attend to how the object reciprocates the action by re-making its human maker. The act of inventing, producing, or creating things involves both a contrafactual wish (the wish, to take one of Scarry's examples, that a person currently suffering from cold be made warm) and the making-real of that wish through the making-aware of the outside world (the coat, "aware" of the human need to maintain a certain temperature, re-

makes the person suffering into someone who is warm). This making-real is the amplified, reciprocal action—in our example, the action is amplified because it covers not just the present case of suffering from cold, but future cases as well. Thus, Scarry writes, "the total act of creating contains an inherent movement toward self-amplifying generosity" (318).

The making-real of a contrafactual wish about human suffering—the "movement toward self-amplifying generosity"—brings us to another important attribute of technology: its non-neutrality. Technologies, as Ihde puts it, entail "non-neutral transformational possibilities" (53). This is to say that an invention is not simply a neutral tool that can be applied to any task. The artifact, insofar as it embodies a contrafactual wish or desire, is the projection of an attitude; to quote Giedion, "tools and objects are outgrowths of fundamental attitudes to the world" (3). As a contemporary example we might consider the well-known mantra of the American gun lobby: "Guns don't kill people; people kill people." The fallacy in this argument lies in the assumption that anyone who dies as the result of a gunshot wound would have died in any case—that is, the assumption that the gun is a neutral tool that happens to be used in killing people, and could easily be replaced by a knife, spear, blunt object, or even one's bare hands. Aside from the fact that this ignores the obvious case of accidental gun deaths, the assumption deliberately misconstrues the relationship between the user and the object. To put it simply, a person holding a gun will behave differently from a person not holding a gun, or even a person holding a different weapon. The gun will alter its possessor's attitude toward any situation that might arise, actually creating instances for its own use. The person holding a gun

becomes a person capable of projecting his or her contrafactual wish (in this case, that another person no longer be alive) in a more amplified manner than one holding a knife.[vi] Nor does it matter that the one holding a knife could also use it, for instance, to flay an animal carcass in order to feed his family; the very decision to use a tool for one purpose over another is itself a non-neutral decision.

I point out the non-neutral transformational potential of technology not only to provide a better understanding of what technology does, but also to highlight an important aspect of the depiction of technology in *Ulysses*. As we will see in Chapter 1, Bloom's sympathy towards others is often phrased in technological terms—that is, the thought of suffering evokes a contrafactual wish, which in turn produces an imaginative projection of that wish into some invention that would alleviate suffering. Bloom's manner of thinking suggests that Joyce understood to some extent how, in the process of making, "pain is 'remade' by being wished away; in the external action, the private wish is made sharable; finally in the artifact, the shared wish comes true" (Scarry 291). Scarry's description of technology, despite its focus on pain, is ultimately a benevolent one: technology allows us to alleviate suffering by projecting our wish to do so onto the outside world. Bloom, it would seem, also understands that this is how technology works—or, at least, how it *should* work.

In *Bergson and the Stream of Consciousness Novel*, Shiv Kumar writes that the "aesthetic problem" facing the novelist of the early twentieth century was "how to catch thought in its vital nascent state and make it pass, still living, into the soul of another" (32). The techniques that the stream-of-consciousness novel uses attempt "to

convey a sense of reality that is both vital and dynamic, and whose wings have not been dried to adorn the notebook of a botanist" (27)—a sense of a living, continuous becoming that bears a close kinship to Bergson's concept of experience as duration or *durée*. This concept opposes the "mechanical" division of the flow of time into separate moments; instead, "the past… has no separate identity as such; it forms an organic part of the ever swelling *durée*" (Kumar 118-19). It is the cinematographical nature of our thought, Bergson argues, that insists on the division of ceaseless becoming into separate, static images.

This system of thought sets up a distinction between the continuous flow of the vital and the organic on the one hand, and the discrete actions of the mechanical on the other. If we turn to Giedion's description of mechanization, however, we find a wholly different stance: there it is the human that must act in discrete motions, while the mechanical is characterized by continuous flow. The human hand, he writes, "cannot continue a movement in endless rotation," which is "precisely what mechanization entails: endless rotation. The difference between walking and rolling, between the legs and the wheel, is basic to all mechanization" (47). Similarly, Hugh Kenner writes in *The Mechanic Muse*, "Continuity, stream, defines any machine's preferred fodder. You feed horses at intervals, but gasoline engines steadily" (8). If we follow this characterization, then techniques like stream-of-consciousness writing in fact bring the human mind into closer affinity with mechanical processes. The stream of consciousness becomes the stream of the assembly line, the constant motion of the dynamo, the endless rotation of the wheel.

It was Charles Babbage who showed nineteenth-century England the

possibility of mechanizing mental processes. The Victorians, Sussman writes, already had a "sense that machines were somehow alive," a sense "strengthened by innovations in automatic machinery, especially the development of feedback mechanisms" (39); automatic machines like the self-regulating steam engine or the jacquard loom[vii] "appeared to manifest the self-regulation of a human body endowed with soul" (39). Babbage's Difference Engine—"essentially a fully automatic, error-free calculating machine" (41)—made the conceptual leap to "the notion that the mental activity of arithmetical calculation can be described in the same terms as the actions of physical machinery" (40). In designing his subsequent Analytical Engine, "Babbage became convinced that a machine could imitate the full range of human mental life, particularly in the realm of logical analysis" (43). As one of the forms of output for this machine, Babbage imagined information "printed automatically on paper as in our contemporary printers" (45)—the rolls of paper with their constant output become a machinic version of the stream of consciousness.

To the Victorians, Sussman writes, self-acting machinery seemed to refute the notion that the only explanation for human action was the existence of a soul directing the motions of the body (50). If machines could be living things, then, likewise, living things could be machines; thus, "the Victorians began to imagine themselves as intricate self-regulating mechanisms and as energy-generating engines" (38). The idea was certainly not unique to the nineteenth century. The "Ancients," Giedion writes, "created magical machinery and automatons" (32), while in the eighteenth century "manlike automatons who walked, played instruments, spoke with human voices, wrote, or drew" were shown in various courts and "created a

sensation" (34). Ihde cites Descartes and "the long-historied worries over whether or not we could be fooled by cleverly conceived automatons" (29), a worry connected to Platonic concerns about imitation.

Freud discusses these same fears in his essay on "The Uncanny." In order to find an example of something that arouses feelings of uncanniness, Freud cites Ernst Jentsch, who takes "as a very good instance 'doubts whether an apparently animate being is really alive; or conversely, whether a lifeless object might not be in fact animate,'" referring to "the impression made by waxwork figures, ingeniously constructed dolls and automata," along with epileptic seizures, fits of insanity, or anything that "excite[s] in the spectator the impression of automatic, mechanical processes at work behind the ordinary appearance of mental activity" ("Uncanny" 226). Freud follows Jentsch in using Hoffman's story "The Sand-Man" as a source for uncanny impressions, but differs from the attribution of this effect to any such doubts about whether something is actually alive: "I cannot think… that the theme of the doll Olympia, who is to all appearances a living being, is by any means the only, or indeed the most important, element that must be held responsible for the quite unparalleled atmosphere of uncanniness evoked by the story" (227). Instead, Freud connects the "feeling of something uncanny" to "the figure of the Sand-Man, that is, to the idea of being robbed of one's eyes" (230), which, he argues, is a version of the castration complex: "A study of dreams, phantasies and myths has taught us that anxiety about one's eyes, the fear of going blind, is often enough a substitute for the dread of being castrated" (231). Thus, he writes, the feeling of uncanniness is caused by the repression of a "frightening element" that recurs, which explains why the

uncanny "is in reality nothing new or foreign, but something familiar and old-established in the mind" (241).

Freud makes this last point to indicate how the word "uncanny" (in German, *unheimlich*) does not simply denote the opposite of the German *heimlich* or *heimisch*, meaning "homely" or "native" (220). A definition of *unheimlich* as "unfamiliar" would be incomplete, Freud writes: "Something has to be added to what is novel and unfamiliar to make it uncanny" (221). As we have already seen, this something to be added, according to Freud, is the act of repression; the "reference to the factor of repression enables us… to understand Schelling's definition… of the uncanny as something which ought to have remained hidden but has come to light" (241). On top of this, the idea of repressing something that recurs means that there are close affiliations between the uncanny and the figure of the double. The double, Freud writes, is "a creation dating back to a very early mental stage" (236); while it is "originally an insurance against the destruction of the ego," once this very early stage is left behind it becomes "the uncanny harbinger of death" (235). What is important here is that the uncanny, in Freud's words, leads us "back to the old, animistic conception of the universe" (240), a stage which "each one of us has been through" and that "none of us has passed through… without preserving certain residues and traces of it which are still capable of manifesting themselves, and that everything which now strikes us as 'uncanny' fulfils the condition of touching those residues of animistic mental activity within us and bringing them to expression" (240-41). The uncanny re-awakens in us a suspicion that the outside world is in fact "alive" or aware. Freud's uncanny, therefore, intersects with Scarry's notion of projected object-

awareness; feelings of uncanniness arise when the outside world appears to us *too* aware, aware enough for us to forget about the projection that the act of creation entails.[viii]

In order to understand this uncanniness better, a brief aside on "The Sandman" will be helpful. The word *unheimlich* appears six times in Hoffman's story:[ix] three times it is used in connection with the mechanical doll Olympia, once in describing the figure of the Sandman, once in reference to the "uncanny night-time activities" (95) of Nathanael's father and Coppelius, and once in the course of Clara's discussion of a "dark" or "uncanny power" that inhabits us (96).[x] It is this last instance that makes the connection to the figure of the double; in her letter to Nathanael, Clara posits that, if such a "dark power which fastens on to us and leads us off along a dangerous and ruinous path" exists, it "must have assumed within us the form of ourself, indeed have become ourself" (96). While Nathanael believes Coppelius/Coppola to be some sort of "evil force" (103), Clara insists that "only a belief that they have such a power can bestow it upon them" (97). We ought, she suggests (and the narrator would seem to agree with her), to recognize that "the spirit which seems to animate those forms has in fact been enkindled by us ourselves" (97).

Nathanael, it would seem, lacks this ability to discern, and if we examine his fears and anxieties over the course of the story we shall see that they have very much to do with telling certain things apart. Freud diminishes the connection between the story's atmosphere of uncanniness and the doll Olympia, instead linking the feeling with the castration complex through Nathanael's fear of losing his eyes. Indeed, Nathanael is horrified when Coppola the optician offers him "lov-ely *occe*," shouting,

"Madman! how can you have eyes?" (109), and the figure of the Sandman certainly derives its menace from the childhood incident wherein he is threatened with the loss of his eyes: "'Now we have… a lovely pair of children's eyes!' Coppelius whispered and took a red-glowing dust out of the flame with his hands and was about to sprinkle it into my eyes" (91). It is important to note, though, that the eyes offered to him on the former occasion are spectacles, prosthetics—although this does not stop Nathanael from being "Unmanned by an ungovernable terror" at the sight of them (110). I would like to suggest that it is this prosthetic aspect that frightens Nathanael, as it raises the spectre of his own weakness, the weakness in his eyesight that he mentions in passing in his letter to Lothar (92). Thus the uncanniness is connected not just to the loss of his eyes but also to the technological compensation for that loss—the "demon optician's spectacles or spy-glass," to take the phrase from Freud (230).[xi]

Besides the threat of being blinded, the other crucial component in Nathanael's childhood run-in with the "Sandman" Coppelius is the suggestion that he is somehow put together in the same manner as an automaton. Upon discovering the child, Coppelius descends upon Nathanael, bellowing, "But now let us observe the mechanism of the hands and feet" (91). Nathanael describes the rough handling he subsequently receives: "he seized me so violently that my joints cracked, unscrewed my hands and feet, and fixed them on again now in this way, now in that" (91-92). This dismemberment and reassembly suggest to Nathanael that he could very well be constructed out of separate pieces, as does Coppelius's pronouncement, "Better where they were! The Old One knew what he was doing" (92). The despondency that Nathanael falls into after encountering Coppola as an adult is based on the suspicion

that human beings are in fact automata, beings without will at the mercy of mysterious outside forces; he speaks “continually of how each of us, thinking himself free, was in reality the tortured plaything of mysterious powers: resistance was vain; we had humbly to submit to the decrees of fate” (103). He gives voice to this suspicion, this fear, in the poem he writes, at the end of which he “looked into Clara’s eyes, but it was death which gazed at him mildly out of them” (105). Indeed, the worst accusation with which he confronts her is, “Oh, you lifeless accursed automaton!” (106).

Nathanael is not alone in suspecting his beloved to be an automaton. In the public furor following the revelation that Spalanzani’s “daughter” Olympia is in fact a wooden puppet—“an altogether impermissible piece of deception” (121)—the narrator tells us that the young men of the town develop “a detectable mistrust of the human form. To be quite convinced they were not in love with a wooden doll, many enamoured young men demanded that their young ladies should sing and dance in a less than perfect manner… but above all that they should not merely listen but sometimes speak too, and in such a way that what they said gave evidence of some real thinking and feeling behind it” (121-22). The manner in which these concerns so easily arise suggests a general anxiety very similar to Nathanael’s. The strength of the reaction suggests that Spalanzani has indeed revealed something that should have remained hidden; the professor has to leave town “so as to avoid a criminal investigation into the deceitful introduction of an automaton into human society” (122).

Nathanael’s first bout of insanity is prompted by a mixture of factors.

Certainly eyes are involved, as Freud suggests, but it is interesting to note that it is not the loss of Nathanael's eyes that is here in question; rather, it is the realization "that Olympia's deathly-white face possessed no eyes: where the eyes should have been, there were only pits of blackness—she was a lifeless doll" (119-20). We can certainly read this as a Freudian primal scene, the recognition of the female's "lack" of a penis suggesting to the male subject the possible loss of his own, but, as I said, the lack of eyes is not the only factor. In the poem he has written earlier, Nathanael envisions the appearance of "the terrible Coppelius," who "appear[s] and touche[s] Clara's lovely eyes, which spr[i]ng out like blood-red sparks, singeing and burning, on to Nathanael's breast" (105). It is the repetition of this particular scene, not the simple fact of eyelessness, that sets off Nathanael's fit: "At this point Nathananiel saw that a pair of blood-flecked eyes were lying on the floor and staring up at him; Spalanzani seized them with his uninjured hand and threw them at him, so that they struck him in the chest. // *Then* madness gripped him with hot glowing claws, tore its way into him and blasted his mind" (120; my emphasis). Nathanael fears being unable to tell apart the lifeless and the living, to discern made objects from natural ones; the becoming-real of a scene from his poem means that something created has "crossed over" into real life. The poem is too similar to a real situation, just as Olympia is too much like a living human being. The animistic impulse that causes us to project attributes of awareness onto inanimate, made objects has become too apparent; something that "should have remained hidden" has come to light.

As Clara suggests, then, the "mysterious" force indeed takes the form of the double, a "form which is… a mirror-image of ourself" (97). The fear is that when the

double becomes too much like the original—or when it precedes the "original," as is the case with Nathanael's poem—we will be unable to tell the two apart. Of all the characters in the story, Clara appears to be the only one who possesses this ability to tell things apart. The narrator tells us she has "a clear sharp understanding," that "fantasists enjoyed little success with her: for… her bright eyes and that subtle ironical smile told them: 'Dear friends! how could you believe of me that I should regard your transient poetic fancies as real beings, possessing life and action?'" (102). Clara's name suggests that hers is a clearness of vision and understanding that all should aspire to. The success of Spalanzani's mechanical doll, however, suggests that this clarity often, perhaps always, eludes us.

The figure of the female automaton is not unique to Hoffmann. As mentioned earlier, the eighteenth century saw a number of "manlike automatons who walked, played instruments, spoke with human voices, wrote, or drew" (Giedion 34). However, Andreas Huyssen writes, moving into the nineteenth century "literature appropriates the subject matter transforming it significantly. The android is no longer seen as testimony to the genius of mechanical invention; it rather becomes a nightmare, a threat to human life" ("Vamp" 225). The android-as-woman comes to prevalence as this shift takes place, Huyssen writes, so that "as the machine came to be perceived as a demonic, inexplicable threat and as harbinger of chaos and destruction… writers began to imagine the *Maschinenmensch* as woman" (226).

The threat that this figure poses, Huyssen explains, arises from the web of associations between "woman," nature, and the machine. Starting in the eighteeneth

century, he writes, nature "had come to be interpreted as a gigantic machine" ("Vamp" 226), complicating these associations. Because of the traditional assumption that women are somehow closer to nature than men, the figures of woman, nature, and machine "had become a mesh of significations which all had one thing in common: otherness" (226). Each of these elements of otherness threatened male dominance and authority "by their very existence" (226); the rise of self-regulating machinery exacerbated these fears of loss of control. Thus, Huyssen explains, "the myth of the dualistic nature of woman as either asexual virgin-mother or prostitute-vamp is projected onto technology which appears as either neutral and obedient or as inherently threatening and out-of-control" (229). The mechanistic view of the natural world—the "clockwork universe"—combines with the rise of mechanical reproduction in the figure of the female android as the spectre that threatens male control over women, technology, nature, and life itself.

In the essay "Mass Culture as Woman," Huyssen connects these fears to "male fears of an engulfing femininity" at the turn of the twentieth century (196); mass production and the rise of mass culture contribute to a significant anxiety underwriting modernism: "The fear of the masses in this age of declining liberalism is always also a fear of woman, a fear of nature out of control, a fear of the unconscious, of sexuality, of the loss of identity and stable ego boundaries in the mass" (196). Technological innovations were obviously crucial to the rise of mass production; they were also an important factor in the increasing participation of women in public life. As Sussman points out, "With industrialization, employment opportunities for women expanded. The early textile mills drew in women who… were able to add to the

family income," while later on "the commercial applications of the telephone and of the newly invented typewriter opened up office work for women as telephone operators and what the age called 'typewriters'" (145). The interchangeable use of this last term for both female secretaries and the machines they worked with points again to thinly veiled masculine anxieties about women as operators of technology (anxieties at which we will look in depth in the third chapter of the present work).

The gendering of mass culture and the masses as feminine—which, Huyssen points out, the "political, psychological, and aesthetic discourse around the turn of the century" does "consistently and obsessively" ("Mass" 191)—is an extension of the traditional exclusion of women from "high art" and has as its counterpart the "emergence of a male mystique in modernism" (194) and the masculinist discourse that frequently surrounds modernist aesthetics. It is also connected with the increasing involvement of women in the public sphere and with increased literacy in both women and the lower classes. The latter were seen as passive consumers of a debased or inferior culture; as Jennifer Wicke points out, the processes of production and consumption become gendered, so that the "passive" consumption of mass culture becomes a feminized activity, while the production of "high" art remains a masculine one. The gender associations around these processes also have implications for the relationship between Britain and its colonies; as we have seen, the colonies were providers of raw materials for English factories, which in turn produced manufactured goods for a "captive population" of consumers (Sussman 90). The "double-bind of Irish manhood" that Joseph Valente notices at work in the "Cyclops" episode of *Ulysses* is predicated on the intersection of gender and colonialism.

The third chapter of this project examines the gendering of consumption and production that Wicke calls attention to, as well as the gendering of mass culture and "high" art, as it considers the intersection of technology, sexuality, and gender. The traditional associations surrounding women, nature, and technology become complicated as the rise of mechanical reproduction suggests, indeed threatens, a conflation with "natural" or biological reproduction. The increased presence in society of women as the operators of new machines like the typewriter and the bicycle also provokes a turn to a more natural discourse surrounding male-ness and the male body, what I have called "vitalist masculinity." Chapter 1 opens with an investigation of the relationship between vitalism and technology; starting from the period's uncanny suspicions about technology, it argues that the popularity that vitalist theories enjoyed in the early twentieth century arises from anxieties over the mechanicity of the human body. The vitalist debate appears in *Ulysses*, I argue, in the differing opinions on and attitudes toward technology that we see in Bloom and Stephen Dedalus. Chapter 2 extends this investigation to the realm of the supernatural. For many in the period, inventions like the telegraph and the telephone provided metaphors for supernatural phenomena such as telepathy, even justified belief in these phenomena, while the gramophone troubled traditional associations between the voice and the living breath as the guarantor of the presence of an authentic, living speaker. *Ulysses*'s engagement with the supernatural tends towards the satiric side, a stance that I argue stems from an understanding of the "uncanny" nature of technology.

Why *Ulysses*? Part of the appeal Joyce's novel holds comes from its urban

setting, an environment replete with the technologies that in the period were becoming an increasingly prevalent part of everyday life. Indeed, as Hugh Kenner points out, Dublin's technical infrastructure is an unheralded but necessary component to the story: "The day… that *Ulysses* reflects would have been impossible a generation earlier, before electric trams were moving people quickly about a large city" (11). Dublin's tram system moves Bloom and Stephen from point to point throughout the day, and "but for those movings and the consequent sightings there'd have been no tale" (11). There is also some appeal in what some call the novel's "cinematic" qualities; certainly Joyce's interest in mass and popular culture (in spite of his reputation as a "high" modernist) is important. Largely, however, I see Joyce's stance toward technology as remarkably different from many of his contemporaries; he has a certain acceptance, or at least understanding, of technology as an integral part of modern life, as opposed to the alienation we see in T. S. Eliot's "Unreal City," or the devolutionary views of a figure like D. H. Lawrence. Earlier in this introduction I mentioned Bloom's projections of sympathy, which are an important part of his character and which are consistently made in technological terms. Bloom's sympathy heralds the possibilities that technology holds for the improvement of modern life. They point to the need not to denounce technology as somehow alienating, inferior, or debased, but point instead to the ways in which understanding the interaction between human beings and technology is crucially important to solving the problems we encounter living in an increasingly technological society.

NOTES

[i] According to the *OED*, a deodand is "a personal chattel which, having been the immediate occasion of the death of a human being, was given to God as an expiatory offering." *Noxae deditio* means something similar—the term translates literally as "the giving up of that which commits an offence."

[ii] To take an example from early twentieth-century literature, we see a similar scene in the first pages of D. H. Lawrence's *Sons and Lovers*: "One young man lapsed into a run down the steep bit that ended the hill, and went with a crash into the stile. … He picked himself up, swearing viciously, rather pathetically, as if he thought the stile had wanted to hurt him" (11).

[iii] I have taken most of the dates given here from Sussman.

[iv] All references to *Ulysses* will be made by episode number followed by line number in the Gabler edition.

[v] For a thorough overview of the thinking on the issue of technology out of control, see the first chapter of Langdon Winner's *Autonomous Technology*.

[vi] We can see this amplified transformational power at work in the history of warfare: "As in the factory, so on the battlefield, mechanization brought on a deskilling of the operative. The soldier no longer had to perform dexterously with sword or pike. Innovation in weapon technology had done away with the muzzle-loading musket. Now, given a reliable machine-made weapon, the soldier had only to pull the trigger, a simple repetitive act analogous to the work of a machine tender" (Sussman 94).

[vii] The jacqurd loom could weave complex patterns into cloth by following instructions or "programs punched into paper cards" (Sussman 30)—forerunners of the punchcards used in early computer programming.

[viii] Without referring to the uncanny specifically, Scarry alludes to similar sensations: "Sometimes in a technological and automated society, the mimesis of sentient awareness may become so elaborate that the object may become frightening." One example is the computer, which, she notes, "has startled and disturbed one generation of adults" (304).

[ix] Passages in German are from Volume 2 of *E. T. A. Hoffman Werke* (Ed. Herbert Kraft and Manfred Wacker, Frankfurt am Main: Insel Verlag, 1967). English passages are taken from R. J. Hollingsdale's translation in *Tales of Hoffman* (Harmondsworth, Middlesex, UK: Penguin, 1982).

[x] Hollingsdale uses "uncanny" in two places where Hoffmann uses a word other than *unheimlich*—once for the word *seltsam* (strange) in "seltsam zu flimmern" (27), "glitter in an uncanny fashion" (109), and once for *graulich* (gruesome) in describing Spalanzani's "uncanny ghost-like appearance" (115), "ein grauliches gespenstisches Ansehen" (32).

[xi] Freud's phrasing here is strikingly similar to Vachel Lindsay's "demon spy-glass," a term he uses to describe the cinema; see Chapter 2, p. 148.

Chapter 1
Life Among the Machines: *Ulysses* and the Vitalist Debate

In a 1928 conversation with Joyce, Carola Giedion-Welcker recalls him asking her: "'Tell me, what sort of an idea do you think the word 'automobile' would have aroused in the Middle Ages?'" Without a pause Joyce responded to his own question: "'Certainly only that of a divine being, … a self mover, thus a god'" (257). For Giedion-Welcker, Joyce's observation brings into focus the ways in which new inventions were changing how human beings thought about technology; "from a key word and the conception it aroused," she writes, "Joyce wanted to crystalize a cultural state, or better yet the cultural crisis of a century. For god and technology had moved critically close to each other" (258). In the 1930s Freud remarked on something similar, declaring that "man has, as it were, become a kind of prosthetic God. When he puts on all his auxiliary organs he is truly magnificent" (*Civilization* 91-92). According to *Civilization and its Discontents*, the abilities conferred upon human beings by these new inventions "not only sound like a fairy tale, they are an actual fulfilment of every… fairy-tale wish" (91). Technology takes on a fantastical aura in this period, a quality suggesting the proximity of god and machine; self-moving machines apparently bear an uncanny resemblance to living things, a resemblance which points to the troubling thought that we too could be machines.

This chapter looks into the "cultural crisis" provoked in modernism by the uncanny side of technology. On the surface it may seem odd to begin such an examination with an account of the vitalist debate in the early twentieth century; however, as we shall soon see, the issues at the centre of this debate are very much

involved with technology. Vitalism—the belief in the "autonomy" of life, that living things cannot be accounted for by the same physical and chemical laws that govern the inorganic universe—experienced a resurgence in popularity in the late nineteenth and early twentieth century. Its proponents (in this period the most famous were the zoologist Hans Driesch and the philosopher Henri Bergson) espoused theories that emphasized indeterminism and unpredictability in living things, a sense of purpose or design in their adaptability to the environment, and an idea of wholeness or unity in their being.[xii] The debate between vitalists and mechanists, as those who opposed vitalistic doctrines and maintained that life followed the mechanical laws of the universe came to be called, was a heated one in the first few decades of the twentieth century, and was not limited to scientific circles. Vitalism influenced many different forms of cultural expression, and remains an under-investigated component of modernity.

After looking at vitalism generally and at its interactions with technology, this chapter proceeds to examine how we can see the vitalist debate as an influence on *Ulysses*. In particular, I maintain that the contrasts between Stephen Dedalus and Leopold Bloom fall along the two sides of the debate. Indeed, we can see this opposition expressed even in the names of Joyce's characters: Dedalus, the mythical inventor, and Bloom, the flower of life. These names, however, are ironically reversed; as we shall see, it is Stephen who bears an affinity for the vitalist position, while Bloom is much more receptive to a mechanistic or materialist point of view. Ultimately, Bloom's mechanistic leanings and the acceptance of technology that this brings that make him a man of the city, a modern Ulysses, better suited to the

metropolis and better adapted for life among the machines.

Strictly speaking, the term "vitalism" does not denote any single theory or doctrine; the label is generally applied to any philosophy or system that opposes a mechanistic view of life. Those who espouse vitalistic theories usually posit a division between the "inorganic" sciences of physics and chemistry on the one hand, and biology on the other; vitalists maintain that the laws governing living things are not the same as those that govern the inorganic realm. Many participants in the vitalist debate have themselves remarked on the difficulty of coming up with a general agreement on what the major terms in that debate actually mean; "the lack of either clear or generally accepted definitions of the terms ('vitalism' and 'mechanism')," wrote Arthur O. Lovejoy in 1911, was "a difficulty which confronts every one who would discuss the question of vitalism" ("Meaning of Vitalism" 610).

Vitalism is often defined negatively, as not-mechanism. Mechanism, as Lovejoy puts it, "asserts that the explanations of organic processes can eventually be found in the laws of some more 'fundamental' science" (611); its goals "would be realized if biological laws could be shown to be special cases of chemical laws, these in turn of physical, and these finally of the laws of mechanics" (611). Vitalism, meanwhile, "maintains at least the impossibility of this reduction of organic processes to the laws of the sciences of the inorganic" (611). On top of this, vitalists generally posit some non-material "life force" or vital principle to explain the difference between the living and the inorganic, the idea being that "something absolutely new and novel came into the world when living beings came" (Ritter 438). Perhaps one of

the clearest definitions from the time comes from Mikhail Bakhtin; in a 1926 essay, he outlines vitalism's main precepts: "Life is an autonomous phenomenon; that is, it obeys its own fundamental laws. Unique vital forces act in life which do not exist in the rest of nature. Granted, life does not violate physical and chemical laws, but it is not completely explicable in terms of them" (76).

One of the corollaries of many vitalist theories is what is called experimental indeterminism, the idea being that, in living things, the same set of initial conditions will not always produce the same result, that "the perceptual determiners of events,—those discoverable experimentally—are not 'adequate' to the results produced, at least in living things; that they cannot 'account for' what happens; they do not make it intelligible that the observed phenomena should appear" (Jennings, "Mechanism and Vitalism" 579). As with the label "vitalism," this term can have various meanings; some vitalists assert that in living things any set of initial conditions are so complex that it is not possible to duplicate them.

It is important to note that vitalism as a theory is not limited to the realm of science; as George Rousseau remarks, "vitalism has been a totalizing philosophy – a faith as powerful as any organized religion – for those who have subscribed to it" (23). As a result, vitalists often challenge the epistemological validity of experimental science, and the debate between mechanists and vitalists frequently spills over into philosophical territory. H. V. Neal, for example, observes: "Among scientific men the cause of vitalism has suffered because of its association historically with theological dualism, while on the other hand many vitalists have opposed mechanism upon the mistaken belief that mechanism is identical with—or demands the postulate of—

philosophical materialism" (84). The debate around vitalism was therefore not simply about the scientific validity of a theory, but about the very ability of empirical science to assert the truth of its conclusions.

In expounding their theories, vitalists have used various metaphors to describe their vital principle; these metaphors, writes Rousseau, "have changed over the centuries: from Aristotle's entelechy to Paracelsus's *archeus*; from Stahl's *anima sensitiva* to Blake's *energy* and G.B. Shaw's *life force*" (23). While the terms have changed, the structure of vitalist theories generally remains the same: these theories rely upon some form of dualism between mind and body, or body and soul; in order to explain the body's endowment with vital qualities they posit some life force that is "elemental, protean, once-for-all. It is not exactly the life itself of the organism. It is rather the informing, underpinning, ultimate motor, of life" (Ritter 438).[xiii] A quick overview of the history of vitalism as it pertains to the early twentieth-century debate will be helpful here. However, the reader should also bear in mind that, as Rousseau puts it, vitalism is "a topic of such methodological complexity that no single chapter, no matter how well researched or well written, can hope to do justice to it" (17).

For a long time vitalism and what we now call biology were very closely intertwined, at times indistinguishable. This is due in large part to the influence of Aristotle's views on later thinkers. Bakhtin calls Aristotle's vitalist theory of life "naïve, but very influential and systematic," and notes that "vitalism has preserved basic Aristotelian terms to this day" (80). Hans Driesch calls Aristotle "the first exponent of a scientific 'vitalism'" (*HTV* 11)[xiv] and claims that, in taking up questions of embryology or germ-formation Aristotle is "a typical precursor of all vitalistic

theories until the most recent times" (12). Driesch's own vitalist theory, which we will soon investigate more extensively, is heavily indebted to Aristotle.

Early vitalism, Frederick Burwick and Paul Douglass write, was a way of "allow[ing]… for spiritual animation amidst the workings of physical law" and was "a reaction against mechanism" (1); there needed to be something special about living things, and in particular human beings, that kept them from being mere automata, their actions completely determined by the physical laws that govern the universe. Vitalist and mechanist theories developed side by side over the years, with the pendulum of scientific opinion now tending towards one side, now the other. Over the course of the nineteenth century mechanism came to dominate in biology. The reader will recall from the Introduction that inventions like the steam engine and other automatic, self-regulating machines promoted a belief in many Victorians that living things too could be such machines, if not an outright enthusiasms for this idea. Likewise in biology, the predominant theories tended towards a mechanistic view of life.

In *The History of Biological Theories* (1905-09, English translation 1930), Emanuel Rádl writes that, while at the start of the nineteenth century "the vitalistic theory was still predominant" (233), there came to be a "positivist attitude which characterized the work of the second half of the nineteenth century" (vii). This century saw some important advances in biology, particularly cell theory and, more famously, Darwin's articulation of the principle of natural selection. Both of these were mechanistic theories. With the advent of cell theory, many biologists proceeded "as if the clue to all living problems were hidden in the cell, as if the microscope

could disclose to us all the unknown springs of 'being'" (Rádl 231); as applied to the nervous system, it led to the assumption that "there is no soul controlling the whole body, but that each nerve cell represents a separate centre of nervous control" (233). Darwinism, meanwhile, enjoyed a far-reaching influence: "Like an oncoming flood, the conviction spread that no science, except physics, chemistry, and the Darwinian concept of natural history, contained any absolute truth, but that all other branches of knowledge would have to be revised and remodelled, basing themselves in this" (75). Indeed, according to Ernst Haeckel, "biology had not been a science at all before the time of Darwin" (Rádl 125).

Haeckel, a well-known biologist himself (among other things, he is the originiator of the concept that "ontogeny recapitulates phylogeny," along with the phrase itself), was a committed Darwinist. He was a staunch advocate—Rádl claims that "neither Darwin nor [T. H.] Huxley alone would have succeeded in making the evolutionary theory the world-power that it became" (144)—and held that "there is no duality of soul and body, living and non-living matter. The only thing that exists is matter, and this is composed of atoms" (Rádl 143). Under the influence of Haeckel and Darwin, biology in the later nineteenth century held to mechanistic lines. As the century closed, however, there was a strong move beginning in the opposite direction. Rádl observes, "From the 'nineties onwards the positivist belief in the facts of science has been gradually undermined," calling Bergson the "protagonist" of this movement (375) and adding: "Many think they see a new dawn on the horizon; they write popular articles, in which they uphold teleology and vitalism" (387). Similarly, Eduard von Hartmann felt confident enough in 1906 to declare that "we are justified

'in looking forward to a complete triumph of vitalism in the course of the twentieth century'" (Lovejoy, Review of *Science and Philosophy of the Organism* 762). The doctrine had a widespread appeal, having found "vigorous spokesmen among specialists of high standing in nearly all branches of biological science" (762). Between 1914 and 1924, "the philosophical and epistemological controversies inherent in the question of life were renewed once more…, …spawning whole libraries of books and articles" (Rousseau 57), and even its staunchest critics had to admit that "in the common and fundamental negative creed of all vitalists … there lies a significant and debatable issue" (Lovejoy, Review 764). The reinterpretation that had begun at the end of the nineteenth century had developed into a "crisis," according to Burwick and Douglass: "The term 'crisis' does not sound excessive when one reflects on the mood of European and American intellectuals during this time" (2).

Foremost in this crisis were Hans Driesch and Henri Bergson. Bergson was vitalism's "most articulate spokesman in philosophy," as Driesch was "in the sciences" (Freyhofer 13), and "the cultural climate of the early part of this century cannot be fully understood without an appraisal of their theories" (141). In 1912, H. S. Jennings referred to Driesch's as "perhaps the most widely known and most influential brand of vitalism" ("Driesch's Vitalism" 434), while T. H. Morgan called Bergson's *Creative Evolution* "the clearest and most profound expression of the hypothesis that adaptation of the living world is the outcome of a creative force that shapes matter for an immediate purpose" ("Chance" 206). "By 1914, on the eve of war," Rousseau writes, "Driesch's vitalism and its consequences for creative

evolution were being discussed in academies and journals everywhere. By 1924 they had permeated every corner of Europe" (58). Later in the century vitalism would have a "considerable attraction for fascists," since both fascists and vitalists "affirm the existence of a transcendentual [*sic*], autonomous, and capricious force that controls all life" (Freyhofer 161). Rousseau agrees that "vitalism flourished in European fascism and, after the 1930s, in European socialism" (63). The debate that raged in the pages of journals and monographs would have political echoes that resounded far into the century.

According to Driesch, vitalism's "struggles" with materialism and Darwinism in the eighteenth and nineteenth centuries, respectively, "purified it of many errors" (*HTV* 170-71). These "purifications" tended to increase the doctrine's dogmatism. Describing the work of Johannes Müller, a nineteenth-century biologist, Driesch calls him a "typical exponent" of "the dogmatic Vitalism" (*HTV* 113-14) and says of his conclusions: "Whence arises the connection of that force with organic matter is not for Müller a matter accessible to human knowledge. This view implies *a real progress* in comparison with earlier writers" (115; my italics). That Driesch finds progress in the impossibility of a certain knowledge points to the fact that the vitalist debate in the early twentieth century was about more than the scientific validity theory; rather, what was at issue was the ability of certain fields of human endeavour to uphold their findings as "truth."

The debate over vitalism centres very much on what Donald Gillies refers to as the "demarcation problem," which he calls as "a fundamental problem in the philosophy of science: that of demarcating *scientific* theories from other sorts of

theories, particularly *metaphysical* theories" (153). The question becomes especially important in the twentieth century, he writes, "because of the emergence of two influential bodies of theory whose status is distinctly doubtful: psychoanalysis and Marxism" (154). We might easily include vitalism on the list of theories challenging the demarcation between science and metaphysics, given the widespread nature of the debate. Indeed, some of the participants saw the debate explicitly in such terms: Charles Toll wrote in *The Philosophical Review*, "The real point raised by vitalism is just whether or not metaphysics should be introduced as an occasional supplement to the physical sciences" (194).

When he criticized Driesch's vitalism, among other things Bakhtin took on the impossibility of proving it one way or the other: "Like any metaphysical theory," he wrote, "Driesch's uses subjective schemes beyond the scope of experimentation" (96), adding that "vitalism, by its very nature, can never transcend dogmatism" (81). Indeed, the major theories of the time gave this impossibility a central role: Driesch's vitalism "is based on experimental indeterminism," writes Jennings ("Mechanism and Vitalism" 581), and Bergson, "as is well known, expressly holds to indeterminism in the living" (582). In *Creative Evolution* Bergson says that we should examine the living "with other eyes than those of positive science" (208), since "science can and must continue to treat the living as it has treated the inert" (209). Science can only provide a knowledge of life that is symbolic, that is to say linguistic: "We break up this continuity into elements laid side by side, which correspond in the one case to distinct *words*, in the other to independent *objects*" (*MM* 239).[xv] (This conveniently gives Bergson a perfect "out": since any refutation of his theory would have to be

articulated linguistically, that is in terms of the intellect rather than of intuition, his counter-argument can always be: "But that's not how it *really* is.")

Lovejoy observes that the kind of indetermination and unpredictability that vitalism emphasizes in the realm of the living would "make biology as a science impossible and compel us to regard biological investigators as engaged in a 'hopeless task'" ("Meaning of Driesch" 674); Bergson's theory, Morgan points out, "lays… on the problem an emphasis that is foreign to our scientific discipline" ("Chance" 207). The emphasis on indeterminism is in large part a reaction to the mechanical, determinist worldview commonly associated with science at the time. "Naive" mechanism, as we might call positive science before the revolution brought about by relativity and quantum mechanics, posited a "clockwork" universe, like that of Newton or Liebniz, wherein "all configurations and motions are… determinate and computable" (Jennings, "Mechanism and Vitalism" 593). According to this view, "a superhuman intellect could calculate, for any moment of time, the position of any point of the system in space" (*CE* 9); with a knowledge of all the necessary variables—the position and velocity of every point in the system at a given time—the past and future become "calculable functions of the present" (39-40). In an environment where "the assumptions and procedures of positivism… had penetrated many fields of inquiry, including psychology, history, and sociology, as well as philosophy itself" (Schwartz 278), vitalists like Bergson argued that "the rôle of life is to insert some *indetermination* into matter" (*CE* 132).

Anti-determinism, like anti-mechanism, is one of the key components to vitalism, particularly to the vitalisms of Driesch and Bergson. Indeed, just as Bergson

in many places equates mechanism and determinism, so in many ways can we equate anti-determinism with anti-mechanism. As Lovejoy pointed out in 1911, "partisans of the doctrine of organic autonomy deny… that you conceivably ever can, from a study of the laws of motion of inorganic particles, arrive at a law from which you can predict how any living body will behave, *even if you know the number, size, arrangement and composition of the particles composing that body"* ("Import of Vitalism" 77; Lovejoy's italics). Such a view is the source of Driesch's and Bergson's experimental indeterminism, which leaves room for free will and freedom of choice. According to Bakhtin, "Freedom of choice, not determinism in organic life, is the ground of all of Driesch's constructions" (92); for Bergson, the intensity of a consciousness's awareness measures "the quantity of *choice* that the living being has at its disposal" (*CE* 277). It is only by refuting determinism, Bergson and Driesch suggest, that we can open the possibility for free action and for moral freedom. For this reason Driesch appropriates Kant for the vitalist camp; according to Driesch, Kant's "real intention" in the *Critique of Judgment* is to establish that "The world of nature and the world of freedom are two separate worlds," and that "man as noumenon is free" (*HTV* 67). For him, "teleology then must reconcile nature and morality" (68); to this end, Driesch offers the "dynamic" teleology of his vitalism. Likewise, Bergson—for whose philosophy there is "no denying" that "the central concern about the place of free will in a determinist world" was an important feature (M. Gillies 9)—equates his vital principle with "the pure willing, the current that runs through this matter, communicating life to it" (*CE* 251).

In this emphasis on free action there is an appreciable similarity between the

theories of Driesch and Bergson; in it we can also see particular attention give to differentiating living, and in particular human, beings from technological artifacts. In one of his lectures, Driesch cites "a certain well-known class of 'machines' which also 'act'… the phonograph is one example, and the pianola another," and asks how we know "that the acting man is something different" (*PI* 27). The answer, he says, is that acting occurs "upon an *historical basis of reaction* and according to an *individualized correspondence between stimuli and effects*" (26);[xvi] the acting man "*is the sovereign of the results of his personal history*; his history affords him only *means* of future acting and nothing more" (30). This view, that an organism's experiences have "only created *a general stock* of *possibilities* for further acting, but have *not* determined all further reactions" (*HTV* 213)—that "any real action is an *individual* 'answer' to an individual stimulus" (213)—corresponds exactly with the role of memory in Bergson's philosophy. For Bergson, the "primary function" of memory "is to evoke all those past perceptions which are analogous to the present perception, to recall to us what preceded and followed them, and so to suggest to us that decision which is the most useful"; in doing so, memory "frees us from the movement of the flow of things, that is to say, from the rhythm of necessity" (*MM* 303). Memory, in other words, provides what Driesch calls the "historical basis of reaction," and provides a fund of "past perceptions" which expand the field of possible future actions.

The important thing to acknowledge, says Driesch, is that, while they do have a certain historical basis of reaction, "the phonograph and machines of a similar type give forth what they have received with all its specificity" (*PI* 27). Without the

"*general stock* of *possibilities* for further acting" that memory provides, it would be impossible "to distinguish the acting organism from machines of the type of the phonograph" (*HTV* 213): "If the acting man behaved like a phonograph or a machine of a similar type, we could accept the machine theory" (*PI* 30). The action of the phonograph, or even of stage actors, who "may be said to give forth in its very specificity what they have received during their personal history" (27), corresponds to what Bergson calls "habit," the kind of memory "fixed in the organism," which is "nothing else but the complete set of intelligently constructed mechanisms which ensure the appropriate reply to the various possible demands" (*MM* 195). Unlike "true memory," habit—what today we might call reflex or "muscle memory"—appears to act deterministically.

Even here we can see that the line between human action and mechanical action is not as clearly drawn as the vitalists would perhaps hope it to be. As Bergson acknowledges, "freedom always seems to have its roots deep in necessity" (*MM* 332); it is always "dogged by automatism" (*CE* 134). Insofar as living bodies are necessarily material bodies, he writes, they are stalked by the automatism that is characteristic of matter. But even as "consciousness corresponds exactly to the living being's power of choice" (*CE* 278), even as "the memory of a living being appears indeed to measure, above all, its powers of action upon things" (*MM* 303), we find that the issue of free will in Bergson's theory transfers to the problem of controlling this memory, this consciousness. Bergson describes as two extremes the "man of *impulse*" and the "*dreamer*," the one who lives in pure perception, "respond[ing] to a stimulus by the immediate reaction which prolongs it," the other who lives in

memory, “in whom recollections emerge into the light of consciousness without any advantage for the present situation” (*MM* 198). In between these, he says, “lies the happy disposition of a memory docile enough to follow with precision all the outlines of the present situation, but energetic enough to resist all other appeal” (198). In using the words “docile” and “energetic” to describe memory, however, Bergson has shifted agency, the freedom to choose and to act, from the person to memory; it is unclear how, if at all, the one possessing memory exercises any control over it, and yet “the man who should repudiate this memory” would become “a conscious automaton” (201). With Driesch too there is a slip back into determinism; as he extends his theory into ethics he posits a “suprapersonal agent” which “guides the will” by means of conscience (*PI* 60). As we move into a more detailed examination of their theories, we shall see that with both Bergson and Driesch the line between the human and the technological cannot be clearly demarcated, that in fact at the very ground of their philosophies there is no such line at all.

Hans Driesch (1867-1941) studied zoology under Ernst Haeckel in the late 1880s. Originally an “ardent admirer” of Darwin, Driesch travelled in 1891 to the Zoological Station in Naples, the pre-eminent site for advanced marine biological research (Freyhofer 27). On his way to Naples he stopped over at the Zoological Station in Trieste, where he performed experiments on sea-urchin eggs that would have a profound effect on his career. Driesch found that “If the division-cells of the developing sea-urchin egg in the two- or the four- or up to the thirty-two-cell stage are separated from each other, each will develop into a small, though complete

organism" (Spaulding, "Driesch's Theory" 519). In a later series of experiments, he determined that "the hydroid-polyp, *Tubularia*, consisting of stem and head, forms, when its head is cut off, a new head; let the cut be made in various ways, then the remaining, yet in each instance differing, parts of the stem coöperate to form the different parts of a complete and perfect head" (519). Driesch's experiments have been called "the last stand of vitalism in biology" (Wolsky and Wolsky 157); based on his results, Driesch rejected the mechanistic theories that had provided the background for his training and posited the existence of a natural, but non-material, vital force which he called "entelechy."

Driesch left the Naples station in 1900 and settled in Heidelberg, though he continued to make visits to "subject his ideas to rigorous laboratory experiments" until 1909 (Freyhofer 44). However, he was unable to discover any further empirical evidence for his ideas and instead focussed on its "conceptual refinement" (44). He expounded his ideas in various articles and conference presentations, and received some notice in the field of psychology, "where the failure to account for human action primarily in physico-chemical, mechanist terms had become very apparent" (45). Driesch argued that "the functioning process of man's brain, his thinking, cannot be analyzed separately from his action," and from this adduced additional "proof" of the "autonomy of life processes, which… show[ed] that machines cannot act or think, and that, consequently, men are not machines" (45).

In the early 1900s Driesch was asked by a publisher to produce "a history of vitalism for the general public" (Freyhofer 56); *Der Vitalismus als Geschichte und als Lehre* (published in English in 1914 as *The History and Theory of Vitalism*) appeared

in 1905 and "proved to be a success for Driesch." A second, revised edition appeared in 1922, and the work was translated "into Polish, Italian, Russian, and English" (Freyhofer 61). Not long after the initial publication of Driesch's history, he "was offered… the Gifford Lectureship at the University of Aberdeen for the academic year 1907-1908" (Freyhofer 61). Thanks to his Gifford lectures, which were published in two volumes as *The Science and Philosophy of the Organism*, Driesch became well known both in and outside of his field, and "also received sophisticated analyses of his theory from some eminent critics" (71); the reception of his theory "showed that interest in vitalism had grown considerably since the turn of the century" (71). Driesch's popularity was also growing: "Within a few years Driesch became a member of two prestigious academic societies (The Linnean Society and the International Commission of the Congresses of Philosophy), received an honorary doctorate from the University of Aberdeen, and was invited to teach philosophy at the University of Heidelberg" (71). In the two decades after World War I, Driesch "gave hundreds of lectures in over 150 cities around the world," and proved to be an immensely popular speaker, at times lecturing "by means of a public address system to an audience filling two halls" (135-36). His staunch opposition to war, however, eventually put him at odds with the Nazis (Freyhofer 163), and after 1933 "Driesch pursued his scholarly work mostly in the seclusion of his Leipzig home" (165).

The main feature of Driesch's vitalist theory was the principle which he called entelechy. There are varying opinions on how close Driesch's use of the term is to Aristotle's. Charles Toll, for instance, claims that Driesch is "adopting the term Aristotle used with similar meaning" (193). Rádl, on the other hand, asserts that

"Driesch merely applied the idea to biological processes" where Aristotle included "the facts of inanimate nature" (360); moreover, Rádl observes, Aristotle used the term to describe the qualities of things, whereas Driesch uses it more quantitatively (360). Driesch interprets the Aristotelian meaning of "entelechy" as "that which 'is' in the highest sense of the word, even if it is not strictly a realised thing; in this sense the statue, before it is realised, exists in the mind of the sculptor" (*HTV* 14). Bakhtin translates it as "having purpose within itself" (88). Elsewhere, however, Driesch has said that he does not use the term "in the proper Aristotelian sense" (*HTV* 203); rather, it is "a mould which we have filled and shall fill with new contents" (*SPO* 1:144).

Entelechy, for Driesch, is "the autonomous agent at work in the vital processes" (*PI* 33); it is "not a 'property' or attribute or accident, or anything similar, of a substance in space," nor does it "depend for its existence… on substance in space" (35). Entelechy is "an agent *sui generis*, non-material and non-spatial, but acting 'into' space"; however, it is an agent that "belongs to nature" (*HTV* 204). According to Driesch, the function of entelechy is to "*suspend* such kind of happening as would occur if not so suspended" (*PI* 38); it "allows that to become real which it has itself held in a state of mere possibility" (*HTV* 205). Thus in each of the cells of the sea-urchin blastule, for example, "the *same* great number of possibilities of becoming is physico-chemically prepared, but checked, so to say, by entelechy. Development of the system now depends… upon the fact that entelechy *relaxes its suspensory power* and thus allows events to go on" (*PI* 39). Since these possibilities are themselves consistent with the laws that govern the inorganic universe, Driesch

argues, entelechy does not violate any natural laws (such as the Law of Conservation of Energy or the Law of Entropy).

Driesch acknowledges that any "proofs" of vitalism "can only be indirect proofs: they can only make it clear that mechanical or singular causality is *not* sufficient for an explanation of what happens" (*HTV* 208). In his theory, "the concept of a *machine* is all that has been established as something positive" (*PI* 5), and it is here that we see how vitalism engages technology with a desire to distinguish the living from the technological and with a treatment of the body as technological. Driesch sees both vital processes and the processes that take place in machines as being "purposive," and in *The History and Theory of Vitalism* he formulates the "fundamental problem of biology" as follows: "are those processes in the organism, which we described as purposive, perhaps only *purposive in virtue of a given structure* or tectonic, of a 'machine' in the widest sense… or is there another *special kind of teleology* in the realm of organic life?" (4). Drawing once more on his earlier biological experiments, he asks, as a rhetorical, mechanist question, "Why should there not be a machine in miniature present in an egg," even in the case of "normal ontogenesis"? He proceeds to declaim: "The machine *cannot* be present for the following reason. The egg has undergone an enormous number of divisions before becoming what it now is. But how could a 'machine' be divided and divided and—*always remain the same*?" (*PI* 22).[xvii]

Critics, however, quickly picked up on Driesch's use of the machine metaphor. As Bakhtin points out, "The hypothetical mechanist, whose reasoning Driesch extends into the absurd, used the analogy of organism with machine

extremely badly" (95). Spaulding contests that "the author has juggled with the term 'machine,' using it first in a broad, and then in a narrower and even technical sense" ("Driesch's Theory" 520); Driesch starts out, Spaulding argues, "by defining machine, in a manner quite acceptable, as including both physical and chemical constituents and their interactions. … But next, losing sight of this definition, he argues that a machine has a typical construction with regard to the three dimensions of space and, therefore, no part like the whole" (Review of *Science & Philosophy* [Vol. I] 66). Ultimately, Driesch's *reductio ad absurdum* of the mechanist position hinges on "slip[ping] in some such narrow definition of mechanism as that which is something like a steam engine" (Review of *Science & Philosophy* [Vol. II] 438).

What is most notable, however, is not the tacit equation (whether deliberately tacit or not) of the organism with some kind of engine, but rather the fact that this absurd extension of the analogy is a result of the terms Driesch himself uses to define both machine and organism. Driesch's theory relies heavily upon the concept of wholeness. The organism "represents a factual *wholeness*," and "a great many of the processes occurring in the organism bring about this *wholeness*, or restore it if it is disturbed in any way" (*PI* 3). However, Driesch also identifies wholeness as a feature of machines: "We are familiar with certain products of human workmanship which, factual wholenesses in themselves, produce other wholenesses by the processes which occur in them. … Wholeness, then, *may* be produced by a constellation of single *inorganic* or *mechanical* processes, in short by the working of a *machine*" (4). In bestowing upon the machine the quality of wholeness (an "organic" wholeness, we might even say), Driesch has established the route by which the definitions of

machine and organism can slip one into the other. The machine, regarded as a whole (as "something like a steam engine") is so because it is the product of human work, a finished product. Likewise, the wholeness of the organism has been produced by entelechy; towards the end of his Gifford lectures, Driesch asks: "Does not the statical harmony between certain domains of nature point to an original, primary Entelechy that made it, just as the artist makes an object of art?" (cit. in Spaulding, Review of *Science & Philosophy* [Vol. II] 442). Indeed, if we recall Driesch's interpretation of Aristotle's term, the idea of constructing or making is already present in the idea of entelechy: "the soul as an actuality, as an 'entelechy,' organises the body" (*HTV* 18). Driesch's theory, then, does not depend on setting up an absolute difference between machines and living bodies; rather, it depends upon an equation between the two, and makes itself vitalistic by removing the "inventor" from the material, mechanical universe. Bodies are the inventions of entelechy.

The concept of wholeness has other consequences for Driesch's theory. In extending this concept he arrives at "the doctrine that the universe is *one ordered whole*" which he calls the "monism of order" (*PI* 63). The result of Driesch's monism is that "there would be no difference between 'mechanism' and 'vitalism,' for there would be no *mechanism*. There would be one organism, so to say; or, in other terms, the universe would be *the one* organism" (64). (We can see here some affinities between Driesch and Bergson. Earlier Driesch had remarked that it was "quite conceivable that organic species are not the result of an elementary autonomous law but of a pre-established configuration of cosmic factors" [*HTV* 168-69], a view in line with Bergson's idea of creative evolution.) In response to Darwin's theories, Driesch

offers the "formal hypothetical solution" that "there may be a certain *suprapersonal* kind of entelechy that realizes itself in space in the phylogenetic process" (*PI* 57-58). Driesch also finds this kind of "suprapersonal unity" in history "*as the working of one evolutionary law*" (58): "there are certain *signs of wholeness* in history, or at least in the object of history, *i.e*. the community of men, or 'the State' in the widest sense of the word" (60). Much of his theory had been directed at establishing the autonomy of life processes and at removing the organism from the determinism of the universe; with his "monism of order" and suprapersonal unity, Driesch drifts back into determinism, removing agency from human beings and placing it within entelechy. Morality is a "sign of suprapersonality" (*HTV* 220), and "*Conscience* seems to be the means by which the suprapersonal agent guides the will" (*PI* 60).

This emphasis on wholeness, and in particular on wholeness as manifested in "the State," suggests how vitalism can slip into something like fascism. In 1909, Lovejoy remarked that "Driesch's entelechies… form hierarchies somewhat like that of the German army" (Review 763)—a simple observation that in retrospect takes on ominous overtones. Bakhtin's 1926 essay, in which he seeks to dismantle Driesch's theories, was a response to "the pan-European crisis during the 1920s over Hans Driesch's vitalism" (Rousseau 22). For some, "the attempt to treat the entelechy as something apart from and yet controlling the material basis" came "perilously near to mysticism" (Morgan, Review 104), and those who turned to neo-vitalist doctrines risked "fall[ing] into the arms of what—to the average biologist unaccustomed to them—will seem monsters of still more frightful mien" (Lovejoy, Review of *Science & Philosophy*, 763).

Bergson's philosophy is likely more familiar to the reader than Driesch's vitalism is, though both were at the forefront of the debate in the early twentieth century. Bergson's philosophy is more complex than, and cannot be simply categorized as, vitalism—as Douglass puts it, "Bergsonian thought cannot be entirely subsumed by the vitalist vocabulary" (385)—yet it contains some strongly vitalistic elements. Like Driesch, Bergson was an immensely popular figure in the first decades of the century; his *Évolution créatrice* caused a sensation, and between 1909 and 1911 alone "over two hundred articles [were] published on Bergson in English journals, newspapers, and books" (M. Gillies 28). Also like Driesch, Bergson had been educated in the sciences: Mary Ann Gillies points out that he was originally trained in physics and mathematics, and that, "like most young intellectuals in the post-Darwinian era, he was forced to confront the radical discoveries of natural science" (9). There can be no doubt that Bergson was perceived as a vitalist. Lovejoy admits that "Bergson does not seem to call his doctrine vitalism," but asserts: "it seems to me that any dogmatic (*i. e.*, not merely provisional or agnostic) anti-mechanism in biology should be called vitalism" ("Meaning of Vitalism" 614). Bergson can be regarded as one of what Lovejoy calls the

"psychological vitalists," those "who find in the phenomena of consciousness… some clue to the sort of causal process which must be assumed to account for the peculiar unity, the definiteness of form, and the adaptiveness, of living things and their functioning" (Review of *Science & Philosophy* 762).

While Bergson may not call his doctrine vitalism, he acknowledges in *Matter*

and Memory that his theory is "frankly dualistic" (xi), that it deals with "the problem of the relation between soul and body" (xiv). This sort of dualism is key to most vitalist theories—as Driesch points out, there is a "close relation between the problem of mind and body and real Vitalism" (*HTV* 162). *Matter and Memory* is devoted to establishing the mind–body dualism, to making "a profound distinction between matter and spirit" (235). For Bergson, "there is one, and only one, method of refuting materialism: it is to show that matter is precisely that which it appears to be. Thereby we eliminate all virtuality, all hidden power, from matter, and establish the phenomena of spirit as an independent reality" (80). In arguing that there is no material basis for memory, that "memory must be, in principle, a power absolutely independent of matter" (81), Bergson attributes to memory vitalistic qualities—indeed, in the passage above we can see him employing the same proof *per exclusionem* that Driesch uses to establish that living things are not machines, namely, that since living bodies cannot be wholly material (that "matter is precisely that which it appears to be"), there must be an "independent reality" for the spirit, as we have "eliminated" all of matter's "hidden powers."

The chief tenets of Bergson's theory are also strongly vitalistic. In *Matter and Memory* these tenets include the aforementioned duality Bergson asserts between body and mind and between perception and memory, wherein "memory… only becomes actual by borrowing the body of some perception into which it slips" (72). His theory propounds a vitalistic understanding of how we experience time, especially in the way in which memory produces "duration" or *durée*, whereby memory "prolongs into each other, so as to grasp them in one relatively simple

intuition, an endless number of moments of an endlessly divisible time" (76). In *Creative Evolution* he extends this notion, stating that "The universe *endures*" (11) and arguing that "The evolution of the living being, like that of the embryo, implies a continual recording of duration, a persistence of the past in the present, and so an appearance, at least, of organic memory" (20). This leads to the most strongly vitalistic feature of Bergson's philosophy, that of "an *original impetus* of life" or *élan vital*, "passing from one generation of germs to the following generation of germs through the developed organisms which bridge the interval between the generations" (92). This "impetus," Bergson contends, "is the fundamental cause of variations, at least of those that are regularly passed on, that accumulate and create new species" (92). In Bergson's theory of "creative evolution," this "vital impetus" takes on a role comparable to that of Driesch's entelechy. In Bergson's view, "life is a movement, materiality is the inverse movement" (263); life involves "an effort to remount the incline that matter descends" (259). This resistance to the "descent" of matter is very similar to the "suspensory" power of Driesch's entelechy: life is

> riveted to an organism that subjects it to the general laws of inert matter. But everything happens as if it were doing its utmost to set itself free from these laws. It has not the power to reverse the direction of physical changes, such as the principle of Carnot [*viz*., the law of entropy] determines it. It does, however, behave absolutely as a force would behave which, left to itself, would work in the inverse direction. Incapable of *stopping* the course of material changes downwards, it succeeds in *retarding* it. (259; Bergson's italics)

Where Driesch's entelechy suspends, Bergson's *élan vital* retards; both vital agents work in accordance with the laws of nature while at the same time limiting their operation.

Given what has already been said about the technological dependence of Driesch's vitalism, it is perhaps not surprising to find that Bergson often has recourse to technological metaphors. Indeed, the most vitalistic elements of his philosophy hinge on such metaphors. In *Creative Evolution*, for example, Bergson's distinction between intellect and intuition is based on what he calls the "cinematographical instinct of our thought" (333) which characterizes the intellect and the knowledge it gives us:

> Instead of attaching ourselves to the inner becoming of things, we place ourselves outside them in order to recompose their becoming artificially. We take snapshots, as it were, of the passing reality, and, as these are characteristic of the reality, we have only to string them on a becoming, abstract, uniform and invisible, situated at the back of the apparatus of knowledge, in order to imitate what there is that is characteristic in this becoming itself. (322-23)

In *Matter and Memory*, Bergson establishes the materiality of the body by saying that "the brain is no more than a kind of central telephonic exchange" (19); he sees the body as "only a conductor, the office of which is to receive movements, and to transmit them (when it does not arrest them) to certain motor mechanisms, determined if the action is reflex, chosen if the action is voluntary" (86), casting the brain as a kind of switchboard: "the living body in general, and the nervous system in

particular, are only channels for the transmission of movements" (81). The "minute structure of the nervous system as recent discoveries have revealed it to us" shows "everywhere conducting lines, nowhere any centres" (227). All of this, "all the facts and all the analogies," lead Bergson to "a theory which regards the brain as only an intermediary between sensation and movement" (232). His anti-materialism in *Matter and Memory*, as we have already seen, consists of showing that the brain is "precisely that which it appears to be," a telephonic exchange or switchboard, and in thereby concluding that, since the choice of channel—the decision that results in voluntary action—cannot come from this switchboard itself, there must be a memory independent of matter that accounts for the difference. This line of argument bears the same structure as Driesch's refutation of mechanism and "proof" of vitalism, and logically is the equivalent of simply saying, "We cannot be machines."

Bergson takes up this argument again in *Creative Evolution*, pointing out that "the will of an animal is the more effective and the more intense, the greater the number of the mechanisms it can choose from, the more complicated the switchboard on which all the motor paths cross, or, in other words, the more developed its brain" (266). As we saw with Driesch, here again the immaterial vitalist quality is cast into the role of a user who operates the technology of the body. For Bergson, however, life is even more than the operator of a technology—it is the inventor. The idea that living things are "inventions" or show evidence of design is, of course, not a new one; the notion that nature is of God's design is thousands of years old, and proponents of a "natural theology," including some early scientists, saw "in the very complexity of the organs, 'as most resembling things of human contrivance,' evidence of God's

design" (Burwick 125).[xviii] The idea of design is very close to many brands of vitalism: Freyhofer points out that "vitalism holds a particular attraction for people who think that nature is endowed with purpose and design" (143), while Burwick refers to "the vitalist teleology of the 'great system' or 'great design' of all creation" (119). This concept of design also means that Bergson's technological metaphors are in a sense *more* than metaphors: the specific comparisons are made metaphorically, but in his system living things themselves are inventions, are technologies.

Bergson's definition of *élan vital* as "the fundamental cause of variations" in the course of evolution means that this concept overlaps with that of design. For Bergson, "the spontaneity of life is manifested by a continual creation of new forms" (*CE* 91)—forms which are in a real sense invented by the vital impulse, not in accordance with some prearranged plan but nevertheless with a specific, practical outcome set as a goal. Bergson argues that "an organ like the eye, for example, must have been formed by just a continual changing in a definite direction" (91), rather than by an "accumulation of accidental variations" (59): "Whether we will or no, we must appeal to some inner directing principle in order to account for this convergence of effects" (80). The improvisatory nature of the vital impulse does not make it any less of an inventor; though Bergson rejects "finalism," there is nonetheless something purposive in the action of his *élan vital*. This certainly seems to be the case when he talks about effort: "A hereditary change in a definite direction, which continues to accumulate and add to itself so as to build up a more and more complex machine, must certainly be related to some sort of effort, but to an effort of far greater depth than the individual effort, … an effort common to most representatives of the same

species" (92). (The fact that this effort transcends the "individual effort" suggests the kind of suprapersonal unity that Driesch finds in his entelechy.)

Contemporary interpretations of Bergson's writings picked up on this idea of invention as well. In his 1909 presidential address to the American Society of Naturalists, T. H. Morgan describes Bergson's vital impulse thus: "His élan vital adjusts itself to each new need that arises; does not work on a preconceived or foreordained plan, but adapts itself to the matter and to the situation *in the same way in which an inventor will take the materials at hand and shape them to his purpose with the tools at his command*" ("Chance" 207; my italics). Indeed for Bergson the whole "enterprise" of life has been a continual process of invention:

> The whole history of life until man has been that of the effort of consciousness to raise matter, and of the more or less complete overwhelming of consciousness by the matter which has fallen back on it. … It was to create with matter, which is necessity itself, an instrument of freedom, to make a machine which should triumph over mechanism, and to use the determinism of nature to pass through the meshes of the net which this very determinism had spread. (*CE* 278)

Invention itself according to Bergson becomes something like a "vital process," since "the time taken up by the invention is one with the invention itself. It is the progress of a thought which is changing in the degree and measure that it is taking form" (359-60). Yet this formulation blurs the line between invention and living thing, and it is difficult to see how the *durée* of "the artist who creates a picture by drawing it from the depths of his soul" differs from the *durée* which "is part and parcel of his work"

(359).

As an organism becomes more and more advanced, more and more evolved, Bergson writes, it "behaves more and more like a machine for action, which reconstructs itself entirely for every new act, as if it were made of india-rubber and could, at any moment, change the shape of all its parts" (266). As it was for Driesch, the organism-as-machine analogy is central to Bergson's theory. In differentiating between intelligence and instinct, he contends that, "while intelligence treats everything mechanically, instinct proceeds, so to speak, organically" (174). The mechanical nature of intelligence allows an organism to "absorb" inorganic matter, to make matter useful to itself: "all the elementary forces of the intellect tend to transform matter into an instrument of action, that is, in the etymological sense of the word, into an *organ*. Life, not content with producing organisms, would fain give them as an appendage inorganic matter itself, converted into an immense organ by the industry of the living being" (170). The transformation of inorganic matter into appendage has as its apex the tool-making of human beings; in "unintelligent animal[s]," on the other hand, "the instrument forms a part of the body that uses it; and, corresponding to this instrument, there is an *instinct* that knows how to use it" (146). Thus the main distinction between intelligence and instinct becomes the nature of the appendages or tools at their disposal: instinct works with tools already incorporated into the body, whereas intelligence forms new organs from "unorganized" or inorganic matter. But in making this distinction, Bergson effects an interesting reversal: it is not that the appendage, by analogy with things of human fabrication, becomes something like a tool. Rather, it is the tool that resembles the

appendage and aspires to something like its "perfection." The tool fashioned by intelligence is "an artificial organ by which the natural organism is extended" (148), merely an imitation of the tool available to instinct, "which makes and repairs itself, which presents, like all the works of nature, an infinite complexity of detail combined with a marvellous simplicity of function, does at once, when required, what it is called upon to do, without difficulty and with a perfection that is often wonderful" (147-48). By comparison, "the instrument constructed intelligently… is an imperfect instrument" (148). Bergson's terminology, in setting up the organic appendage as a "perfect" instrument, establishes the body and its natural tools as a sort of Platonic form, an ideal which the artificially constructed tool can only "imperfectly" imitate. The body, therefore, is the archetypal technology, one undergoing continual re-invention by the *élan vital*, whose "main energy… has been spent in creating apparatus" (133).

The ways in which Bergson talks about living things underscore this idea that the organism is technological. In a number of places throughout *Creative Evolution*, Bergson describes life in terms that anticipate those Heidegger would later use in "The Question Concerning Technology"; while I do not wish to make too much of these similarities, the number of times Bergson speaks of the living thing as something resembling Heidegger's "*Bestand*" is difficult to ignore—especially given the fact that, as Richard Lehan points out, "like Bergson, Heidegger believed that man is a maker, a *homo faber*" (325). In "The Question Concerning Technology", Heidegger writes: "The revealing that rules throughout modern technology has the character of a setting-upon, in the sense of a challenging-forth. That challenging

happens in that the energy concealed in nature is unlocked, what is unlocked is transformed, what is transformed is stored up, what is stored up is, in turn, distributed, and what is distributed is switched about ever anew" (16). Modern technology, then, is characterized as a "standing-reserve [*Bestand*]" (17); it is "a challenging… which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such" (14). We can see here an affinity with Bergson's comments on the nature of the intellect. According to Heidegger, "modern technology must employ exact physical science," which leads to "the deceptive illusion… that modern technology is applied physical science" (23). Because both technology and physical science treat the real as standing-reserve, nature as something whose essence is measurable and quantifiable,

> Modern science's way of representing pursues and entraps nature as a calculable coherence of forces. Modern physics is not experimental physics because it applies apparatus to the questioning of nature. Rather the reverse is true. Because physics, indeed already as pure theory, sets nature up to exhibit itself as a coherence of forces calculable in advance, it therefore orders its experiments precisely for the purpose of asking whether and how nature reports itself when set up in this way. (21)

Heidegger calls the essence of both modern science and technology "Enframing," which "starts man upon the way of that revealing through which the real everywhere, more or less distinctly, becomes standing-reserve" (24). We can see this "Enframing" as analogous to the work of the Bergsonian intellect, whose "function is to establish clear-cut distinctions" (*MM* 190) with a view towards practical action. "Positive

science," Bergson writes, "is, in fact, a work of pure intellect" (*CE* 206): "its object is not to show us the essence of things, but to furnish us with the best means of acting on them" (98). And, just as "Enframing blocks the shining-forth and holding-sway of truth" (Heidegger 28), so the Bergsonian intelligence treats things mechanically and denies to us the understanding of their true essence which is available only through intuition: "Instinct is therefore innate knowledge of a *thing*" (*CE* 158).

Yet what does Bergson have to say about a "standing-reserve"? Here again we find an interesting reversal: just as the appendage is the ideal tool, so with Bergson we find that the living being embodies what Heidegger would later call the essence of modern technology. Tracing the evolution of life, Bergson claims that the division of the vital impulse into individuals and species has "two series of causes: the resistance life meets from inert matter, and the explosive force… which life bears within itself" (*CE* 103). This "explosive force" that drives life is key to defining what life is: "looked at in its initial impulsion, before any scission, life was a tendency to accumulate in a reservoir, as do especially the green parts of vegetables, with a view to an instantaneous effective discharge, like that which an animal brings about, something that would have otherwise flowed away" (*CE* 260), namely energy. The vital impulse, he writes, "brings life to more and more efficient acts by the fabrication and use of more and more powerful explosives" (259). In this configuration, the food chain is nothing but a way for energy, derived originally from the sun, to be stored up in greater and greater amounts. The apex of this chain is "animality," which Bergson defines as "the faculty of utilizing a releasing mechanism for the conversion of as much stored-up potential energy as possible into 'explosive' actions" (126). Life,

then, reiterates the trajectory of the "challenging-forth" that occurs with modern technology: "the energy concealed in nature is unlocked," transformed, and stored up, "what is stored up is, in turn, distributed, and what is distributed is switched about ever anew" (Heidegger 16). Creative evolution is a fundamentally technological process.

Just as Driesch's entelechy is an inventor—an immaterial inventor that stands outside the material universe, but an inventor nonetheless—so too is Bergson's vital impulse an inventor, and the things that it invents are "standing-reserves" of energy, technological beings. Vitalism, which in the early twentieth century professed itself as out to solve the "fundamental problem of biology"—whether living things are machines—finds itself answering in the affirmative in spite of itself. Intent on erecting an insurmountable barrier between living beings and technological artifacts, vitalism finds instead that it cannot disavow the technological, that it in fact depends on it.

Bergson's influence on the world of the early twentieth century was not limited to debates over evolution in the biological sciences. As a number of critics have noted, his philosophy became entwined with the aesthetics and artistic movements of the time. Bergson's ideas appealed to those who were concerned by the increasing mechanization and urbanization of the modern world; as Mary Ann Gillies points out, many saw him "as a champion of the spirit in a world where the spirit was sacrificed to the perpetual pursuit of material success and progress" (25). Jürgen Klein argues that the seeds of modernism were sown in the ground prepared by "the conflict…

expressed through the question: mechanism/causalism or spiritualism/idealism?" (191), writing: "Every attempt to explain the genesis of modernism in literature, philosophy, and the arts in England after 1905 has to reflect the metaphysical crisis of the late nineteenth century" (191). Richard Lehan points out the importance of Bergson's anti-materialism, claiming that "it was Bergson who created a systematic, rigorous philosophy that gave foundation to basic modernist tenets, and it was Bergson who cleared the modernist landscape of a materialistic underbrush that would have choked modernism off at the outset" (307). Taking a longer view of the development of biology and of modernism, George Rousseau asserts, "the vitalism inherent in early modern biology… must concern us if we hope to grasp why modernism has emerged at a particular moment under specific cultural conditions" (20).

In his chapter on Joyce in *Bergson and the Stream of Consciousness Novel*, Shiv Kumar suggests a correspondence between Bergson's *intuition philosophique* and the concept of epiphany as it appears both in Joyce and in other modernist writers. The aesthetic theory that Stephen expounds to Lynch, Kumar writes, presents a "supreme aspect of beauty [that] resembles, in certain respects, Bergson's *l'intuition philosophique* which enables a person to enter into the heart of an aesthetic image and apprehend it, in a single effort, as a rhythmic synthesis of its organically related components" (123).[xix] Kumar also extends this notion to other modernists, pointing out for example that "This theory of epiphany… also seems to parallel Virginia Woolf's notion of reality as revealing itself in unexpected visionary flashes," and that it is "easy to recognize a certain correspondence between Virginia Woolf's

'evanescent reality,' Proust's 'intuition' and Bergson's *l'intuition philosophique*" (131). Mary Ann Gillies also sees Bergson's influence pervading modernist aesthetics; in *Henri Bergson and British Modernism* she claims a debt to Bergson on behalf of a number of modernist figures, among them Joyce, Woolf, Eliot, and Pound. She finds in Pound's "definition of the image," for instance, a "most Bergsonian statement," in "its emphasis on the instantaneous nature of the experience of an image, its 'freedom from time limits and space limits' and the fact that the image 'presents an intellectual and emotional complex in an *instant of time*'" (48; Gillies's italics). Gillies also sees a Bergsonian element in Woolf's attack on "materialist writers" in her essay "Modern Fiction," particularly in the ideas that "the greatest fault a writer could have was to concentrate on the external world at the expense of the inner" and that "form should reflect the internal harmony of the artist and the subject, and that purely representational art devoid of such sympathy can not rightly be called art" (M. Gillies 58). We can also see vitalism's influence in the sterile picture Eliot presents in *The Waste Land*; the alienating nature of life in the "Unreal City," devoid of true vitality, reflects a deep-seated suspicion of the role modern technology has in daily life—consider for example the sexual encounter between the typist, with her "automatic hand" (255), and the "young man carbuncular" (231), which could easily be characterized as an encounter between two barely conscious automata.[xx]

One of the Bergsonian influences that Gillies sees at work in Joyce is the importance of memory. Joyce's epiphanies depend upon a Bergsonian faculty of memory, she writes, where "the recollection of the past moment illuminates both the

previous experience from which it comes and the present experience that prompted the recollection in the first place" (136). Given that memory for Bergson takes on a quasi-vitalist quality, it is not surprising to find a connection between the epiphany and the sort of intuition that connects us with the vital impulse. Gillies takes up Kumar's argument on this point, reiterating that "Joyce's borrowings from Bergson are central to the development of his unique treatment of characters in fiction" (134). Of particular importance, she argues, is his treatment of time, especially the distinction between the inner time of *durée* and the "spatialized" time of the wider world. "Joyce's fictional worlds are very much based in *durée*," Gillies writes, "because his primary focus is the inner world, and the main subject in his work is the self and its evolution and changes" (135), which means that his "interest in time centres around the exploration of character and how to represent life's fluid inner world" (134). With regard to *Ulysses*, Gillies argues that the "tension between clock time and inner time provides the framework for the novel: the clock time gives overt structure to Stephen's and Bloom's wanderings; inner time provides the novel's substance, its psychological portraits" (146). In this formulation, then, the substance of Joyce's novel becomes the "true" inner life of his characters, as opposed to the rigid selves that they present to the world; as Gillies puts it, "Bergson claims that the social self, although useful for our interaction with others, is no longer vital because it has solidified. Rather it is the vitality of the inner self – indefinable and seldom known because of its states that continually evolve and merge with each other – that forms our total self" (135).

The inner self, then, is "vital" and true; the social self—the self that confronts

the outer world of the modern city, with its clocks, its trams, its telegraphs, newspapers, and telephones—is, like all of these objects, mechanical, solidified. And yet even a quick glance at *Ulysses* can convince us that this is not the case. The "social self" Bloom uses to interact with Gerty Macdowell, for instance, is much different than the one that confronts the Citizen at Barney Kiernan's, the one that attends Dignam's funeral, or the "self" that Bloom presents to Martha Clifford as Henry Flower, a persona adopted for and abetted by the anonymity made possible by typewritten communication. The Bergsonian would likely argue that all of these "selves" are mere masks that falsify the inner reality of Bloom's "true" being. My point here is simply that, rather than becoming solidified by modern technology, the outer or social self in fact becomes more fluid as it has more technologies at its disposal. A relatively simple technology like clothing allows for many different self-presentations; the opportunities multiply with a technology like typewriting or the telegraph. On top of this, Bloom does not have complete control over his own representation, which is one possible reason he is so miffed to find that according to the newspaper it was "*L. Boom*" who attended the funeral (16.1260), the error relegating him to the role of an unimportant, unnoticed bystander.[xxi] Suffice it to say that the central place that textual production enjoys in *Ulysses* underscores the fact that performance and technology are closely intertwined. As Hugh Kenner points out, "the characters in *Ulysses* are reading and writing constantly; those acts occur in virtually every episode" (72-73). The "inner life" of Joyce's characters thus necessarily becomes "contaminated" by the technologies of language and text. Contrary to critics like Kumar and Gillies, Robert Klawitter argues that "Joyce's

fictional world… is a parodic representation of unreality as Bergson describes it, a parody of the inevitable unreality of the human world," since "there can be no representation of reality as Bergson describes it because reality for Bergson is always falsified by representation" (435). On top of this, he writes, "Joyce's books do not only represent a world that Bergson calls unreal, they also call attention to its unreality" (433)—its unreality both as a world full of textual production and representation and as a world represented to us as a textual product. If anything, Kenner points out, *Ulysses* constantly reminds us that we are reading text on a page; Joyce "forces us to confront printed pages, and make what we can of them" (69). The world of *Ulysses*, not merely the world it depicts but also the world in which it was published and the world in which we read it, is the world of the textual product: "We become Joyce readers the way we become newspaper readers: by practice. In neither case is there a narrator to help us. We are simply engaging the technology of print, and starting to be qualified once we are free to forget that it is a technology: once the page has ceased to *look* odd" (72).

All of this is not to say that Joyce was unaware of Bergson's theories, or that he was completely immune from their influence. In its own way, in fact, it suggests the opposite: as Klawitter writes, "the novelist who thinks as Bergson does will be also acutely conscious of the unreality of his medium, and his novels will be haunted by the fictionality of their fictions" (436). The mistake, one which Joyce does not make, would be to assume that "true" reality is an inexpressible, vital inner world. In fact, in one conversation Joyce told Arthur Power that "the intellectual outlook which dissects life… is now what interests me most, to get down to the residuum of truth

about life, instead of puffing it up with romanticism, which is a fundamentally false attitude" (Power 45). Giedion-Welcker has said that to Joyce cities "appeared… as collective individuals, history turned into shape and space, large reservoirs of life. He saw them in the past and in the present as manifold units growing with time, as self-determining identities, as living history" (261). *Ulysses* reflects Joyce's interest in cities; it is an homage to the city, not as an entity governed by some mystical entelechy or *élan vital*, but as one whose life is thoroughly dependent upon the technological.

The word "entelechy" appears twice in *Ulysses*. On both of these occasions it is associated with Stephen: once uttered aloud, and once occurring in his interior monologue. It is true that Stephen acquires the term from Aristotle, not from Driesch—however, it is helpful to remember that Driesch uses the term along Aristotelian lines. Stephen's use of such terminology is one of the things that align him with the vitalist side of the debate, just as we shall come to see that Bloom is allied with the mechanist position. The early twentieth-century debate over vitalism provides an important context for this contrast between Bloom and Stephen, one that not only informs their differing views on science, art, and metaphysics, but one that demonstrates how Bloom is the better equipped of the two to navigate life in the metropolis amid modern technology, to negotiate life among the machines.

As mentioned, Stephen uses the word "entelechy" twice, once in interior monologue, once in outward expression. While sitting in the National Library in "Scylla and Charybdis", he reflects: "But I, entelechy, form of forms, am I by memory because under everchanging forms" (9.208-9). It is interesting to note that

this statement brings together "entelechy" and "memory," important terms for Driesch and Bergson respectively. Stephen's coupling of the two suggests that he tacitly subscribes to a Bergsonian notion of memory, one that is not dependent upon the matter of the brain or the body, one that provides the basis for self-identity and *durée*. For Stephen, this entelechy is the explanation for the fact that, though "Molecules all change" (9.205), he maintains a consistent identity and awareness of his body as himself; given the context, there also seems to be an equation between entelechy and the soul as self. On the second occurrence of "entelechy" in the text, Stephen is expounding to Lynch an aesthetic aspiration: "So that gesture, not music not odour, would be a universal language, the gift of tongues rendering visible not the lay sense but the first entelechy, the structural rhythm" (15.105-7). "Structural rhythm" again hearkens back to Aristotle, to the soul as entelechy organizing the physical body, providing form, to the soul as "actuality in the highest sense" (*HTV* 18). Stephen's statement also reflects Bergson's concern with the necessary falsity of representations of *durée*, to which Klawitter has called attention. The desire to make "gesture" a "universal language" points to a transcendence of language, to a unity with the flow of things that is *durée*, a unity that "renders visible" the "first entelechy."

Entelechy then becomes important not only to life but to artistic expression. We can see in Stephen the Bergsonian artist who has not yet reached the point where "reality… is always falsified by representation" (Klawitter 435). Yet in allying entelechy with the act of artistic creation, Stephen in fact retraces the path by which we saw vitalists such as Driesch slip into technological terrain, by arguments of

design. In the library, Stephen asserts, "As we, or mother Dana, weave and unweave our bodies, … from day to day, their molecules shuttled to and fro, so does the artist weave and unweave his image" (9.376-78). Again we have entelechy, or that which "weaves" and provides form for the body, as an inventor—an immaterial inventor that stands outside the universe, here a goddess, but an inventor nonetheless.

Entelechy also becomes involved in questions of history. As Stephen conducts his lesson in "Nestor", "Aristotle's phrase," the "actuality of the possible as possible," forms itself in his mind (2.67-68) as he ponders the possibilities that did not occur in history: "Had Pyrrhus not fallen by a beldam's hand in Argos or Julius Caesar not been knifed to death. They are not to be thought away. Time has branded them and fettered they are lodged in the room of the infinite possibilities they have ousted" (2.48-51). The notion of unrealized possibility calls to mind the suspensory power of Driesch's entelechy. If we recall what Driesch has said on Aristotelian entelechy, that it "is that which 'is' in the highest sense of the word, even if it is not strictly a realised thing" (*HTV* 14), we see that what Stephen is pondering here is the entelechies, the potentials, that have not been realized. Even though "the statue, before it is realised, exists in the mind of the sculptor" (*HTV* 14), there is still the question of the infinite sculptures the sculptor could have carved. Just as, for Aristotle, "that which 'is' in reality, from which everything derives, is the creator or rather his soul" (*HTV* 16), Stephen returns to the postulate that "The soul is in a manner all that is: the soul is the form of forms" (2.75). History, in Driesch's vitalism, falls under the "monism of order" that he sees operating in evolution as phylogeny—both evolution and history, as single processes of becoming, are governed by entelechy or some other

"suprapersonal agent": "History *as the working of one evolutionary law* is the point in question, not laws *of* history or *in* history; not that which is repeatable, but the one line of becoming which is unrepeatable" (*PI* 58). This "one line of becoming," for Driesch, suggests the possibility that "there is the material world as the world of chance, but there is also a world of form or order that manifests itself in certain areas of the material world, namely, in the biological individual, and probably, in another way, in phylogeny and history also" (74). We have this view of history expressed as well in *Ulysses*, this time from Deasy: "All human history moves towards one great goal, the manifestation of God" (2.380-81)—a teleological view which, as Gifford notes, had come to be "widely regarded as a feeble substitute for vital spiritual commitment" (39).[xxii]

As we have already noted, Stephen's aesthetic theories take on a decidedly vitalist tint when we consider them alongside the theories of Bergson and Driesch. Driesch writes in *The History and Theory of Vitalism*: "Whatever is an object is *such*, and its suchness must be defined. Now definition not only analyses the object, but, strange to say, also destroys it. For the object is not the mere sum of its attributes: it is their unity—it is all the attributes together" (189). Driesch's language in establishing the logical foundations for his vitalist theory is reminiscent here of the concept of "whatness" or *quidditas*, which is integral to Stephen's explanation of the epiphany. In *Portrait*, Stephen explains to Lynch that the first stage of apprehension is "a bounding line drawn about the object to be apprehended. … the esthetic image is first luminously apprehended as selfbounded and selfcontained upon the immeasureable background of space or time which is not it. You apprehend it as *one* thing. You see it

as one whole" (266). Following this, one moves to appreciating what we might call, using Stephen's language in "Circe", how the object reflects "the first entelechy, the structural rhythm" (15.106-7): "you pass from point to point, led by its formal lines; you apprehend it as balanced part against part within its limits; you feel the rhythm of its structure. … You apprehend it as complex, multiple, divisible, separable, made up of its parts, the result of its parts and their sum, harmonious" (*Portrait* 266). This too is reminiscent of Driesch, who had called vital systems "harmonious equipotential." Finally comes "the scholastic *quidditas*, the *wholeness* of a thing. This supreme quality is felt by the artist when the esthetic image is first conceived in his imagination" (*Portrait* 267). Stephen's views on aesthetics draw upon a long tradition, upon Aristotle, Aquinas, and others, a tradition also drawn upon by vitalists like Driesch. His views on art share the vocabulary of the vitalists.

It is possible then to regard Stephen in his aesthetic practice as a naturalist, gathering and preserving specimens from a living reality. Mary Ann Gillies writes, "Stephen's outline of artistic beauty encapsulates the process involved in Bergson's aesthetic" (143), and, as mentioned above, Kumar has connected Bergson's "concept of intuition as a mysterious faculty of knowing objects" to "what Stephen Dedalus designates as 'epiphany'" (128). Citing *Stephen Hero*, Kumar writes that "Stephen Dedalus deduces the role of every writer to be the recording of 'these epiphanies with extreme care, seeing that they themselves are the most delicate and evanescent of moments'" (129). In other words, the writer, like the naturalist, must always be prepared to encounter that unique specimen, which must be collected and recorded with the utmost delicacy. The way in which Stephen records his epiphanies is also

naturalistic, “written on green oval leaves” (3.141), which calls to mind the image of words inscribed upon the leaves of plants. When his imagination lights upon a particularly noteworthy phrase in “Proteus”, Stephen remarks to himself: “Here. Put a pin in that chap, will you?” (3.399)—as though the writer were an insect collector, who needs to pin down his words before they have a chance to flit away into the ether. Of course, the entomologist can only amass a collection of dead specimens which, though meticulously preserved, no longer live. Like Bergson’s mistrust of the ability of language to represent living reality accurately and truly, the writer-as-naturalist can only collect the husks of experience in the written word, forever unable to capture the vital essence of the moment.

In contrast to what we might call Stephen’s naturalist approach, we have Bloom’s views on the artistic temperament. In “Lestrygonians”, he speculates: “I wouldn’t be surprised if it was that kind of food you see produces the like waves of the brain the poetical” (8.544-45). For Bloom, the production of poetry is attributable to a physical cause, to a certain type of cerebral energy that can be classed as “poetical,” which is in turn influenced by diet. Rather than expressing “the eternal affirmation of the spirit of man” (17.29-30), literature and art are contingent upon physical, material factors. Bloom’s views—not merely on poetry but on a wide range of subjects—place him firmly on the side of the mechanists, as opposed to the vitalistic tendencies of Stephen and other characters. Bergson had stringently maintained that the mind was independent of the physical brain, whereas for Bloom the “incommensurable categorical intelligence [is] situated in the cerebral convolutions” (17.1767-68). And, it would seem, this is a set of opinions which

Bloom has held most of his life, as we are told that even in his youth "he had advocated during nocturnal perambulations… the evolutionary theories of Charles Darwin, expounded in *The Descent of Man* and *The Origin of Species*" (17.1642-45). Both Driesch and Bergson were skeptical of Darwin, to say the least; Bergson claimed that "we must appeal to some inner directing principle" in evolution, which "does not appear possible in the Darwinian, and especially the neo-Darwinian, theory of insensible accidental variations" (*CE* 80), while Driesch dismissed Darwin's theory of natural selection as one explaining merely "how by throwing stones one could build houses of a typical style" (*HTV* 137). Bloom's views on evolution place him as squarely opposed to these proponents of vitalism.

Bloom's version of the mind/body dualism is, as he puts it to Stephen, a dualism between "the brain and the brawn" (16.1159). It is important to note that both of these are materialist terms; Bloom's dualism avoids attributing to the mind any of the non-physical or non-spatial qualities that Bergson's memory or Driesch's entelechy possesses, even though it maintains a distinct function for each of the two terms. Bloom's materialist outlook is consistent throughout *Ulysses*; for him, life is warmth—"Warm beds: warm fullblooded life" (6.1005)—that is to say, not some mystical force but the metabolic processes of the physical body. "Lestrygonians" casts this kind of warmth into a position similar to Bergson's memory, as we are told that "A warm human plumpness settled down on his brain" (8.637), yet even here the cause is physical: Bloom has just eaten, and his body is busily engaged in the process of digestion, which in turn affects his mind. Indeed, it was of this episode that Joyce was speaking when he told Frank Budgen of his characters, "If they had no body they

would have no mind… It's all one" (Budgen 21). Above all, Bloom is a materialist, an empiricist even: semen may be the "Source of life," yet his attention almost immediately turns to how "extremely curious the smell. Celery sauce" (13.1040-41).

Bloom's materialist attitude means that it becomes quite easy for him to regard the body as a physical thing. We see a lot of this kind of thinking in the "Hades" episode, since, according to Bloom, "A corpse is meat gone bad" (6.981-82). From his use of technological terms we see that Bloom has no qualms about regarding the body as machine-like; the heart is quite simply "A pump after all, pumping thousands of gallons of blood every day. One fine day it gets bunged up: and there you are" (6.674-75). This sort of thinking leads him to regard the graveyard as a lot full of spare parts: "Lots of them lying around here: lungs, hearts, livers. Old rusty pumps: damn the thing else" (6.675-76). For Bloom the dead body is something that must be disposed of, albeit cleanly and discreetly; it is a question of volume, too, as there are "Funerals all over the world everywhere every minute. Shovelling them under by the cartload doublequick" (6.514-15). To some this sort of language may seem crude, reminiscent of Mulligan's comment in the first episode: "I see them pop off every day in the Mater and Richmond and cut up into tripes in the dissectingroom. It's a beastly thing and nothing else" (1.205-7). It is this way of putting the thing that offends Stephen—yet another point on which he stands in contrast to Bloom.

"Ithaca" tells us that these characters "individually represent" two different "temperaments," the "scientific" and the "artistic" (17.559-60). The contrasts between Stephen and Bloom, however, extend far beyond these two simple (and by no means mutually exclusive) labels, falling along the lines of the vitalist debate. Stephen

engages in “labours of pedagogy and metaphysical inquisition” (14.1214-1215); the narrator in “Oxen of the Sun” feels it necessary to inform us that the opinions he expresses in the discussion “would appear to prove him pretty badly addicted” to a “perverted transcendentalism” which “runs directly counter to accepted scientific methods” (14.1223-26). The way in which this passage describes science, as something that, “it cannot be too often repeated, deals with tangible phenomena” (14.1226-27), places it squarely within Bloom’s sphere. Bloom, in contrast to the others gathered in this episode, is a “vigilant wanderer, soiled by the dust of travel” (14.1217-18); this dust is the residue of the “tangible phenomena” of the world, while the adjective “vigilant” suggests the type of observation skills that are necessary for any scientific experimenter. This passage likens the “man of science” to “the man in the street”—of which Bloom is surely the novel’s supreme example—who “has to face hardheaded facts that cannot be blinked and explain them as best he can” (14.1227-29).

The kind of practical levelheadedness that Bloom often displays also sets him apart from Stephen. Earlier in this episode, for instance, Bloom attempts to soothe Stephen’s superstitious fear of the thunderclap by assuring him that “it was no other thing but a hubbub noise that he heard, the discharge of fluid from the thunderhead, look you, having taken place, and all of the order of a natural phenomenon” (14.425-28). Stephen, of course, is not comforted, as to him the thunder is the voice of Thor, “in anger awful the hammerhurler” (14.409). Later that night we see a similar difference in opinion, this time on the cause of Stephen’s collapse. Stephen attributes it to “the reapparition of a matutinal cloud… at first no bigger than a woman’s hand”

(17.40-42), while Bloom contends it had been due "to gastric inanition and certain chemical compounds of varying degrees of adulteration and alcoholic strength" (17.37-38). Bloom's explanation here is solidly based in physical and chemical terms, while Stephen's once again alludes to some sort of divine involvement—Gifford finds in this passage a reference to Elijah in I Kings (567). To add to his list of superstitions, Stephen is also a "hydrophobe, … disliking the aqueous substances of glass and crystal, distrusting aquacities of thought and language" (17.237-40). Here again Bloom stands in opposition to Stephen, as he admires many things about water, including "its vehicular ramifications" (17.202), "its secrecy in springs and latent humidity, revealed by rhabdomantic or hygrometric instruments" (17.208-10), and "its docility in working hydraulic millwheels, turbines, dynamos, …scutchmills: its utility in canals, rivers, if navigable, floating and graving docks: its potentiality derivable from harnessed tides or watercourses falling from level to level" (17.220-24). It is telling that Bloom's long list of reasons, in contrast to Stephen's fears and the metaphorical extension of his distrust, very much involves water's usefulness and practical applications.

An important exchange takes place between the two characters in the "Eumaeus" episode, important especially given the context of the vitalist debate. Seated in the cabman's shelter, Stephen and Bloom in their discussion light upon the question of the existence of God and of the soul. Stephen, it would seem, stands on the affirmative side of this question (somewhat halfheartedly, however, given the hour and his condition), while Bloom's line of reasoning places him with the mechanists and the materialists. Even his manner of framing the question reveals his

own opinion: assuming that Stephen, "as a good catholic…, believe[s] in the soul" (16.748-49), Bloom asks whether by "soul" he means "the intelligence, the brainpower as such, as distinct from any outside object" (16.749-50). In placing the intelligence in "the convolutions of the grey matter" (16.751-52), a position with which Bloom agrees "because it has been explained by competent men" (16.751), and in equating this intelligence with the soul, Bloom places himself in opposition to thinkers like Bergson, who maintained that the memory exists independently of the physical brain. Bloom, that is, frames the question in an anti-Bergsonian manner, suggesting that he regards the soul as being situated in the "grey matter." Molly affirms this later on, noting, "he says your soul you have no soul inside only grey matter" (18.141-42).

Stephen's position depends upon evidence drawn from various unidentified philosophical and religious texts: "They tell me on the best authority," he says, that the soul "is a simple substance and therefore incorruptible. It would be immortal, I understand, but for the possibility of its annihilation by its First Cause Who, from all I can hear, is quite capable of adding that to the number of His other practical jokes" (16.756-59). A few paragraphs later, on the question of God's existence, he asserts that it "has been proved conclusively by several of the bestknown passages in Holy Writ, apart from circumstantial evidence" (16.772-73). Bloom, however, mistrusts Stephen's use of texts to support his side, stating: "I beg to differ with you *in toto* there. My belief is, to tell you the candid truth, that those bits were genuine forgeries all of them put in by monks most probably or it's the big question of our national poet over again, who precisely wrote them like *Hamlet* and Bacon, as, you who know your

Shakespeare infinitely better than I, of course I needn't tell you" (16.780-84). Bloom's (somewhat rambling) reply calls into question our ability to point to any single author for any given text, and casts doubt on any text's ability (even Holy Writ's) to prove anything "conclusively."

Bloom here is arguing against what we might term "textual vitalism." George Rousseau points out that "language was… intrinsically implicated" in the "early vitalistic worldview," and notes, "The notion that this mystical force pervading the universe is inherent in words – in language – is evident in much poetry of the high Enlightenment and early Romantic period" (26); "Language itself is," he writes, "therefore, inherently vitalistic, which is tantamount to claiming that no *single* part of it is alive but – as we have seen earlier in the biological context – is shared by the whole, living, linguistic organism" (26). Rousseau continues: "The difference or coherence of a literary configuration therefore resides in no single words or passages but is everywhere throughout the literary work. Literary greatness… was thought to be vitalistic in just this sense: not in particular lines but in a quality – a force – permeating the entire text" (26). Such a view is not alien to Joyce criticism either. In one of the essays in *Inductive Scrutinies*, Fritz Senn refers to "a shaping drift that is supposed to be at the core of an artistic process and which also infuses the works with their highly individual parts" (61). He states—specifically of "Nausicaa", though his comments here could certainly be extended to *Ulysses* as a whole—that "what remains intriguing is that such a miscellany of components could assume its individual, unmistakable shape and idiomorphic coherence" (61).

In searching for this "shaping drift" Senn concludes that "the most suitable

metaphors, continuously resorted to by Joyce himself, are biological, relating to the growth of living organisms" (62). Senn lights upon a number of terms to flesh out this metaphor; one of these is "entelechy," which he finds at work in *A Portrait of the Artist*: "*A Portrait* is based on some notion, that through all vicissitudes of growing and changing Stephen Dedalus at each separate stage is what he is. In this sense, each of Joyce's works, and distinct parts thereof, have their entelechy, are what they are and nothing else" (62). (We should note that, once again, the term "entelechy" appears in association with Stephen, and not with Bloom.) This kind of view attributes to *Ulysses*, attributes to all of Joyce's texts, the same kind of vitalistic quality that Rousseau observes was thought to reside in Dante or Shakespeare. In asserting that "there must be—'must' is purely speculative—some generative, formative urge or program that selects and arranges even the most unspecific items into the highly idiosyncratic shapes of Joyce's works, of which each one seems to have its unique tone, style, rhythm, vocabulary, perspective, and its own brand of excess" (63), Senn is gesturing towards a kind of textual vitalism.

When Bloom suggests, then, that certain passages in "Holy Writ" are "genuine forgeries… put in by monks," or that we do not know "who precisely wrote" *Hamlet*, he calls into question the notion that these texts are imbued with any special force imparted to them by a single, specific author—after all, how can a quality that permeates all of Shakespeare be present in bits that were not originated by Shakespeare? A vitalism such as Driesch's tends to emphasize the organic wholeness of the individual; Bloom's view disrupts this kind of wholeness, suggesting instead that texts can be altered, added to, hybrid. *Ulysses* itself seems to suggest a brand of

skepticism like Bloom's. The novel, as noted above, foregrounds textual production along with its own textuality; little hints here and there remind us that we are, to paraphrase Kenner, confronting printed pages, such as the narrator's comment in "Sirens": "*As said before* he ate with relish the inner organs…" (11.519-20; my italics). The process of composing *Ulysses* itself belies these kinds of vitalist claims. True, we could perhaps see in the constant and numerous revisions of an episode like "Aeolus" a sort of embryonic development based on some "subcurrent formula" or "shaping drift" (Senn 61), but it is difficult to find an entelechy, a self-contained end, in the expansion of the lists in "Cyclops". Indeed, we know what the *telos* for this episode and for the novel was: it was dictated not by Joyce, not by the *nisus formativus* of his text, but by the exigencies of the printing process. On a note from Joyce requesting the insertion of the name "Borus Hupinkoff" into "Cyclops", the printer "wrote 'trop tard' ["too late"], and as a result, 'Borus Hupinkoff' never became part of *Ulysses*" (Groden 165). As Groden points out, "by 1922 there was no logical end to Joyce's expansive revisions; the point at which he stopped writing *Ulysses* had to be an arbitrary date" (165).

"Borus Hupinkoff" raises another important point: there *is* no single *Ulysses*. Joyce's "last" revision does appear in the Gabler edition of the text, in the place where Joyce requested it, "*after* 'Goosepond Prhtr Kratinabritchisitch' *and before* 'Herr Hurhausdirektorpresident etc" (cit. in Groden 165; see *Ulysses* 12.566). Along with this addition, the Gabler edition makes some five thousand corrections and emendations, "the vast majority [of which] entail… a single character only" (Kenner 73); yet, Hugh Kenner points out, "it is difficult to dismiss any as unimportant, so

closely is Joyce's work bound to print-shop technology" (73). The textual vitalist would hold that literary greatness resides "not in particular lines but in a quality – a force – permeating the entire text" (Rousseau 26), but the Gabler edition fundamentally questions this notion. In making so many corrections, it suggests that meaning *does* in fact depend upon "particular lines," on individual words and even single characters—as Kenner puts it, "so much meaning has not often been at the mercy of a single misprint" (14). Many examples are familiar and frequently cited: "Nother" for "Mother" in Stephen's telegram (3.199); Martha Clifford's "if you do not wrote" (5.253); the misprint "*L. Boom*" (16.1260). The emphasis in *Ulysses* on errors and misprints shows that the smallest details do in fact matter; if we come to *Ulysses* as a printed text, our understanding depends not on some vital quality but on the technology of print.[xxiii]

For Bloom, then, text is a technology like any other. His understanding of how the "passages of Holy Writ" are propagated, copied out by monks, means that he is skeptical of their claims to truth. He marshals other technologies as counter-arguments to the existence of the soul; though his reasoning is not entirely clear, he claims that without the intelligence, the "convolutions of the grey matter," "we would never have such inventions as X rays" (16.752-53) or the telescope (16.767). Ultimately, however, he recognizes in the debate a version of the demarcation problem we discussed earlier: "it is one thing for instance," he says, "to invent those rays Röntgen did or the telescope… and the same applies to the laws, for example, of a farreaching natural phenomenon such as electricity but it's a horse of quite another colour to say you believe in the existence of a supernatural God" (16.766-71). Bloom,

that is, recognizes that matters such as the soul, God, or a vital principle belong to the realm of metaphysics and cannot be addressed in empirical or technological terms.

Bloom's attitudes toward technology distinguish him sharply from Stephen. After all, Bloom is a "man in the street" who must deal with "tangible phenomena"; his thoughts and imagination have adapted to fit his daily urban life, which he spends amid numerous modern inventions and in which he has various interactions with technology. Given what we see of him throughout *Ulysses*, it should not surprise us that in his argument with Stephen he should draw upon technological examples like X-rays or the telescope. Technology is never far from Bloom's thoughts; he is aware of the potential that new technologies hold, just as he is aware of the need to understand clearly in the modern world how the human and the technological interact.

We have already seen Stephen bristle at Mulligan's attitude towards the dead body, "cut up into tripes in the dissectingroom" (1.206). Bloom's attitude towards the dead body is similar, albeit less bluntly expressed. During Paddy Dignam's funeral, Bloom's mind lights a number of times upon thoughts that treat the body as a physical thing. The decomposing corpse, he speculates, could work well as fertilizer, as "the blood sinking in the earth gives new life" (6.771); from his daily encounters with advertising Bloom quite naturally adopts a view of the body as a potential commodity: "Every man his price. Well preserved fat corpse, gentleman, epicure, invaluable for fruit garden. A bargain. By carcass of William Wilkinson, auditor and accountant, lately deceased, three pounds thirteen and six" (6.772-75). Bloom's thoughts in this episode also indicate a vivid interest in efficiency and practicality.

Cemeteries, he notes, would have "More room if they buried them standing" (6.764), and the burial of so many coffins in the ground "does seem a waste of wood" (6.816): "They could invent a handsome bier with a kind of panel sliding, let it down that way. Ay but they might object to be buried out of another fellow's. They're so particular" (6.816-19).

The last citation points to another important component of Bloom's thoughts: as callous as such a treatment of the dead body may seem, we must remember that his sympathy is always with the living. His speculations regarding the possible uses of the corpse, his schemes for practical disposal of the body and the more efficient use of materials—all of this is directed toward benefiting those who survive. Inwardly objecting to exorbitant spending on opulent memorials, Bloom reflects that it would be "More sensible to spend the money on some charity for the living" (6.930-31). Later on, he puts this thought into practice, concerning himself with the insurance needs of Dignam's widow and family. His mental treatment of the dead body seems blunt because it contrasts with the more conventional views held by the other funeral-goers, which Kernan voices when he remarks, "*I am the resurrection and the life*. That touches a man's inmost heart" (6.670), suggesting that the language of the Christian scriptures speaks to the soul. Bloom tacitly dissents from this view, recognizing that funerals are more for the comfort of the survivors than for the repose of the dead: "Your heart perhaps but what price the fellow in the six feet by two with his toes to the daisies? No touching that" (6.672-73).

The church as an institution relies upon belief in the existence of the soul and in its precedence over the body. It is ironic, then, that a concern for the soul should

lead to a reverence for the dead body, while an attitude like Bloom's would much better suit one who felt the lifeless body to be an empty, soulless husk. Those who believe in the soul like Stephen object to the treatment of the body as a thing—as we see in Bloom's concession that "they might object to be buried out of another fellow's. They're so particular." Likewise, Bloom recognizes that cremation, while it may be a more efficient use of space, meets with strong opposition from the church: "Priests dead against it. Devilling for the other firm" (6.984). Even the anticipation of the "resurrection," or Kernan's invocation of "a man's inmost heart," cannot escape bodily terms, as Bloom recognizes: "That last day idea. Knocking them all up out of their graves. … Get up! Last day! Then every fellow mousing around for his liver and his lights and the rest of his traps. Find damn all of himself that morning" (6.677-81). In a way, Bloom recognizes how a belief in the soul in the conventional way depends in fact upon the belief in the body as the receptacle for that soul—much as how in Driesch's and Bergson's theories the vital agent depends upon some material body. Bloom's view is much simpler than the conventional one: "Once you are dead you are dead" (6.677).

As Bloom watches the priest pray over Dignam's casket, he reflects upon the repetitiveness of what he does: "He must be fed up with that job, shaking that thing over all the corpses they trot up. … Every mortal day a fresh batch: middleaged men, old women, children, women dead in childbirth, men with beards, baldheaded businessmen, consumptive girls with little sparrows' breasts. All the year round he prayed the same thing over them all and shook water on top of them: sleep" (6.621-27). The repetitive nature of the priest's job gives it a mechanical, robotic character,

and the obligation to "say something" (6.630) turns the priest into a sort of automaton. Bloom's mental comment that "It's all written down: he has to do it" (6.617) makes the entire rite seem like a computer program, the execution of a set of commands. Indeed, it is easy to imagine a machine performing the same actions as the priest—"The priest took a stick with a knob at the end of it out of the boy's bucket and shook it over the coffin. Then he walked to the other end and shook it again. Then he came back and put it back in the bucket" (6.614-16). However, it is also easy to imagine the strident objections that would be raised at such a replacement: "soulless" technology, it would seem, does not belong in religion. Bloom's ultimate concern in the question, of course, comes down not to the welfare of the immortal soul but in the consequences for the living: "But in the economic, not touching religion, domain the priest spells poverty" (16.1127); for him, the "vital issue" (16.1135-36) is "all creeds and classes *pro rata* having a comfortable tidysized income" (16.1133-34).

In other cases, Bloom recognizes how machines could take over repetitive, automatic tasks, and questions why this hasn't been done. On the way to the funeral, for instance, he notices a pointsman working a tramway switch and asks himself: "Couldn't they invent something automatic so that the wheel itself much handier?" (6.176-77). However, he also recognizes the economic implications of such an invention: "Well but that fellow would lose his job then? Well but then another fellow would get a job making the new invention?" (6.177-79). We see Bloom engaging in this kind of speculation throughout the day, employing his uniquely technological imagination. We learn in "Ithaca" that "his tendency was towards applied, rather than

towards pure, science" and that he has an "appreciation of the importance of inventions now common but once revolutionary" (17.561-62, 17.564-65). Earlier he has demonstrated this appreciation when he thinks that there "Ought to be a hall or a place where inventors could go in and invent free. Course then you'd have all the cranks pestering" (8.1037-38), his utopian scheme balanced by the realistic understanding that "cranks" would take advantage of such an opportunity. "Ithaca" lists a number of get-rich-quick schemes, "rapid but insecure means to opulence" (17.1672), many of them constructed around some application of modern technology: "A private wireless telegraph which would transmit by dot and dash system the result of a national equine handicap… won by an outsider" (17.1674-76), "A scheme… for the exploitation of white coal (hydraulic power), obtained by hydroelectric plant at peak of tide at Dublin bar" (17.1710-12), "A scheme for the development of Irish tourist traffic in and around Dublin by means of petrolpropelled riverboats" (17.1720-21), "A scheme to connect by tramline the Cattle Market… with the quays" (17.1726-27). The last of these has been somewhat of an obsession for Bloom throughout *Ulysses*, appearing in "Calypso", "Hades", and "Circe", among others (see 4.109-10, 6.400-2, 15.1367-68).

The most malicious instance of Bloom's technological imagination comes as he mulls over ways to expose Molly's infidelity, although he dismisses the idea almost immediately: "Exposure by mechanical artifice (automatic bed)…, not yet" (17.2202-3). His rejection of this idea points to the most important characteristic of Bloom's attitude towards technology: although he has a tendency to note the repetitiveness of daily life, to see the world in machinic terms ("Things go on same,

day after day: squads of police marching out, back: trams in, out," 8.477-78), ultimately, Bloom sees technology as a way to improve the human lot. Whenever he imagines anyone suffering, Bloom's thoughts usually turn to some technological remedy. On being reminded of Mrs Purefoy enduring labour, for example, Bloom thinks: "Dreadful simply! Child's head too big: forceps. Doubled up inside her trying to butt its way out blindly, groping for the way out. Kill me that would. … They ought to invent something to stop that" (8.375-78). On the horrifying idea of being buried alive, he muses: "They ought to have some law to pierce the heart and make sure or an electric clock or a telephone in the coffin and some kind of a canvas airhole" (6.867-69). His concern for the well-being and improvement of others extends to education, as "Ithaca" tells us his ideas for inventions are "principally intended for an improved scheme of kindergarten" (17.569-70). Bloom also empathizes with the poor and with the working class, with those who "had their eleven and more humdrum months of it and merited a radical change of *venue* after the grind of city life in the summertime" (16.544-46); as Bloom sees it, technology has not yet been sufficiently applied to the improvement of tourist opportunities—witness his scheme for "petrolpropelled riverboats" or the opinion that "uptodate tourist travelling was as yet merely in its infancy" (16.564).

Even at his most anti-technological Bloom expresses his sympathy with those who suffer. In his "Circe" diatribe, Bloom decries "Laboursaving apparatuses, supplanters, bugbears, manufactured monsters for mutual murder, hideous hobgoblins produced by a horde of capitalistic lusts upon our prostituted labour" (15.1392-94). This complements his earlier question, "Well but that fellow would lose his job

then?" (6.177-78), the realization that "laboursaving apparatuses" can also be "supplanters." There is an element of self-reproach in his tirade, too: Bloom upbraids "These… lying Dutchmen as they recline in their upholstered poop, casting dice… Machines is their cry, their chimera, their panacea" (15.1390-92)—those who, like Bloom, sit back and dream about the future, "Certain possible inventions of which he had cogitated when reclining in a state of supine repletion to aid digestion" (17.563-64). The reproach is not against all technology but against those who dream up inventions for their own, and not the public, good, inventions that merely perpetuate social inequalities: "The poor man starves while they are grassing their royal mountain stags or shooting peasants and phartridges" (15.1394-96).

At the bottom of it, Bloom has an understanding of how the human and the technological interact. His mechanist outlook allows him to liken the body to other objects—the heart as a pump, for example, or "coils of intestines like pipes" (8.1048-49)—but his sympathy allows him to avoid the more dangerous implications of regarding bodies and people as things. He demonstrates this sympathy, this understanding, when he imagines using X-rays ("Röntgen rays," he calls them, 8.1030) to watch the process of digestion: "They could: and watch it all the way down, swallow a pin sometimes come out of the ribs years after, tour round the body" (8.1046-48); Bloom imagines not just this scientific exercise but the demand placed upon the one under observation: "But the poor buffer would have to stand all the time with his insides entrails on show" (8.1049-50). If we were to use Bergsonian terms, we could perhaps call this an example of Bloom placing himself in the "poor buffer's" *durée*. It is important, however, that Bloom remains on the outside of this

imagined scene; his language suggests that he is among the crowd of observers, not himself the "poor buffer… on show." It is not the subject's *durée* that Bloom is interested in; what evokes his sympathy is the process of observation itself, the interaction of body and technology. Understanding this interaction is not merely a question of convenience or sympathy; it can also be a matter of life and death. In "Eumaeus", Bloom comments on "equipping soldiers with firearms or sidearms of any description liable to go off at any time which was tantamount to inciting them against civilians should by any chance they fall out over anything" (16.83-85). While this may simply seem like a common-sense attitude, it reveals that Bloom has a fairly sophisticated understanding of how we use technology: the word "inciting" suggests that the guns goad the soldier into using them. Bloom, one suspects, would disagree with the statement, "Guns don't kill people; people kill people." Giving a soldier a gun emphasizes the difference in power between him and a civilian and is liable to change his behaviour.

Bloom's thoughts and experiences show that knowing how to live with technology is necessary for life in the modern metropolis. He recognizes that "Machines… Rule the world today," and that if one is not careful they could "Smash a man to atoms if they got him caught" (7.80-81)—all the more reason to know how to interact. For Bloom, death is a malfunction of the body's machine: "His [Dignam's] machineries are pegging away too. Like these, got out of hand: fermenting" (7.81-82). The body in Bloom's mind becomes an engine; we "have to feed it like stoking an engine" (8.930), an image which recalls Hugh Kenner's comment—"Continuity, stream, defines any machine's preferred fodder. You feed

horses at intervals, but gasoline engines steadily" (8)—*contra* Bergson, for whom *durée* is a constant flow, segmented and falsified by our cinematographic mode of thought. Bloom, then, embraces technology as something that must be understood, something that can be harnessed to better our lives. On the other hand, technology repulses Stephen, almost literally: "The whirr of flapping leathern bands and hum of dynamos from the powerhouse *urged* Stephen *to be on*" (10.821-22; my italics). He dismisses the dynamos as "Beingless beings" (10.822), words which reflect a vitalist mindset; like Driesch's "machine," the dynamos mimic living things, yet lack that certain vital quality that would give them "being."

The paradox of the "beingless being" points to the paradox central to a vitalism like Bergson's: to prove that living things are not machines, one must demonstrate that that is exactly what they are. No matter how strident its disavowal of technology, vitalism finds itself relying upon the body's machinery to explain the operation of the soul. Where Stephen sees "beingless beings," Bloom would likely find an object trying to "speak" "in its own way." Bloom does not deny the uniqueness or complexity of biological phenomena; he simply refuses to regard them as fundamentally, necessarily different from mechanical processes. His ability to navigate city life depends upon a comfort with technology; his technological imagination links him with Ulysses, who for Joyce was, among other things, an inventor (Budgen 17). Most of all, Bloom's technological expressions of sympathy, his desire to ameliorate living conditions and to relieve suffering, point to an understanding of technology as, to once again borrow Scarry's terms, the embodiment of a contrafactual wish. To disavow technology, to rest instead on some

notion of an immortal soul, is to ignore material problems, to turn a deaf ear to human suffering.

NOTES

[xii] Bergson and Driesch tend to focus on different ideas among those listed here; the idea of unity becomes especially strong in Driesch, for example, more so than it is with Bergson.

[xiii] Already in the phrase "motor of life" we can catch a glimpse of how vitalism depends upon technology's metaphors; the vital principle is usually identified as that which activates or makes use of the body's mechanism.

[xiv] References to Driesch's work will be made using the following abbreviations: *HTV* (*The History and Theory of Vitalism*), *PI* (*The Problem of Individuality*), *SPO* (*The Science and Philosophy of the Organism*).

[xv] References to Bergson's work will be made using the following abbreviations: *MM* (*Matter and Memory*), *CE* (*Creative Evolution*).

[xvi] Unless otherwise indicated, any italics in quotations from Driesch are his own.

[xvii] Today we refer to this physico-chemical "machine" as the DNA molecule.

[xviii] Burwick refers specifically to the nineteenth-century anatomist Sir Charles Bell, citing him here. This idea, however, is not unique to Bell.

[xix] Bergson's "intuition" connects to his vitalism as well, since, as Albert Thibaudet has pointed out, "si l'intuition nous conduit à l'interieur de la vie, la production esthétique seule nous conduit de l'intérieur de la vie, et coïncider aver l'élan vital c'est épouser un courant non centripète, mais centrifuge" (2: 57) ["if intuition brings us to the interior of life, only aesthetic production brings us from the interior of life,

and to move with the vital impulse is to follow not a centripetal current, but a centrifugal one" (my translation)]

[xx] Entire chapters could be written on each of the figures mentioned above; see the Conclusion to the present work.

[xxi] A lengthy aside on technology and performativity would be possible here.

[xxii] Stephen's retort, that God is "a shout in the street" (2.386), while off the cuff, also suggests a Bergsonian mistrust of language.

[xxiii] It is still possible to make use of biological metaphors—to compare the propagation of small errors in the transmission of a text to genetic mutations, for example. What I argue against here is the attribution of a self-fulfilling wholeness to the text, the postulation of some sort of *élan textuel* that makes one version of the text "true" and another "false." We must remember that a biological metaphor is not necessarily a vitalist one.

Chapter 2
The Voice of the Dead: Technology, Memory, and the Supernatural

According to Tim Armstrong, vitalism—which he includes under the rubric of primitivism—is a response to modernist desires for a sort of wholeness or fullness unachievable within purely mechanistic terms: "If civilization is identified with mechanisms of censorship and with the debilities associated with distance from the 'natural' order, then primitivism ostensibly offers a route back to the 'original' and whole self; a vitalist self at one with its sexuality and being, freed from modes of censorship imposed by civilization" (*MCH* 140).[xxiv] Freud certainly contributes to this conception in *Civilization and its Discontents*, in which he argues that civilization and the benefits it bestows require the individual to suppress various desires—essentially a form of self-censorship. As mentioned in the previous chapter, we can see this desire for an "original" self from which modern technology has estranged us in various writers: in the sterile sexuality of Eliot's *Waste Land*, in Lawrence's desire to regain "blood consciousness," in Yeats's return to a mythic past. In this respect, Eric D. Smith points out, Joyce and *Ulysses* occupy "a unique position in early-twentieth-century thought"; instead of "seek[ing] to locate and preserve the elements that distinguish the human from the technological" like its contemporaries, Smith writes, "*Ulysses* self-consciously confounds those distinctions and prefigures the work of Derrida and others who deny the Platonic disavowal of the prosthetic" (467). In this manner, he argues, *Ulysses* "occupies a position in relation to technology that contradicts traditional western philosophy" (458).

Alan Roughley notes that "Derrida sees 'Plato's Pharmacy' as a 'modest

essay' that 'was read in advance' by Joyce's text…. His articulation of 'the whole scene of the pharmakos' is thus a re-marking of the site of the pharmakos as that site is already woven into Joyce's writing" (30). One of the ways in which Joyce's novel "pre-reads" Derrida involves the word *pharmakon*, whose ambiguity "has, through skewing, indetermination, or overdetermination, but without mistranslation, permitted the rendering of the same word by 'remedy,' 'recipe,' 'poison,' 'drug,' 'philter,' etc." (*Dissemination* 71). Bloom remarks on this very ambiguity in "Lotus-Eaters": "Chloroform. Overdose of laudanum. Sleeping draughts. Lovephiltres. […] Poisons the only cures. Remedy where you least expect it. Clever of nature" (5.481-84). But Joyce's "pre-reading" goes beyond this semantic play. As we saw in Chapter 1, his treatment of technology in *Ulysses* erases the sort of barrier between the living and the technological erected by vitalism, whose doctrines underwrite the privileging of voice over writing, of presence over absence, natural over artificial; rather than "disavow the prosthetic," Bloom embraces and understands the interaction between human and machine. As a result, *Ulysses* recognizes the technological as a supplement to the natural, in the Derridean sense of the term.

The privileging that Derrida finds at the heart of Western metaphysics—that of the speaking voice, figured as coming from an authentic and fully present self, over the written word—has very strong ties to vitalist ideas. These ties connect the voice to the soul by way of the living breath and consign writing to the exteriority of the body. Derrida makes this distinction rather explicit in "Plato's Pharmacy": "In contrast to writing, living *logos* is alive in that it has a living father (whereas the orphan is

already half dead), a father that is *present, standing* near it, behind it, within it, sustaining it with his rectitude, attending it in person in his own name" (*Dissemination* 77). He goes on to state that *logos* "is always a being (*on*) and even a certain species of being…, more precisely a *living* being. … Logos, a living, animate creature, is thus also an organism that has been engendered. An *organism*: a differentiated body *proper*, with a center and extremities, joints, a head, and feet. In order to be 'proper,' a written discourse *ought* to submit to the laws of life just as a living discourse does" (*Dissemination* 79). Ought to, but does not—for the written word is not "proper" (*propre*), not "selfsame [*le propre*]" (*Grammatology* 299): "That is why there is no *true* writing. The duplication of the thing in the painting… opens appearance as the absence of the thing in its self-sameness [*propre*] and its truth" (292; brackets in original). Derrida writes further: "Writing is *like* painting, like the *zoographeme*, which is itself determined… within a problematic of *mimesis*… Here painting—zoography—betrays being and speech, words and things themselves because it freezes them. Its offshoots seem to be living things but when one questions them, they no longer respond. Zoography has brought death. The same goes for writing.… Writing carries death" (292).

The opposition between speech and writing thus carries over into other oppositions as well, such as those between life and death, soul and body, inside and outside, and so on.[xxv] But, as Derrida puts it, "It is not a simple analogy: writing, the letter, the sensible inscription, has always been considered by Western tradition as the body and matter external to the spirit, to breath, to speech, and to the logos. And the problem of soul and body is no doubt derived from the problem of writing from

which it seems—conversely—to borrow its metaphors" (*Grammatology* 35). As we saw in the previous chapter, the division between body and soul (or the material and the spiritual, or matter and memory, or whichever terms we choose to employ) requires us to think about where we draw the line demarcating the two, how we define what is living and what is not. Vitalism involves questions of technology. When Derrida distinguished between what the Western metaphysical tradition has regarded as "good" and "bad" writing, he has recourse not only to the Platonic association of the good with the soul and the bad with the body, but also to the opposition between the natural and the artificial: "There is therefore a good and a bad writing: the good and natural is the divine inscription in the heart and the soul; the perverse and artful is technique, exiled in the exteriority of the body" (*Grammatology* 17).

Writing on the history of the philosophy of technology, Don Ihde describes a "theory-bias" in traditional philosophic thought, the result of a "very long-standing and deep prejudice which links philosophy and science in a *theoretical* moment and preference" (3-4). This bias, Ihde contends, is largely responsible for the fact that "the philosophy of technology arrives so very late in the history of Western, and particularly North American philosophy" (3); it is also connected to the Platonic mistrust of representation and mimesis. It is easy enough to see why: if, in constructing a table, or a chair, or any other artifact, one merely produces an imperfect "copy" of some ideal Form, then clearly one is better served in studying and knowing the latter rather than the former. Thus, "it is important to note the values associated with the [Platonic] levels of knowledge, with images and perceptions or,

anything associated with the body and the material, as inferior to the leap above that line into the realm of *'ideas' or 'forms' which presumably associate with mind or soul*" (Ihde 22; his italics). In some respects we maintain this set of prejudices to the present day, Ihde claims, particularly in "the belief that Modern Technology has, as one of its major differences from other technologies, been *largely derived from Modern Science*. The institutionalization of engineering in the contemporary sense as 'applied science' in many universities is an instantiation of this belief" (20; Ihde's emphases). Technology, in this formulation, which is the formulation of Western metaphysics, is subordinate to scientific knowledge, just as the body is subordinate to the soul; the relationship between the two is akin to that between speech and writing, life and death: "We should not forget that, in the *Phaedrus*, another thing held against the invention of the *pharmakon* is that it substitutes the breathless sign for the living voice" (*Dissemination* 91-92). The threat lies in this possibility of substitution and in the logic of supplementarity; as Eric Smith puts it, "Through its duplicitous ability to pose as natural living memory, the dead signs that comprise the *techne* of writing present a direct threat to the stability of western epistemology and are therefore regarded as dangerous and unnatural" (456). Once again it is important to note the contrast between *living* memory and *dead* signs, as well as between the "natural" and *techne*.

Smith argues that, in *Ulysses*, "the insistent voice of technology frequently reminds the reader that the modern human condition is defined by indissoluble symbiosis with technology. This realization is especially troublesome for Bloom, who, like Plato, associates technology with death or the absence of the human" (460-

61). While this characterization of Bloom is too simplistic—as we saw in the previous chapter, Bloom's attitudes toward technology tend to emphasize "symbiosis" rather than "the absence of the human"—the "voice of technology" and the implications thereof do concern both *Ulysses* and modernism more generally. As Armstrong observes, sound is "an important component of thinking about modernism. …[I]f modernist aesthetics stress embodiment and contact, sound has a special status. In Victorian philosophy and psychology, hearing was seen as less susceptible to error and illusion." Schopenhauer, he adds, connected hearing with truth and held music above other forms of art "since it involved a direct transcription of Being—life itself—rather than its representation" (*MCH* 109); to borrow Stephen's term, the "ineluctable modality of the audible" (3.13) is more in tune with the flow of Bergsonian *durée* than the visible, which places things next to one another (*nebeneinander*) like frames of film, allying it to the cinematographical nature of the Bergsonian intellect. In the attitude of a Schopenhauer or a Havelock Ellis, for whom rhythm was "a fundamental property of 'neuro-muscular tissue,' music written into the body and its experience" (*MCH* 109), we can see the influence of the "metaphysics of presence" that Derrida describes, which links sound—more specifically, voice—to a living, authentic source; in the writing of music into the body as a "direct transcription of Being" we can see an instance of "good writing," the "divine inscription in the heart and the soul" (*Grammatology* 17).

The perceived link between a "living" voice and truth, however, is complicated by technological advances around the turn of the twentieth century, particularly by the phonograph, which offered the "possibility of recovering voice"

(*MCH* 109). In transcribing the voice, offering it up to writing and to representation, phonography offers a particularly attenuated version of the operation of writing as Derrida describes it in "Plato's Pharmacy": "It inscribes in the space of silence and in the silence of space the living time of voice. It displaces its model, provides no image of it, violently wrests out of its element the animate interiority of speech. In so doing, writing estranges itself immensely from the truth of the thing itself, from the truth of speech, from the truth that is open to speech" (*Dissemination* 137).

There are a number of places in *Ulysses* where the relationship between text and voice, and the association of voice with truth, becomes complicated. To be sure, there are some instances where the traditional associations still hold—in the library scene, for example, as Stephen sits surrounded by "Coffined thoughts […] in mummycases, embalmed in spice of words" (9.352-53). Stephen's attitudes towards words printed in books—"They are still. Once quick in the brains of men" (9.356)—reflecting as it does the Aristotelian hierarchy that "Spoken words are the symbols of mental experience and written words are the symbols of spoken words" (Aristotle 40), is perhaps not surprising given what we have already seen of his metaphysical and vitalistic inclinations. Yet even so there is something other-worldly to these written words, as writing is "weakened speech, something not completely dead: a living-dead, a reprieved corpse, a deferred life, a semblance of breath" (*Dissemination* 143). To Stephen these written words are not quite dead; they whisper still from beyond the grave, as it were: "Still: but an itch of death is in them, to tell me in my ear a maudlin tale, urge me to wreak their will" (9.356-58).

At other points in the novel there is slippage between written text, voice, and

thought. Early in the day, for example, Bloom looks down one of the city streets and thinks of "M'Auley's down there: n. g. as position" (4.108). "n. g." makes sense as a shorthand notation, saving one the trouble of writing out "no good" in full, but here it demonstrates how typographical conventions have infiltrated Bloom's stream of consciousness. Elsewhere, at Dignam's funeral, we see how speech has the potential to be less transparent than the metaphysical tradition might maintain:

> —And tell us, Hynes said, do you know that fellow in the, fellow was over there in the …
>
> He looked around.
>
> —Macintosh. Yes, I saw him, Mr Bloom said. Where is he now?
>
> —M'Intosh, Hynes said scribbling. I don't know who he is. Is that his name? (6.891-96)

Presumably Bloom and Hynes both pronounce the same phonemes—at least, if the sound of "Macintosh" and "M'Intosh" isn't identical, the error is still predicated upon a very close similarity. One suspects that if it were possible for these two to have access to a transcript of this exchange, the graphic difference between "Mac" and "M'" would allow the error to be avoided.

Later on in the day we find typewritten text represented as speech, as "Miss Dunne click[s][…] on the keyboard: [/] —16 June 1904" (10.375-76). Regarding Joyce's use of the *tiret* to denote speech, Alan Roughley writes, "Joyce's own interest in the ways in which writing operates as a record of written speech is reflected by his decision not to use the inverted, double commas with which speech is traditionally represented in writing" (105). The decision not to use inverted commas to designate

speech allows for greater fluidity between stream of consciousness, spoken words, and, as we have just seen, written text; the omission of quotation marks breaks down any absolute distinction between interior and exterior, and is particularly suited to a style of narration where characters frequently "speak" silently to themselves.[xxvi]

The ambiguity of the *tiret* appears in "Eumaeus" as Bloom reads the funeral notice: "*The mourners included: Patk. Dignam (son), Bernard Corrigan (brother-in-law), Jno. Henry Menton, solr, Martin Cunningham, John Power, .)eatondph 1/8 ador dorador douradora* …" (16.1255-58). Like Miss Dunne's typing, this passage is introduced by the same marking that Joyce uses for speech, and given that Bloom is reading the notice in order to "change the subject" (16.1246), we might be forgiven for assuming that he is reading aloud. Yet even before we encounter the "line of bitched type" (16.1262-63), the abundance of abbreviations has us doubting whether this is an exact representation of what Bloom is saying—if indeed he is saying anything at all. The fact that "L. Boom point[s] out" the various textual curiosities "to his companion B. A." (16.1265-66) would seem to confirm that he is not reading to Stephen. He could still be reading aloud, of course, expanding the various abbreviations and simply eliding the various errors—in which case what is represented here as speech is not spoken but written. But if we assume he is reading silently, then once again we have typographical elements intruding on or "contaminating" Bloom's thoughts. On top of this, the "line of bitched type" is not the representation of spoken words, as per Aristotle; rather, "'eatondph' is the grope of James Joyce's memory toward 'etaoin'" (Kenner 8). "Etaoin Shrdlu" would frequently appear in lines of "bitched type," Kenner points out, because it was easy

for a linotype operator to run his or her finger down these keys in order to fill out a line:

> And why those letters in that order? Because they are the twelve most frequent letters in English, and a powerful reason, overriding human convenience, had placed them where they obliged the operator's left little finger to make an absurd 51 percent of his keystrokes. That reason was the machine's inherent complexity, which at all costs had to be kept within practicable bounds. The most frequent letters required the speediest handling. … The letters ETAOIN SHRDLU were where they were just so the most numerous mats—the E's, the T's—could make the shortest journeys. (5-6)

Thus, a "line of bitched type" does not contain the "symbols of spoken words," which are in turn the symbols of "mental experience"; the "words" it contains are dictated by technological expediency.[xxvii]

In "Sirens," we get another glimpse of sound's "special status" being disrupted; in an episode where sound is foregrounded, we find Bloom's voice acting to sever the perceived link between hearing and truth. As he scribbles a quick reply to Martha Clifford, Bloom uses his voice as a cover for his real activity: "Bloom dipped, Bloo mur: dear sir. Dear Henry wrote: dear Mady" (11.860-61). Here Bloom is in fact counting on anyone overhearing him (in this case, Richie Goulding) to make the traditional connection between voice and written word, to assume that the words he is writing are the "symbols of spoken words." His choice of cover also reflects a disruption in the connection of the voice to "living" breath. After he has finished the letter, Bloom moves to address it: "Just copy out of paper. Murmured: Messrs Callan,

Coleman and Co, limited. Henry wrote: [//] Miss Martha Clifford [/] c/o P. O. [/] Dolphin's Barn Lane [/] Dublin" (11.895-900). The names of the false addressees that Bloom "murmurs" (leaving aside the fact that he also apparently murmurs the abbreviations "Messrs" and "Co") are indeed copied out of the paper, but they are copied out of a specific section of the paper: "Down the edge of his *Freeman* baton ranged Bloom's, your other eye, scanning for where did I see that. Callan, Coleman, Dignam Patrick. […] Fawcett" (11.856-58). The names "Callan" and "Coleman" are from the obituaries; we have seen them earlier, in "Hades," as Bloom "scan[s][…] the deaths: Callan, Coleman, Dignam, Fawcett, Lowry, [etc.]" (6.157-58). The words Bloom speaks are the names of the dead.

It is possible that Irish culture—a culture in which one can provide "the usual blarney" about oneself (16.1635)—plays a part in this distrust of the voice and its alleged link to truth. There are a few places in *Ulysses* that highlight the ability of those in power to use the voice to obfuscate or outright deceive—to use, as Bloom puts it, "big words for ordinary things on account of the sound" (8.115). Such is his reasoning for the church's use of Latin in the mass, for example: "Good idea the Latin. Stupefies them first" (5.350-51). As Ben Dollard sings "The Croppy Boy," not long after Bloom has completed his note to Martha, we are reminded of the potential the voice has to betray the one who speaks. It would seem that the English imperial presence has a particular knack for the deceptive use of words; witness Stephen's reply to Mr Deasy's claim that the English "are a generous people but we must also be just" (2.263): "I fear those big words, Stephen said, which make us so unhappy" (2.264). Deasy even uses his voice to assert mastery over the technology that serves

him, bidding the keys of his typewriter, “Full stop” (2.305). As Professor MacHugh points out in “Aeolus,” with any empire, British or Roman, “We mustn’t be led away by words, by sounds of words” (7.484-85).

The issue of mastery and control very much affects the treatment of writing as the “supplement” of speech: what is at stake is not only the privileging of speech over writing, of life over death, but also the distinction between the organism and the machine. In order to maintain some control over the supplement as well as the purity of the original, the office of authorship is privileged. Smith writes: “If one can determine with certainty that a particular prosthesis is the extension of a particular natural memory, the human is able to assume supremacy (however tenuously) over the technological” (458). Yet in the wake of the invention of the phonograph, the status of the voice as emerging from a living, present source was called into question. Ivan Kreilkamp notes that, “in the presence of a phonograph, a speaker’s language becomes no longer only his or her own, and is subject to ‘captivation’ and possibly unwanted reproduction. It was as if speech were now, for the first time in history, subject to those same dangers and vagaries which we have known since Plato to be the lot of writing” (217). This suggests, he writes, “that voice is itself a kind of writing, and that like writing, voice lacks any natural or stable connection to the identity or author-figure from whom it emerged” (234). In a similar vein, Smith sees in *Ulysses* a text that “self-consciously foregrounds the ways in which the question of authority intersects with that of modern technology” (455).

This engagement with issues of authority and authorship should call to mind the notion of “textual vitalism” encountered in the previous chapter; as we saw there,

textual vitalism depends upon the wholeness and unity of a work of literature, and claims that literary greatness resides "not in particular lines but in a quality – a force – permeating the entire text" (Rousseau 26). Certainly this unity, this greatness, cannot hold if the text does not originate from a single source, from the name identified on the title page and held over the entire work as that of the author. Joyce's text, both in its content and in its composition, undermines this notion. Smith centres his article on the recording Joyce made in 1924 of himself reading from the "Aeolus" episode; according to Smith, the "chosen excerpt"—MacHugh's recitation of Taylor's speech—"underscores" the issues to be found at the intersection of technology and authorship (465):

> Taylor's original speech, not recorded at the time of its delivery, later surfaced in a variety of recreated versions, each assuming legitimacy. … The issue here is one of memory and reproducibility. Taylor's original speech could not, of course, have included all elements of its various reproductions. As it was not recorded, it had to be reproduced, and it is in the process of reproduction or reinvention that memory serves as an intermediary technology and subverts the legitimizing power of the original author. (465-66)

The chain of representations—Joyce's recording of his own depiction of MacHugh's recitation of Taylor's speech, itself a reconstruction from various sources—emphasizes our inability to point to a single unique source for this speech, this passage, and, by extrapolation, for *Ulysses*; as Smith puts it: "the selection Joyce chose forever to 'authorize' with the new medium is itself an imperfect recreation of a recreation of a speech event that can never be legitimately authorized" (466). At the

"necessary intersection of authority and *techne*" (Smith 467), the author in a way becomes technological. At one point, Armstrong cites Frank Swinnerton's critique of Joyce in *The Georgian Literary Scene: A Panorama* (rev. 2nd ed., 1938), noting that Swinnerton "accuses the author of a deathly accumulation. … The novelist is depicted as a storage-device: 'mimicry and impersonation' are, he adds, Joyce's strengths" (*MCH* 114). Joyce at the gramophone, Joyce *as* gramophone, as a "storage-device," disrupts the unity of *Ulysses* and weaves heterogeneous threads into his text; we cannot address *Ulysses* in terms of textual vitalism.

For Kreilkamp, the phonograph provokes in modernism "the dawning of an awareness that language might function with no clear connection to its human source" (211). Citing Conrad's *Heart of Darkness* specifically, though engaging also with the broader cultural reception of recorded sound, Kreilkamp writes that "the wonder and terror of the phonograph at this moment" is that "of the disembodiment of the storyteller, the separation of the voice and the body" (214) and observes that one effect of this new technology was to transform the voice into a detachable object: "Voice, heard emerging from a phonograph, seemed not the natural emanation of a human subject but a piece of that subject, broken off as an autonomous thing" (215). This treatment of spoken words as "autonomous, detachable phonemes" (Kreilkamp 211) plays well into the allusive construction of *Ulysses* and other modernist works, where intertextual fragments from an "exterior" source can suddenly crop up in the narration or in a character's stream of consciousness, to the point where you "Never know whose thoughts you're chewing" (8.717-18).

The detachability of the voice also figures in the autonomoy of the senses that

Sara Danius finds at work throughout *Ulysses*. According to Danius, Joyce's novel "suggests that a certain historical process is more or less complete: each sensory organ now appears to operate independently and for its own sake. In fact, each sensory organ, particularly the eye, tends to perform according to its own autonomous rationality, as though detached from any general epistemic tasks" (151). Such a treatment of the senses, Danius argues, is informed "by the emergence of technologies for reproducing the visual and the audible respectively" (152)—echoing Friedrich Kittler's observation that, with "storage technologies that can record and reproduce the very time flow of acoustic and optical data," "ears and eyes have become autonomous" (Kittler 3). Joyce, Danius writes, denies a holistic treatment of the human sensorium and challenges "the idea of 'organic' modes of perception" (156): "What is heard is not joined together with what is seen, and what is seen is in its turn a mere slice of the whole. The multisensory hermeneutic horizon, the all-embracing gestalt, refuses to take shape" (156).

Although Danius focuses on the senses in her argument, we can easily add the voice to the list of "disembodied parts," since, as she points out, "nearly all body parts and extremities do things in *Ulysses*. Hands, fists, fingers, fingertips, thumbs, ears, feet, and tongues also perform. They do whatever they do separately and independently from one another, as though each disembodied part had been furnished with a consciousness of its own" (161). Thus, when we see Bloom "Slipping his words deftly into the pauses of the clanking" of the press in "Aeolus" (7.139), we can envision the pauses as physical gaps into which Bloom slides his detachable words. We can read in a similar way his calling to Molly before stepping out in the morning:

—I'm going round the corner. Be back in a minute.

And *when he had heard his voice say it* he added:

—You don't want anything for breakfast? (4.53-55; italics added)

All of this is part of what Kreilkamp calls a "phonographic logic," where voices and sounds can be detached from the body and stored up for replaying at a much later date and independently of the original speaker; as he puts it, there was "something about the phonograph that struck many observers as disturbingly antimimetic, putting some of the truisms of realism into question. What seemed particularly so was the way the phonograph's recording process broke up the whole object or sign into synecdoches" (221).

On top of breaking the voice off from its human source, *Ulysses* also highlights the ways in which the voice is a product, in both the wider and the narrower senses of that word: the voice is constructed, produced—is not a purely natural or spontaneous emission—and enters into a more general economy as one product among many. Smith describes how, in "Aeolus," "the human voice is metaphorically reduced to a manufactured instrument, a technology created to supplement or supplant voice" (462); Joyce, he claims, "inverts the supplement's conventional relationship to the natural: if the musical instrument is an extension, amplification, or substitute of the human voice, then the analogy should be constructed in the opposite direction—in effect, a harp or trumpet should aspire to emulate the human as nearly as possible" (462). Joyce's own experience as a tenor means that he understands how the voice works as a musical instrument; the presence of singers in the text, in central figures like Molly and Stephen or ancillary ones like

Almidano Artifoni, attests to this understanding. Bloom, for instance, remarks to himself on Stephen's "phenomenally beautiful tenor voice" (16.1820), thinking that it "could easily, if properly handled by some recognised authority on voice production […] command its own price […] and procure for its fortunate possessor in the near future an *entrée* into fashionable houses" (16.1821-25). Bloom's comments highlight that the voice must be trained in order for it to be properly produced by the singer; on top of this, the voice is once again presented as a thing separate from its "possessor." Here the voice is constructed, artifactual, rather than the spontaneous eruption of a fully present, living soul.[xxviii] Bloom also notes that one "Must be abstemious to sing" (11.699), meaning that the voice, like any other instrument, requires proper care on the part of its owner.

If we were to expect to find anywhere in *Ulysses* a treatment of the voice as living breath, it would likely be in the "Sirens" episode, where music and song are at the forefront. Yet even here we see that music is something technological, and find a blurring of the lines between body and instrument. Again we find the sort of autonomy that Danius has remarked; voice becomes its own thing, as when "Speech paused on Richie's lips" (11.625), or "His breath, birdsweet, […] fluted with plaintive woe" (11.631-32), the verb "fluted" transforming Richie's breath into something instrumental. Not surprisingly, given the episode's logic, the human body itself becomes an instrument. Miss Kennedy and Miss Douce are figured as bells, "urg[ing] each each to peal after peal, ringing in changes, bronzegold, goldbronze, shrilldeep, to laughter after laughter" (11.174-76); Miss Douce again becomes the "bell" of the ball when the men exhort her, "*Sonnez la cloche*" (11.404). There does appear to be

something gendered here: Bloom calls the "Body of white woman, a flute alive. Blow gentle. Loud. Three holes, all women" (11.1088-89)—though, to be fair, at the end of the episode Bloom too becomes an instrument, with his own hole producing its unique sound.[xxix] At other places, we see ordinary objects become musical instruments, often in interaction with the human body. Simon Dedalus's pipe becomes a wind instrument—"He blew through the flue two husky fifenotes" (11.217-18)—while later on Bloom plucks at a makeshift harp: "Bloom ungyved his crisscrossed hands and with slack fingers plucked the slender catgut thong. He drew and plucked. It buzz, it twanged" (11.795-96). Such instances call attention to the artifactual nature of all musical instruments; there is no necessary special quality that resides in them, no musical equivalent to the *élan vital*.

Bloom's "harp" and Simon Dedalus's "fife" highlight the interaction between body and object that characterizes many musical instruments. Those like the flute and trumpet present the breath as technologically modulated (in fact, one does not simply blow into either of them; both require specific embouchures), while the instrument that some claim most closely emulates the human voice, the violin, does not involve the breath at all. "Sirens" calls attention to the technological nature of music as it breaks down any absolute difference between the instrument and the voice. Given what we have seen of Bloom in the previous chapter, it is perhaps not surprising to find him emphasizing the mathematical nature of music at times: "Numbers it is. All music when you come to think. Two multiplied by two divided by half is twice one. Vibrations: chords those are. One plus two plus six is seven. Do anything you like with figures juggling. […] Musemathematics. And you think you're listening to the

etherial" (11.830-35). Rather than consider music something "ethereal," Bloom relates it to both physics and the human body when he thinks of Molly at the chamber pot: "It is a kind of music I often thought when she. Acoustics that is. Tinkling. Empty vessels make most noise. Because the acoustics, the resonance changes according as the weight of the water is equal to the law of falling water" (11.980-83). Just as Bloom is able to maintain sympathy with living human beings without having recourse to any sort of vitalist distinction between body and machine, he also recognizes that while there is a difference between music and other sounds—thinking of math, he remarks, "But suppose you said it like: Martha, seven times nine minus x is thirtyfive thousand. Fall quite flat. It's on account of the sounds it is" (11.835-37)—this difference is one of complexity rather than an absolute, unbridgeable divide. Bloom does have some awareness of the complex construction of the vibrations of musical sound; noticing how he listens to the church bells at the end of "Calypso" and registers the "overtone" (4.549), Jefferey Simons writes, "one unequivocally notes Bloom register acoustic phenomena, perceive them acutely, and identify a species of echo or iterative resounding whose waves mathematically owe to an originary source" (277). And, Bloom remarks, not all music hath charms: "Question of mood you're in. Still always nice to hear. Except scales up and down, girls learning. […] Ought to invent dummy pianos for that" (11.841-43).

What is important here is that voice, music, and song are not connected to a vitalistic "living breath." On the contrary, "Sirens" in a number of places makes a connection between music and death. Aside from the obvious question of subject matter—"Thou lost one. All songs on that theme" (11.802)—the technological nature

of music disrupts what ties it might have had to a purely living source. Joyce describes the operation of the piano as an invention in a passage that also connects it to death: "Upholding the lid he (who?) gazed in the coffin (coffin?) at the oblique triple (piano!) wires. He pressed[…], soft pedalling, a triple of keys to see the thicknesses of felt advancing, to hear the muffled hammerfall in action" (11.291-94). The description of the piano music, as "Under Tom Kernan's ginhot words the accompanist wove music slow" (11.926), reminds us (using an etymological tie to text, *textum* = that which is woven) how music underwrites the human voice. The sound of the instrument is the call of death—both the tuning fork and the piano are described this way: "From the saloon a call came, long in dying. That was a tuningfork the tuner had that he forgot" (11.313-14); "An afterclang of Cowley's chords closed, died on the air made richer" (11.767). And the voice too is an instrument.

The phonograph does not provide the only means for detaching the voice from its speaker. Indeed, even though Bloom echoes Edison in imagining phonographic recordings of the voices of the departed,[xxx] there is a general dearth of gramophone records in *Ulysses*. As we have already seen, however, print technology allowed recorded speeches to circulate in newspapers and pamphlets. Joyce's recording of Taylor's speech as recited in "Aeolus" is one example; we get a glimpse of the sort of currency these speeches enjoy when Martin Cunningham asks Simon Dedalus on the way to Dignam's funeral, "Did you read Dan Dawson's speech?" (6.151). Print technology, in detaching the voice from a present situation and allowing for its greater dissemination, changes the culture's relation to the spoken word. The voice

becomes a part of a larger economy of products that have been detached from the body.

If we consider the printed word as a prosthesis for the voice—not in a simple relationship of exteriority, in the Aristotelian sense, but more as a Derridean supplement—we find that in a number of places *Ulysses* presents the voice alongside other bodily products. The voice, detachable from the body according to Kreilkamp's "phonographic logic" as well as in Danius's logic of sensory autonomy, becomes part of what Bloom calls the "Dead meat trade" (6.395-96). We have already seen how Bloom in his imagination can regard the dead human body as a potential commodity, as "corpsemanure," for example (6.776), blurring in this way the distinction between human and animal: "The hens in the next garden: their droppings are very good top dressing" (4.478-79). Another way in which the animal becomes commodity is in food. When Bloom asks himself what becomes of newsprint after it's been read, he answers, "O, wrap up meat, parcels: various uses, thousand and one things" (7.137-38). These uses may seem fairly quotidian, but in this brief passage Bloom includes both meat and the newspaper, to which one of the episode's headlines refers as a "GREAT DAILY ORGAN" (7.84), as linked in the circulation of post-living bodily products. (This connection is strengthened if we consider Cheryl Herr's comments on how the Catholic church regarded newspapers: "Father Hurley remarks on the 'greater severity' of the *Index* [*Librorum Prohibitorum*] 'towards the press than towards books,' and he goes on to state that under ecclesiastical law any paper as a whole was conceived of as a 'living organism,' 'a living moral person'" [80].)

The passage following Bloom's reading of Martha's letter in "Lotus-Eaters"

brings together the body, the written word, the dead commodity, and the manufactured article in a way that blends these categories together in the "Language of flowers" (5.261). The cut flower, as a product, occupies an analogous position to the voice in a post-phonographic economy. Its value resides in its appearing as a living thing; detached from its living source, it nonetheless maintains the semblance of life. As Bloom rereads Martha's letter, he conflates it with the "language of flowers," at the same time adding his "darling manflower punish your cactus" into the mix (5.264). The pin that holds the flower to the letter joins all of these elements together. As Bloom tosses it away, he supposes it comes from "Out of her clothes somewhere: pinned together. Queer the number of pins they always have. No roses without thorns" (5.276-78). Here the pin, an artifact, becomes a thorn on the rose which in turn becomes Martha herself—all while Bloom is suggestively "Fingering still the letter in his pocket" (5.275). This brief passage metaphorically conflates the various elements of this economy of post-living products, blurring the distinctions between each.

I do not wish to belabour the point too much; all I mean to suggest here is that, as the voice, like so many other things in Joyce's novel, becomes something detachable, disembodied, so *Ulysses* shows us how written text, as a prosthesis or supplement for the voice, becomes a consumable commodity, like food, like flowers, not quite living, not quite dead. We see this fairly clearly in "Calypso," as Bloom engages in both kinds of consumption simultaneously, perusing Milly's letter home, "reading it slowly as he chewed" (4.394-95); a bit later printed text appears at the other end of the digestive process, as Bloom tears "Matcham's Masterstroke" out of

Titbits to use as toilet paper. This treatment of body and text, consistent with the attitudes towards the dead body encountered in the first chapter, reflects how the vitalistic conception of voice as living breath, superior to dead writing, is disrupted by technology.

Let us return to Bergson for a moment. We recall from the previous chapter that he endows memory with a certain vitalistic quality, arguing that "memory is something other than a function of the brain" (*MM* 317), that "when we pass from pure perception to memory, we definitely abandon matter for spirit" (313). Memory, nonetheless, is necessarily intertwined with the mechanisms of the body; the potential for free action that comes with memory "always seems to have its roots deep in necessity [*i.e.*, the deterministic nature of matter] and to be intimately organized with it" (332). We can even regard this memory as a function of the *élan vital*, since "the interest of a living being lies in discovering in the present situation that which resembles a former situation, and then in placing alongside of that present situation what preceded and followed the previous one, in order to profit by past experience" (323)—meaning that memory contributes to survival. The reader will recall that Bergson posits two different kinds of memory: "on the one hand, motor mechanisms which make use of [past experience]…; on the other, personal memory-images which picture all past events with their outline, their colour and their place in time" (102). The former, habit, involves "the automatic setting in motion of a mechanism adapted to the circumstances" (87); it contains "the complete set of intelligently constructed mechanisms" (195)—mechanisms which can become "subtle enough to imitate

intelligence" (99). The second type of memory is what Bergson calls "true memory" (195), "memory *par excellence*" (95). This memory is "entirely spontaneous, is as capricious in reproducing as it is faithful in preserving" (102). In accordance with its vitalistic nature, this memory takes on the role of the spirit, which needs to inhabit a physical shell—it only works by assuming the "body of some perception" (72): "Virtual, this memory can only become actual by means of the perception which attracts it" (163).

According to Bergson, memory works by "evok[ing]… all those past perceptions which are *analogous* to the present perception, to recall to us what preceded and followed them, and so to suggest to us that decision which is the most useful" (303; italics added). The idea of the analogue here is important, since it is by the same principle that the phonograph operates.[xxxi] Friedrich Kittler includes in *Gramophone, Film, Typewriter* an 1880 essay by Jean-Marie Guyau entitled "Memory and Phonograph" which is worth quoting at length:

> Upon speaking into a phonograph, the vibrations of one's voice are transferred to a point that engraves lines onto a metal plate that correspond to the uttered sounds—uneven furrows, more or less deep, depending on the nature of the sounds. It is quite probable that in analogous ways, invisible lines are incessantly carved into the brain cells, which provide a channel for nerve streams. If, after some time, the stream encounters a channel it has already passed through, it will once again proceed along the same path. The cells vibrate in the same way they vibrated the first time; psychologically, these similar vibrations correspond to an emotion or a thought analogous to the

> forgotten emotion or thought.
>
> This is precisely the phenomenon that occurs when the phonograph's small copper disk, held against the point that runs through the grooves it has etched, starts to reproduce the vibrations: to our ears, these vibrations turn back into a voice, into words, sounds, and melodies. (Kittler 30-31)

Using this analogy, we can see the eruption of spontaneous memory in Bergson's conception as the tracing of a groove that has already been cut; when it encounters a sensory pattern that matches one from the past, the gramophone needle of memory traces the same pattern, thereby "evoking all those past perceptions which are analogous to the present perception." At the very least, Bergson considers memory to be a type of inscription. Organic memory, he writes, "implies a continual recording of duration" (*CE* 20), and in a passage that he considers important enough to emphasize, he writes: "*Wherever anything lives, there is, open somewhere, a register in which time is being inscribed*" (17).

In *Creative Evolution*, Bergson sets up an opposition between intuition and intelligence remarkably similar to the hierarchy that privileges "pure," theoretical scientific knowledge over technology as "applied" science. According to Bergson, "the essential object of science" is "to enlarge our influence over things. … It is always then, in short, practical utility that science has in view. Even when it launches into theory, it is bound to adapt its behaviour to the general form of practice" (*CE* 348). While such practical knowledge is useful for the survival of the organism, Bergson sets above this knowledge the true understanding of the process of becoming that one can only achieve through intuition: "real time, regarded as a flux, or, in other

words, as the very mobility of being, escapes the hold of scientific knowledge" (355). Our "*ordinary knowledge is of a cinematographical kind*," Bergson emphasizes (323), in that it necessarily breaks movement into a series of frames or snapshots; moreover, this manner of operating is "the only practical method, since it consists in making the general character of knowledge form itself on that of action" (323). In other words, intelligence must always falsify the flow of being and becoming by breaking it into a static series because our knowledge is always oriented towards action, towards utility, towards *praxis*.

This necessary movement of intellectual understanding derives from the symbolic character of science, from the fact that "it is of the essence of science to handle *signs*, which it substitutes for the objects themselves" (347). Just as language falsifies the reality it represents, so here the use of signs provides us with an incomplete knowledge of becoming; science is still "tied down to the general condition of the sign, which is to denote a fixed aspect of the reality under an arrested form" (347). Signs and language fragment "the unity of our original intuition" (*MM* 239). The difference Bergson posits between intelligence and intuition resembles the relation between articulation and accent that Derrida explores in *Of Grammatology*. According to Derrida, for Rousseau and his metaphysical tradition, articulation breaks apart "the natural voice or the inarticulate language" (247); articulation "broaches language: it opens speech as institution born of passion but it threatens song as original speech. It pulls language toward need and reason—accomplices—and therefore lends itself to writing more easily. The more articulated a language is, the less accentuated it is, the more rational it is, the less musical it is, and the less it loses

by being written, the better it expresses need" (242). There are a number of correspondences here: the ways in which articulate language relates to "need and reason" find their analogue in the practical knowledge provided by Bergson's intelligence; articulation facilitates the writing of language, as science for Bergson facilitates the representation of reality, but it is a writing distanced from the accentuation and musicality of the natural voice, a representation that freezes the flow of the continuity of being. Articulation is oriented toward need, reason, utility; the signs which science and intellectual knowledge use substitute, "for the moving continuity of things, an artificial reconstruction which is its equivalent in practice and has the advantage of being easily handled" (*CE* 347).

Bergson's description of intuition in *Matter and Memory* invokes a network of associations that connects the intelligence/intuition opposition with those of representation/reality, dead/living, empty/full, fragmentation/unity:

> Pure intuition, external or internal, is that of an undivided continuity. We break up this continuity into elements laid side by side, which correspond in the one case to distinct *words*, in the other to independent *objects*. … For the living unity, which was one with internal continuity, we substitute the factitious unity of an empty diagram as lifeless as the parts which it holds together. (239)

On top of this, in comprehending these parts in an "empty diagram," collecting elements in order to reconstitute the "unity of our original intuition, we feel ourselves obliged to establish between the severed terms a bond which can only then be external and superadded" (239). Thus the unity imposed by the intelligence is

supplemental: it is brought in as something exterior to the natural. Intelligence externalizes intuition, yet this supplement is at the same time already interior to the natural. According to Bergson, the "cinematographical mechanism of thought" that characterizes the intelligence can be discerned in Greek philosophy (as ancient science): "The Greeks trusted to *nature*, trusted the *natural* propensity of the mind, trusted language above all, in so far as it *naturally* externalizes thought" (*CE* 331; italics added). The number of times Bergson uses variations on the word "natural" here is surprising, given that he is describing a habit of the intellect that in his system distances us from the unity of universal becoming. This is a difficult logical position: it would seem that what is natural to the human mind is not what is natural to the flow of reality; the "natural propensity of the mind" is symbolic, linguistic, cinematographical, technological. Language "naturally externalizes thought"—we have encountered this attitude before. And as language is the supplement to thought, "symbolic" intelligence stands in a supplemental relationship to intuition of the real.

How does memory factor into this system? Spontaneous memory, we recall, is in a strange way "other" to the self. It is "capricious" (*MM* 102). As John Rickard explains, compared to mechanical habit, spontaneous memory is "a more powerful, deeper form of memory that erupts from the subconscious on its own, spontaneously or involuntarily" (63). This memory is representation, "embraced in an intuition of the mind" (*MM* 91); its operation involves a doubling of the self, for "whenever we are trying to recover a recollection, … we detach ourselves from the present in order to replace ourselves, first in the past in general, then in a certain region of the past" (171). Above all, memory is oriented towards practical utility. We have already

encountered Bergson's claim that "the memory of a living being appears indeed to measure, above all, its powers of action upon things, and to be only the intellectual reverberation of this power" (303). In fact, he goes as far as to claim that memory is "powerless as long as it remains without utility" (181). Thus memory here is intimately related with *praxis*, which elsewhere is the territory occupied by the "cinematographical instinct of our thought" (*CE* 333). In allying memory with the possibility of free action, Bergson separates the movement of memory from the continuity of becoming: "By allowing us to grasp in a single intuition multiple moments of duration, it frees us from the movement of the flow of things, that is to say, from the rhythm of necessity" (*MM* 303). Memory participates in the oppositions noted above—it represents the past, it is multiple rather than unified—on the side associated with intelligence. In spite of all his efforts to make it something vitalistic, Bergson presents memory as supplement, as technology.

In *Joyce's Book of Memory: The Mnemotechnic of* Ulysses, John Rickard argues that Joyce's text employs a model of memory and mind that is vitalistic and, ultimately, metapersonal. "Memory in *Ulysses*," he writes, "operates in a contested zone constructed by modern philosophical and psychological discourses as well as by older epistemological models" (11); the novel, he claims, "creates a 'textual unconscious,' or textual memory, that preserves and deploys the 'natural' or vitalist elements that [Cheryl] Herr believes have been suppressed by the modernist emphasis on the dominance of culture and art in *Ulysses*" (11). Following the lead of Edward S. Casey, Rickard posits a distinction between "passivist" and "activist" models of memory. This distinction follows, it would seem, from a desire to set the human

above the mechanical; citing Casey, Rickard notes that "empiricist models in contemporary psychology and artificial intelligence studies tend to replicate this passivist view of the brain as a machine or sophisticated computer," whereas "activism … views memory as at once a more unreliable and more powerful function of the mind" (10)—something akin to Bergson's model of spontaneous memory as "true" memory. Overall, Rickard decries the fact that "Mnemosyne has gradually lost her stature in the West. Once the Mother of the Muses, the inspiration of poets, a virtually omniscient deity, she has become mechanical: a mirror that reflects the quotidian occurrences filling the *tabulae* of the human mind from birth, or even a computer—a machine that stores and retrieves data" (9).[xxxii]

I certainly do not wish to argue that Joyce does not employ a model of memory that is at times spontaneous and involuntary. However, I do maintain that memory in *Ulysses* avoids taking on vitalistic qualities; rather, this novel points to, and even embraces, the technological aspects of memory. The very title of Rickard's book alludes to these aspects. It is technology that gives memory the apparently supernatural qualities that Rickard claims for it. Scarry describes how various forms of artificial memory transform each person from "a relatively ahistorical creature into an historical one, one whose memory extends far back beyond the opening of its own individual lived experience" (283). Supra- or metapersonal memory therefore does exist, but it exists in technological form: in written records, newspaper articles, books, video and sound recordings, all of which exist as projections of the human capacity of memory. The metapersonal memory that exists in Joyce's novel exists as this projection, as the media and print culture that infuse his textual world.

Because of its nature, one cannot rely on spontaneous memory to function in everyday life. Even Bergson is aware of this, admitting that "he who lives in the past for the mere pleasure of living there, and in whom recollections emerge into the light of consciousness without any advantage for the present situation, is hardly better fitted for action: here we have no man of impulse, but a *dreamer*" (*MM* 198); recall that for Bergson, memory is "powerless as long as it remains without utility" (181). Bloom, after all, is a practical individual, interested not in any sort of vitalistic memory but rather in strengthening his recall ability. The only time we see any kind of "vitality" associated with memory for Bloom is at the end of the day, when he exercises a conscious form of recollection, a construction of memory: "It was one of his axioms that similar meditations or the automatic relation to himself of a narrative concerning himself or tranquil recollection of the past when practised habitually before retiring for the night alleviated fatigue and produced as a result sound repose and renovated vitality" (17.1755-58). It is interesting to note here that "recollection" here is associated both with the automatism that Bergson wishes to avoid—with an "automatic relation"—as well as with a textual activity, with the construction of a narrative.

Bloom recognizes that memory is a faculty that requires exercise and strengthening; after all, throughout his day we have encountered instances of the erratic nature of memory, the ways in which it can fail. Examples abound with Bloom: trying to recall "the name of that priestylooking chap was always squinting in when he passed […] Pen something. Pendennis? My memory is getting. Pen…? Of course it's years ago" (8.176-79), only to have it appear spontaneously a bit later

(8.1114); remembering "Silly Milly's birthday gift. Only five she was then. No, wait: four" (4.284-85); remarking, upon being asked to pay in Daly's for stationery: "Aha … I was forgetting … Excuse …" (11.307). Bloom's recourses to memory are often phrased as questions to himself: "Where is my hat, by the way?" (4.485); "What was it she wanted? The Malaga raisins" (8.24); "Did I pull the chain? Yes" (8.279). (If we wished, we could read the self-questioning involved in the call to memory as a fragmentation of the subject, a necessary divorce between past and present selves in which the self cannot be "selfsame.") Nor is an erratic memory unique to Bloom. Conmee, for instance, remembers, "Nones. He should have read that before lunch" (10.191); J. J. O'Molloy, about to sneeze, tries to recall Dignam's name: "poor little … what do you call him …" (10.462).

All of this is to say that "conscious" memory—if by that term we understand the data that are available for recall by they subject—does appear to be unreliable, fallible and error-prone. This does not mean, however, that we must have recourse to a vitalistic, "truer" form of metapersonal or supernatural memory. At the very least, Bloom, as we have already seen, is much more interested in methods of reinforcing memory's weak points. In the passage from the cemetery in which Bloom imagines recordings of the departed, he acknowledges the impermanence of human memory and points to modern inventions as ways to compensate for its shortcomings: the gramophone "Remind[s] you of the voice like the photograph reminds you of the face. Otherwise you couldn't remember the face after fifteen years, say" (6.966-68). Human memory is fleeting; technology offers a way to shore it up. To admit this, though, is to admit the potential inferiority of the human to the technological. It is to

admit that the prosthesis (in this case, the photograph or the gramophone recording), brought in to supplement a "natural" memory, is in fact a more durable, a more faithful, form of memory.

It is not only modern technology that can shore up the weak points in human memory. Memories can become associated with any external object, such as the "elephantgrey dress with the braided frogs" that Molly dislikes because Bloom "sprained [his] ankle first day she wore" it (8.164-65), or the potato he asks Zoe to return because "There is a memory attached to it" (15.3520). These instances more closely resemble the operation of spontaneous memory, in that memories are associated with and evoked by certain things. Yet it is important to note that spontaneous or involuntary memory is necessarily activated by something outside of the self; it is not a wholly interior process, but one that relies on an exterior supplement. The action of spontaneous memory disrupts the notion of a whole, internal memory, revealing instead that memories can "reside" at least partially in an object separate from the subject. The fact that this memory acts involuntarily, "capriciously," undermines the notion of the subject as master of the self.

Early on Bloom remarks on the efficacy of external stimuli in evoking memories: "Fresh air helps memory," he thinks, "Or a lilt" (4.136-37). A bit later he exercises his memory in a similar fashion as he tries to remember a phone number: "Better phone him up first. Number? Yes. Same as Citron's house. Twentyeight. Twentyeight double four" (7.219-20). Yet what Bloom replicates here in his recall technique is the action of the *pharmakon*—as Derrida points out, "what Plato is attacking in sophistics… is not simply recourse to memory but, within such recourse,

the substitution of the mnemonic device for live memory, of the prosthesis for the organ; the perversion that consists of replacing a limb by a thing, here, substituting the passive, mechanical 'by-heart' for the active reanimation of knowledge, for its reproduction in the present" (*Dissemination* 108-9). The "mechanical 'by-heart,'" in Rickard's terms, transforms people into data storage devices, turning Mnemosyne into "a kind of computer." The exercise of mnemotechnic is the privileging of the dead device over living knowledge, the dead momery of rote and habit that smacks of automatism but that can still "construct mechanisms subtle enough to imitate intelligence." Even "living" memory, however, relies upon external stimuli. Rickard notes that "involuntary memory depends on the assumption that the past is not stored passively in the mind but rather is an active force, pressing constantly against the present and released through repetition (of past situations, sensations, and words, for example)" (124). Rickard's repetition is akin to Bergson's analogues; the release of involuntary memory by repetition is the action of the gramophone needle retracing a familiar groove.

According to Rickard, "Joyce's mnemotechnic is… deeper than involuntary memory in Proust's terms and more comprehensive than Bergson's spontaneous memory because it incorporates the force of metapersonal memory and is fueled by a textual dynamic or entelechy" (129). I have already noted that this metapersonal memory is technological. Rickard bases his claim on the notion that Joyce has constructed in his novel a "complex textual memory" in which "every word of significance in *Ulysses* is 'remembered' by the text and becomes available to the characters" (108); Rickard cites a number of "anamolous [*sic*] passages" and writes:

> Critics… at times broach the argument that through this technique '*Ulysses* itself becomes one great 'character'' (Groden 55), or, as Karen Lawrence suggests, that 'it is the *book's* past that provides the material for the drama' (152; original emphasis). Often such passages are seen as part of a narrative experiment on Joyce's part that has more to do with the relationship between author and reader than with the situations of the characters themselves. (110)

Little needs to be said about the statement that "every word … in *Ulysses* is 'remembered' by the text," which amounts to claiming that every word in the book is remembered by the book. In ascribing the operation of this "textual memory" to the "situations of the characters themselves," Rickard chooses to ignore one of the most important aspects of *Ulysses*: its status as a textual product. We have already discussed the ways in which print technology has affected Joyce's text; Rickard, it seems, would prefer to elide these effects, considering the world of the novel as its own objective universe, forgetting that Bloom, Stephen, and the other characters are not real. Joyce's "textual memory" in *Ulysses* is just that—textual; the anomalous instances stem from a playful engagement with the novel's status as text. The mnemonic devices and techniques that we find in *Ulysses* are aids to the reading of memory's inscriptions. We see a humorous instance of a memorial misreading in the joke the cemetery caretaker tells in "Hades": "After traipsing about in the fog they found the grave sure enough. One of the drunks spelt out the name: Terence Mulcahy. The other drunk was blinking up at a statue of Our Saviour the widow had got put up. […] And, after blinking up at the sacred figure, *Not a bloody bit like the man*, says he. *That's not Mulcahy*, says he, *whoever done it*" (6.724-31). If memory "resides" to a

certain extent in external objects—the potato, the lilt, the memorial statue—it still relies upon proper "reading" and interpretation. Likewise, the textual memory in *Ulysses* relies on the reader; it would not be memory without one.

Rickard, in commenting on Freud's narrative model in psychoanalysis, notes that Freud "seems to have concluded that the past is 'writable,' or at least as writable as it is readable" (50). Such an attitude transforms our relationship with memories of the past to that of readers of a text; even at the moment of its first inscription our memory is something constructed, artificial. If memory is our primary access to past experience, then experience too is necessarily constructed. Freud's "Note on the 'Mystic Writing-Pad'" provides a metaphor based on writing for the perceptual-conscious and unconscious/mnemic systems in the human psyche. His analogy, which sets up writing as something that "supplement[s]" natural memory and "guarantee[s] its working" (227), is nonetheless based upon the notion that memory is already something that is inscribed, artificial. Freud's observations are technologically contingent, spurred on by "a small contrivance" that "some time ago… came upon the market" (228), a device that confirms and elucidates "a suspicion" to which he "gave expression in *The Interpretation of Dreams*" (228). His concluding remarks show how this analogue has shored up his attempts at visualizing his proposed system: "If we imagine one hand writing upon the surface of the Mystic Writing-Pad while another periodically raises its covering-sheet from the wax slab, we shall have a concrete representation of the way in which I tried to picture the functioning of the perceptual apparatus of our mind" (232). Freud's use of the phrase "I tried to picture," rather than simply "I pictured," suggests that such attempts were not entirely fruitful

until they found an elucidation in this "concrete representation."

Freud makes use of the term "mystic" in differentiating between the writing-pad and human memory, asserting that "it would be a mystic pad indeed" if it could reproduce traces "from within… like our memory" (230). There is still, it would seem, something "magical" about memory. We have already seen Bergson's vitalistic take on memory; among others who propounded supernatural, or otherwise non-empirical, models were the Theosophists. Theosophy, Rickard explains, distinguished between the "personal self" and the "higher self," a distinction roughly analogous to that between body and soul:

> The Higher Self, according to Theosophists, survives the death of the body and goes on to continual rebirth in a succession of lives as it struggles to return to the Universal Soul that it and all other matter is part of. … [J]ust as the body disintegrates after death, the Personal Self dissipates, yet the memories associated with the single life that it lived do not disappear, but are absorbed by the Universal Memory or imprinted on the Akasic Memory (a sort of film that surrounds the earth). (105)

Joyce parodies Theosophic rhetoric and terminology in the person of Elijah in "Circe," who appears in the wake of a vision of the "end of the world" inspired by AE (another Theosophist). AE's "end of the world" takes the form of "*a twoheaded octopus in gillie's kilts*" (15.2177) which Bloom has earlier dismissed as "Something occult: symbolism" (8.530); Elijah appears as a sort of sideshow crier, "*above a rostrum about which the banner of old glory is draped*" (15.2185-86), urging those assembled to "Book through to eternity junction, the nonstop run" (15.2193) and

assuring them, "You have that something within, the higher self" (15.2198). *Ulysses* also contains a couple of references to the Theosophic notion of "Akasic Memory," both of them in "Aeolus" and both associated with Stephen's stream of consciousness. For Stephen, the notion arises in connection with an image of voice and its impermanence, that of a "tribune's words, howled and scattered to the four winds" (7.881-82). Once again, we have writing brought in to supplement the voice, this time a supernatural sort of writing, with "Dead noise" being inscribed in "Akasic records of all that ever anywhere wherever was" (7.882-83).

The notion of "Akasic records" makes this "sort of film that surrounds the earth" (Rickard 105) sound like a species of universal archive. When it comes to memory, it seems, textual and technological metaphors are inescapable. William James, for instance, in describing a theory of Akasic universal memory, makes use of gramophonic images; the passage is from James's 1909 "Report on Mrs. Piper's Hodgson-Control":

> If an act of yours is to be consciously remembered hereafter, it must leave traces on the material universe such that when the *traced parts of the said universe systematically enter into activity together* the act is consciously recalled. During your life the traces are mainly in your brain; but after your death, since your brain is gone, they exist in the shape of all the records of your actions which the outer world stores up…. (358; James's italics)

As we have already seen with Bergson and Guyau, the idea of gramophonic analogues enables various theories of supernatural memory, the retracing of previously recorded grooves making the reactivation of dormant memories plausible.

Other forms of "supernatural" memory referred to in *Ulysses* also receive technological treatment. Rickard cites "Stephen's playful image of the umbilicus as a telephonic link to his ancestors" in "Proteus"—"The cords of all link back, strandentwining cable of all flesh. […] Hello! Kinch here. Put me on to Edenville" (3.37-39)—and notes that it "resembles conceptions of race memory, similar in some ways to universal memory, current in Joyce's time" (Rickard 103). It is important, though, that the image is "playful"; even though "talking to the dead and talking on the phone both hold out the promise of previously unimaginable contact between people" (Thurschwell 3), the image of being put "on to Edenville" makes the *au-delà* seem mundane and casts such enthusiasms as outlandish or ridiculous.

The technological innovations of the late nineteenth and early twentieth centuries did seem to render such contact with the beyond more plausible. Pamela Thurschwell, in *Literature, Technology and Magical Thinking, 1880–1920*, engages "the uncanny nature of technological transmission as it was imagined at the *fin de siècle*" (3), writing that "the concerns of psychical research are centrally related to a late nineteenth-century fascination with the modus operandi of cultural transmission and communication," and that "debates about the possibility of telepathy, hypnosis and survival after death contribute to wider reconceptualizations of the borders of individual consciousness and emerge together with new communication technologies such as the telephone and the telegraph" (1-2). It is a truism that a sufficiently advanced technology will appear magical to someone unfamiliar with its operation; the apparently magical abilities of new technologies in this period provided models for the operation of the supernatural—and, for some, held out the possibility of

empirical proof of supernatural phenomena. Electricity, for one, could be used as a catch-all explanation for the otherwise inexplicable. Ian Christie writes that it "had seemed to the late nineteenth century a magical new force, capable of anything and everything" (85); Mesmerism, according to Tim Armstrong, suggested that "the energy of life, 'animal magnetism,' was a superfine fluid akin to electricity" (*MCH* 65). Armstrong writes elsewhere that interest in electricity stretches back to Galvani's experiments in the late eighteenth century, informing neurology as well as some brands of vitalism, since "electricity seemed to duplicate the body's fundamental energies" (*MTB* 17). As evidenced in works like *Frankenstein*, electricity in the popular imagination had the potential to animate lifeless matter and even, possibly, to raise the dead. Armstrong describes "the nineteenth century fascination with the application of electricity to the human body" and cites a possible "duality in electricity: seen as duplicating the motive forces of the nervous system and perhaps even the 'spark' of life itself, it was at the same time becoming part of a network of power which transcended the scale of the human body and could kill" (*MTB* 14).

Technology also enabled pathological ways of thinking about the interaction between body and machine. Thurschwell writes about "a nexus of 1890s fears about the porous constitution of the self and its desires" (38), describing how "fantasies of the possibilities of telepathic contact" enabled by new forms of technological transmission "were balanced by an anxious sense that someone or something might get inside one's mind and control one's actions" (37). Armstrong sees in the "schizophrenic's personal sense of being influenced from afar" a "literalization of cultural paranoia at the potential of mass media, as well as a sense of the permeability

of bodily boundaries" (*MTB* 104). In a similar vein, Thurschwell cites the case of "the famous psychotic judge," Daniel Paul Scherber, whose "delusions literally enact the dangers of suggestion, thought transference, and taking dictation, in catastrophes upon his body and mind. Compulsively forced to think thoughts that are not his, he is invaded by foreign interlocutors … and believes himself to be the focus of an elaborate dictation plot" (133). Such anxieties, in which the body can become a kind of signal-receiver or dictation machine, illustrate according to Thurschwell how the "ways of imagining the supernaturally occupied mind change with historical shifts in technologies of transmission of information" (13).

In a lecture entitled "Dreams and Occultism," Freud describes telepathy as "a kind of psychical counterpart to wireless telegraphy" (36). He extends the technological metaphor later on:

> The telepathic process is supposed to consist in a mental act in one person instigating the same mental act in another person. What lies between these two mental acts may easily be a physical process into which the mental one is transformed at one end and which is transformed back once more into the same mental one at the other end. The analogy with other transformations, such as occur in speaking and hearing by telephone, would then be unmistakable. (55)

Here once again technology legitimates speculation on the possibility of paranormal phenomena by analogy with physical processes; as Thurschwell puts it, "Teletechnologies such as the telegraph and the telephone suggested that science could help annihilate distances that separate bodies and minds from each other. When

these new technologies begin suffusing the public imagination from the mid-nineteenth century on they appear to support the claims of the spiritualist mediums" (3). This kind of telephonic telepathy appears in *Ulysses*, when the "sins of the past" allege of Bloom: "Unspeakable messages he telephoned mentally to Miss Dunn at an address in D'Olier street while he presented himself indecently to the instrument in the callbox" (15.3029-31)—an accusation which combines the intimacy of direct mental contact with the extremely physical, and comical, image of Bloom exposing himself to the phone. According to Rickard, the "widespread interest in telepathy and shared mind among Joyce's contemporaries provides a context for the telepathic exchanges between Stephen and Bloom, shared memories that suggest mysterious and complex bonds between the characters" (92). Rather than reading such exchanges as being technologically modulated, however, Rickard prefers to ascribe them to "the idea that all mind is linked in a universal psychic medium" (100). I maintain, and intend to spend the rest of this chapter arguing, that any potentially supernatural elements in Joyce's novel are intimately connected with the technological developments of the time.

In Chapter XIV of *The Art of the Moving Picture* (2nd ed., 1922), Vachel Lindsay discusses what he sees as the shortcomings of the current talking motion picture, which synchronizes a phonographic recording with the silent film. He asks, "Would you set upon the shoulders of the troupe of actors the additional responsibility of putting an adequate substitute for human magnetism in the phonographic disk? The voice that does not actually bleed, that contains no heart-beats, fails to meet the

emergency" (222). A little further down, in a passage that calls to mind Hans Driesch's differentiation between the phonograph and the actor,[xxxiii] Lindsay writes:

> Look at the opera singer after the last act. His eyes are burning. His face is flushed. His pulse is high. Reaching his hotel room, he is far more weary than if he had sung the opera alone there. He has given out of his brain-fire and blood-beat the same magnetism that leads men in battle. … The output that leaves him drained at the end of the show cannot be stored in the phonograph machine. (222-23)

It would seem, from these descriptions, that the particular energy that characterizes the human voice, its "blood-beat," its *élan*, is something that it is impossible for the phonograph, a mere machine, to capture. Yet shortly after these passages, Lindsay suggests that the relatively unadvanced state of the technology for recording and reproducing sound is responsible for the inadequacies of the talking picture: "In the present talking moving picture the more highly developed photoplay is dragged by the hair in a dead faint, in the wake of the screaming savage phonograph. No talking machine on the market reproduces conversation clearly unless it be elaborately articulated in unnatural tones with a stiff interval between each question and answer. Real dialogue goes to ruin" (223). Lindsay's conclusion on the matter is not what we might expect, given his earlier remarks on "magnetism," "brain-fire," and "blood-beat" (terms worthy of D. H. Lawrence); "The *phonoplay*," he finally writes (emphasizing his neologistic term for the properly executed sound film), "can quite possibly reach some divine goal, but it will be after the speaking powers of the phonograph excel the photographing powers of the reel, and then the

pictures will be brought in as comment and ornament to the speech. The pictures will be held back by the phonograph as long as it is more limited in its range" (224).

Thus in a brief span Lindsay has expressed two apparently contradictory observations regarding the reproduction of sound in the talking moving picture: on the one hand, the voice that "bleeds" testifies to a living presence; it contains a "human magnetism" that cannot be "stored in the … machine" and that is superior to any recording. On the other hand, however, Lindsay suggests that the measure of technological perfection that would make this reproduction possible is attainable, though not yet available; there is "No talking machine [currently] on the market [that] reproduces conversation clearly," though such a machine seems conceivable. Yet the machine that could perfectly reproduce the human, that could speak with a voice that "bleeds," would still be a machine, artificial. The logic at work here is the logic of the supplement, as expounded by Derrida: "The presence that is thus delivered to us in the present is a chimera.… The sign, the image, the representation, which come to supplement the absent presence are the illusions that sidetrack us" (*Grammatology* 154). The machine that could speak would be an uncanny double, more advanced than Hoffmann's Olympia, indistinguishable perhaps from a "living" human.

Earlier I argued that the privileging of the voice over the written word has strong vitalistic underpinnings, if it does not amount outright to a vitalist equation of voice and breath to spirit. Here we have Lindsay, writing specifically on the phonograph, treating the voice in the same manner while at the same time conceding its reproducibility—much as Bergson and Driesch treat the organism as a perfect technology. What I would like to suggest here is that this implicit link between the

voice and the living breath, fortified traditionally by the presence of the speaker, can account to a certain extent for the association of the gramophone with the grave. In a strange twist of logic, informed by a certain set of vitalistic assumptions, the perfect representation or reproduction of the living—especially of the human—cannot, no matter how perfect, be itself alive; it must be in some way a resuscitated corpse, supernatural.

Indeed, we have already seen the ways in which the gramophone, in the last decades of the nineteenth century and at the start of the twentieth, was "insistently linked to its capacity to record final words and voices from the grave" (Kreilkamp 216); as Kreilkamp further points out, "The discourse surrounding the invention of the phonograph claimed that, in seizing a human voice as a thing apart from its origin, one might resist mortality itself" (213). When Bloom imagines a phonographic recording of the dead in "Hades," he subscribes to what Thomas J. Rice points out was a "commonplace contemporary enthusiasm" (160). It is important to note, however, how exactly Bloom imagines such a recording: "After dinner on a Sunday. Put on poor old greatgrandfather. Kraahraark! Hellohellohello amawfullyglad kraark awfullygladaseeagain hellohello amawf krpthsth" (6.964-66). Bloom does not envision the perfect reproduction of a human voice—even though the metonymic conflation of "poor old greatgrandfather" with the recording itself suggests replacement, and even though his subsequent comment, "Remind you of the voice like the photograph reminds you of the face" (6.966-67), suggests a passable representation. Instead, Bloom's imagined recording, in representing the noise of the gramophone, emphasizes the technical side of this reproduction. Something similar

happens later on, as the gramophone "sings" its hymn in "Circe": "(*drowning his* [Elijah's] *voice*) Whorusalaminyourhighhohhhh … (*the disc rasps gratingly against the needle*)" (15.2211-12).

Yet before we go so far as to assume that these representations of imperfect, technological reproductions of the voice suggest that there is some absolute, insurmountable difference between the voice and its recording, we should note that "Circe" also reminds us that the human mouth is capable of garbled sound, as demonstrated by the Idiot's "Ghahute!" and "Ghaghahest" (15.20, 24). Rather, such representations subsume the voice into the surrounding noise; voice becomes part of what Kittler calls "the noise of the real" (14), a result of the fact that "the phonograph does not hear as do ears that have been *trained* immediately to filter voices, words, and sounds out of noise; it registers acoustic events as such" (22-23; italics added). I have emphasized the word "trained" in order to highlight the fact that this ability of ears is the result of an unconscious, learned process whereby one acquires the habit of separating "useful" sounds—predominantly linguistic ones—from background noise. In fact, this separating process is structurally akin to reading, wherein the eye differentiates between the mark on the page and the blankness "behind" it—another example of how voice is already written.

Bloom's imaginary representation of the recorded voice combines spoken words with noises resulting from the process of their inscription—the "extraneous" sounds come from the scratching of the recording stylus. Joyce's unique way of transcribing sound presents this noise in the same way the text represents the voice, using alphabetic letters. Rice points out: "So far as I know, no one has put a name to

Joyce's representation of such sounds in written text… We should probably call Joyce's orthographical strategy 'phonography' or 'gramophony,' could we free these two terms from their immediate association with the mechanical reproduction of sound" (154). Joyce's text is "phonographic" both in the way it represents sound and in the way it depicts language. Citing an anonymous editorial in *The Spectator* entitled "What Will Come of the Phonograph?", Kreilkamp notes that critics of this new device contended "that 'all this careful storing' has produced not a useful record of the voices, images, and memories of human history, but only 'a museum of odds and ends of form and speech,' a linguistic junk-yard overflowing with words and phrases that should have been left to die in peace" (222). What better way than "a museum of odds and ends of form and speech" is there to describe the depiction we have of the evolution of the English language in "Oxen of the Sun," culminating as it does in "a frightful jumble of pidgin English, nigger English, Cockney, Irish, Bowery slang and broken doggerel" (Joyce, *Letters* 1:140)? As Rice points out, "Joyce's thorough assimilation of these manifold consequences of sound reproduction… move[s] him to represent the full range of auditory stimuli from voice to noise" (152-53). Prompted by technological advances, Joyce presents sound as a continuum, with no special status reserved for human speech.

Thus we find the humans in this novel surrounded by what Smith calls "the incessant mechanized pseudo-speech of technology" (459), epitomized in the "Aeolus" episode. If we do indeed regard the noise of machines as "pseudo-speech," then we set up a distinction between speech and noise: noise here is a by-product of other processes, while we might call speech purposive behaviour. Yet recall the

difficulties that a vitalist like Driesch had in distinguishing types of "purposive" behaviour, namely separating "teleological" processes in machines from those found in organisms. Not surprisingly, then, we find Bloom ascribing a sort of desire to the printing-press: "Sllt. Almost human the way it sllt to call attention. Doing its level best to speak" (7.175-76). Likewise, the creaking door is "asking to be shut. Everything speaks in its own way" (7.177). The idea of everything speaking is reinforced by Joyce's representing objects' speech using the same signs ordinarily reserved for the human voice (as opposed to using traditional description). "Aeolus" not only presents the "full range of auditory stimuli," from speech and rhetoric to the noise of machines; it also suggests that this environment divests the speaking voice of its power: among the machines, human beings operate silently. Nannetti, for instance, responds to a request from Hynes without speaking: "The foreman, without answering, scribbled press on a corner of the sheet and made a sign to a typesetter. He handed the sheet silently over the dirty glass screen" (7.108-10). The "conversation" between Nannetti and Bloom is marked by the general silence of the former, who appears to speak but rarely, a habit shared by those who work under him: "A typesetter brought him a limp galleypage. He began to check it silently. Mr Bloom stood by, hearing the loud throbs of cranks, watching the silent typesetters at their cases" (7.161-63). As we have seen with Bloom, a life spent among modern technology requires one to do away with older, vitalistic notions, such as the one that privileges the living breath over the dead word.

In the absence of any absolute barrier like the one vitalism erects, not only does the organic become explicable in mechanical terms, but machines can also take

on the qualities of living beings. The permeability of this barrier was enhanced by technological advances in sound reproduction; we can understand how "the invention of mechanical sound reproduction [might] lead a writer like Joyce to develop a kind of compensatory or competitive narrative strategy for the representation of sound in the written text" (Rice 155). *Ulysses* abounds with examples of this strategy, as we have seen. The propensity for objects to speak in this text arises not only from phonography but also from cinematography. We will discuss cinema's potential for "object animation" shortly; at present it suffices to note, as Keith Williams writes, that "when cartoons entered the talkie era…, anything could suddenly speak, as well as come to life" (112). Williams also points out that "Joyce was certainly aware of the possibilities of the soundtrack at least as early as the 'opera films' he intended screening at the Volta, which maintained crude synchronicity by accompanying phonograph" (112). In this context, Lindsay's remarks on the "vitality" (or lack thereof) of the opera singer's recorded performance seem particularly apt.

Joyce's representation of sound, Rice argues, is particularly connected to the "representation of… the animal's voice" (156), claiming that it is "not until the cat's first meow" in "Calypso" that "readers of *Ulysses* begin to notice Joyce's strategic representation of sound in text, his new technology of gramophonic sound reproduction" (161), even though earlier, in "Proteus," Stephen notices the "fourworded wavespeech" (3.456-57). Nonetheless, the cat's "speech" is noticeable, set off as it is by a *tiret*. Moreover, just as many early chronophotographic experiments, precursors to cinema, focused on analyzing animal locomotion (Eadweard Muybridge's work of that name being perhaps the most well known), so

too did early enthusiasts of phonography engage in "speculation that this new technology might make it possible for humans finally to capture and decipher the language of animals" (Rice 161)—certainly an intriguing possibility for "All those who are interested in the spread of human culture among the lower animals" (12.712-13). The animal and the gramophone also meet in the famous trademark of "His Master's Voice." The image comes from an 1898 painting by Francis Barraud; however, Rice observes, "one of the commonly understood but now largely forgotten messages coded" into the image of Little Nipper is that "Little Nipper's master is dead" (158). Once again, then, we find the gramophone associated with the voice of the departed, here in a "representative work of the Victorian subgenre of the art of animal mourning" (Rice 158).

The animal in the early twentieth century, Armstrong points out, was a declining presence in human life (*MCH* 149), due in large part to the replacing of animal functions by machines: "Between 1905 and 1911, horses were replaced by electricity and gasoline powering trams and buses in London: 7,000 vanished from the trolleys alone, and with them a world of steaming bodies and flowing waste" (149-50). Armstrong contends that this process "places pressure on the equivalence of bodies and machines," and that it is "difficult to see technology as 'standing in' for bodies" (150). I certainly do not want to suggest a simple equivalence; however, there is a relation between the two, and it is possible to argue that the machine was brought in to replace the horse because it was a "better" animal—stronger, with greater stamina and requiring less upkeep. It may be true that "the conspicuous waste of flesh" in Edison's *Electrocuting an Elephant* "seems to signal a different economy,

that of the spectacle itself" (*MCH* 150)—but we should also not forget that it was also Edison who presented viewers with "the spectacular result of trains being run deliberately into one another" in *Railroad Smash-Up* (1904) (Christie 19). While it may not be a simple equivalence, there is a certain continuum between the body of the animal and the body of the machine. The double movement that Armstrong describes to summarize the situation is more apt: "As the human interior becomes animal, the exterior becomes in parallel fashion simply a machine-like surface: a marionette-body; a robotic blank from which the animal has been excluded – another version of primitivism" (*MCH* 150). In the absence of a vitalistic barrier the human can become either animal or marionette, or even both simultaneously.

A passage in "Oxen of the Sun" describes the "board" set "in the castle" of Horne's maternity hospital (14.141) using "marvellous" imagery and fantastical language:

> And on this board were frightful swords and knives that are made in a great cavern by swinking demons out of white flames that they fix then in the horns of buffalos and stags that there abound marvellously. And there were vessels that are wrought by magic of Mahound out of seasand and the air by a warlock with his breath that he blases in to them like to bubbles. (14.143-48)

Joyce's use of defamiliarization here illustrates the aforementioned truism, showing that even simple technologies—knives, forks, glasses—can seem magical or supernatural from the right perspective. The idea that glass is "wrought by magic of Mahound out of seasand" by a glassblower who is a "warlock" with fiery breath fits well with the reaction of South American natives that the sailor describes in

"Eumaeus": "Glass. That boggles 'em" (16.486). A couple of lines below this passage in "Oxen" is a similar description of a tin of sardines as "a vat of silver that was moved by craft to open in the which lay strange fishes withouten heads though misbelieving men nie that this be possible" (14.149-51). The tin being "moved by craft to open" exploits the double meaning of the word "craft": we can interpret it as referring to the pulltab on the sardine tin, in which case "craft" simply indicates design, fabrication, craftsmanship; but we can also read it in terms of sorcery, witchcraft—especially given the previous references to the warlock and the "magic of Mahound." And while we are certainly meant to laugh at the attitude taken by "misbelieving men," their naiveté reflects this double meaning: fish cannot grow naturally without heads; if the tin contains fish without heads, it must be by "craft," by magic or some other form of intervention.

The humour in both of these passages, of course, is in the discrepancy between the banal items and the fantastical language used to describe them. The combination of the magical with the everyday operates to make the former seem absurd—after all, there is an explanation for the making of glassware other than the "magic of Mahound," even though it may not be apparent to the narrator here. This seems to be Joyce's usual way of treating the supernatural. We have already seen it in the image of Bloom "present[ing] himself indecently to the instrument in the callbox" as he mentally telephones Miss Dunn (15.3031), as well as in the notion of a telephone connection to "Edenville" using the "strandentwining cable of all flesh" (3.37). In both of these cases Joyce transforms the technological metaphor into something literal, thereby making the supernatural element both outlandish and

mundane. Joyce employs a similar tactic during the séance that occurs in "Cyclops." Upon being "Interrogated as to whether life there resembled our experience in the flesh," the shade of Dignam replies "that he had heard from more favoured beings now in the spirit that their abodes were equipped with every modern home comfort such as tālāfānā, ālāvātār, hātākāldā, wātāklāsāt" (12.351-54). The presence of such "modern home comforts" in an afterlife supposedly inhabited by spiritual beings renders the entire ethereal arrangement suspect, while Joyce's sanskritizing of these comforts is a satirical thrust at the mystical and theosophical jargon that he parodies in the whole séance passage (12.338-73). Dignam's primary concern in the beyond is likewise banal: "Before departing he requested that it should be told to his dear son Patsy that the other boot which he had been looking for was at present under the commode in the return room and that the pair should be sent to Cullen's to be soled only as the heels were still good. He stated that this had greatly perturbed his peace of mind in the other region" (12.366-71). The séance's preoccupation with such mundane details pokes fun at spiritualist practices by literalizing the idea of life after death, turning that life into something that closely resembles earthly life down to the most trivial concerns.

Thus, Joyce satirizes contemporary enthusiasms for the supernatural by making the otherworldly seem everyday, doing so by exploiting the technological "miracles" that informed these enthusiasms. It is difficult to say conclusively whether Joyce completely rejects the supernatural—after all, ridiculing conceptions of the afterlife that turn it into something mundane could simply be the expression of a belief that the beyond is incomprehensible in any human terms—but it seems safe to

say that Joyce scorns the kind of superstition that can easily grow up around these kind of supernatural beliefs. Terence Brown recounts one case of such superstition which is particularly apt for the present discussion:

> On 21 August 1879, around the time of the Feast of the Assumption, the Blessed Virgin Mary, accompanied by St. Joseph and, it seemed, St. John the Evangelist, appeared to the wonder of at least fifteen witnesses at the Church in Knock, [County Mayo] … Immediately Knock became the focus of pious pilgrimage and miraculous cure. His Grace the Archbishop, MacHale himself, was required, so great was the popular response, to institute an inquiry into the extraordinary events in Knock, at which depositions from the several witnesses were taken. … One John MacPhilpin of Tuam, editor of the local newspaper, prepared and edited his *The Apparitions and Miracles at Knock: also The Official Depositions of the Eye-Witnesses*, which was published in Dublin in 1880. (793-94)

MacPhilpin, Brown notes, "was an early believer in the authenticity of the apparitions" (794), even though he "knew that many interesting visual effects could be achieved by the manipulation of light and that the Victorian world was fascinated by these" (795). As a result, his pamphlet "seems to slip unconsciously into a language more appropriate to the description of a photographic image than a heavenly visitant, as he negotiates the troubled space between faith and Victorian scientific knowledge and technology" (795).

Brown makes a connection between the apparitions at Knock and the *Dubliners* story "Grace," writing: "one suspects that Joyce shares Mr. Kernan's

skepticism about church shrines such as that at Knock in this tale with its reference to the diocese of Tuam, to a poem on photography, and with its allusions to light, to statuary, its mention of illusion" (796). The "poem on photography" is Pope Leo XIII's *Ars Photographica* (1867), whose subject is "the creation of realistic and deceptive images" from the light of the sun and which Martin Cunningham recalls at Kernan's bedside in Joyce's story (Brown 791). If the Knock apparitions were indeed photographic in origin, projected by magic lantern (a precursor to the slide projector), it is yet another example of the supernatural being produced by "craft"—in this case the crafting of a phenomenon by technological means. As Joyce's allusions to the supernatural in *Ulysses* suggest, there are two possible responses to the idea of craft. The first is to assume that anything that does not happen naturally is the product of witchcraft or some other supernatural agency; this easily leads to the sort of credulity that believes unquestioningly in religious apparitions and that stands awestruck at "strange fishes withouten heads." The second is to recognize that craft indeed makes happen that which would not occur naturally, but makes it occur by clever design—craftiness and craftsmanship. In this case technology is supernatural, but supernatural in the sense that it acts upon the natural in the manner of the supplement.

The most supernatural episode in Joyce's novel by far is "Circe," whose otherworldly atmosphere is manifest early in the description of the "*entrance of nighttown*," with its "*skeleton tracks*" and "*red and green will-o'-the-wisps*" (15.1-3). In subject matter too, with its hallucinations, metamorphoses, its conjuring of the dead, the episode is closely entwined with the magical and the fantastic. As R. Brandon Kershner puts it, "Whatever else Bloom and Stephen have attended in the

course of 'Circe'… they have certainly attended a séance, the evocation of and communing with the dead by one or more women" ("Framing" 275). Yet for all its otherworldliness "Circe" is also very heavily under the influence of technology. Consider, for example, the appearance of Paddy Dignam, initially in canine form though he "*grows to human size and shape*" while his "*dachshund coat becomes a brown mortuary habit*" (15.1206-7). In Dignam's exclamation, "My master's voice!" (15.1247), Joyce "usurps the most famous trademark of the gramophone, the little dog Nipper and the slogan 'His Master's Voice,' for his own uses" (Rice 156). The phonograph, as "a technology of vocal reincarnation, a scientific magic" (Kreilkamp 219), provides a technological version of the séance. As Rice notes, Little Nipper's master is dead and speaking as it were from beyond the grave; Joyce, Rice argues, "revers[es]… the message encoded" in this image "by merging Little Nipper with the dead Paddy Dignam to become mournee as well as mourner" (159). Dignam's appearance is similarly the reverse of the normal séance: when John O'Connell summons him "*stormily through his megaphone*" (15.1244), Dignam disappears "*down through a coalhole, his brown habit trailing its tether over rattling pebbles*" (15.1255-56). O'Connell's appearance mocks the séance as a practice by parodying the idea that the dead spend eternity just waiting to be summoned by the living; O'Connell, it seems, is some sort of afterworld bureaucrat, whose job it is to know the specific assignation of each shade: "Burial docket letter number U. P. eightyfive thousand. Field seventeen. House of Keys. Plot, one hundred and one" (15.1249-50).

In a similar vein, Kershner argues that we should read the apparition of Rudy at the end of this episode as a photograph. He writes: "to the degree that Bloom,

consciously or not, participates in the appearance of Rudy, he does so out of a context of practices and conventions that surrounded the popular art form of photography and its iconography" ("Framing" 265). The apparition is séance-like, in that it "affords Bloom a kind of magical access to his dead son as (somehow, somewhere) living" (273), yet it is an access that is completely technologically mediated. The image of Rudy participates in the Victorian genre of memorial photography—Kershner notes that "It was common to dress children in favorite or ceremonial clothing and to surround them with their cherished toys" (273)—even though in Rudy's case it is an extrapolation into the future of what he might have become. Kershner also writes: "if we regard the final tableau of 'Circe' as a photograph, showing Rudy materializing above Stephen, prone on the street, while Bloom watches, then surely one conclusion we might draw is that Rudy is in some way the 'Spirit' of Stephen, perhaps his 'astral projection,' freed from its bodily enclosure by the poet's drunken reverie" (275). Spiritualists may prefer to regard it as such, but it seems much more likely that this is a different kind of projection. Rudy's image, after all, appears "*Against the dark wall*" (15.4956), making it very easy to see it as something projected by magic lantern or, if we choose to interpret the child's reading "*from right to left inaudibly, smiling, kissing the page*" (15.4959-60) as an action rather than as a static pose, by a cinema projector.

Phonography and photography certainly play their roles in "Circe's" otherwordly atmosphere, but the technology that most facilitates the supernatural apparitions and transformations in the episode is that of the cinema. The very principle of the cinema is based upon illusion, on the persistence of vision; the brain

can only discern separate images down to a certain limit, meaning that a series of stills presented in rapid succession will take on the illusion of movement. Its illusory nature, combined with the realism traditionally associated with photographic images, means that cinema is particularly well suited to crafting the supernatural. Indeed, Ian Christie says that cinema "might well be described as a temporary phase in the supernatural tradition which started as long ago as the seventeenth century" (111). The magic lantern was a part of this tradition. Existent in the seventeenth century, the magic lantern had a "somewhat macabre reputation," Christie points out: "some of the most common lantern images were skeletons, ghosts and devils. The very term 'magic' already linked the lantern with the black arts, and the fact that it required darkness no doubt encouraged such gruesome imagery" (111). Adding the element of motion to such spectres could only heighten the illusion, and the cinema would eventually develop the "ability to conjure a complete, eerily credible world of horror" (130). Vachel Lindsay saw great promise in the cinema's affinity for the supernatural, calling the movie camera "the seven-leagued demon spy-glass" (196) and affirming that "the camera has a kind of Hallowe'en witch-power" (59) that producers had yet to put to good use: "Fairy-tales are inherent in the genius of the motion picture and are a thousand times hinted at in the commercial films, though the commercial films are not willing to stop to tell them" (12). Instead, Lindsay writes, poor film-making and bad, overwrought acting "produce on the screen a series of misplaced figures of the order Frankenstein," a vision of "galvanized and ogling corpses. These are the things that cause the outcry for more censors. … These wriggling half-dead men … are public nuisances, no worse and no better than dead cats being hurled about by

street urchins" (41).

In the introduction to Christie's book, Terry Gilliam tells about having seen a documentary

> about an Amazonian shaman who took his assistant to the cinema for the first time. The young man came out terrified. Nothing made sense. One moment a person would be standing far away … the next moment his face filled the screen. Utter confusion. Time and space were ripped apart. We take this for granted, […] but to an innocent from the jungle this meant only one thing—the dream of death. (3)

Even when it is not trying to conjure the supernatural the cinema evokes its imagery: bad actors become "ogling corpses," the splicing together of different angles that has become standard editing practice presents the "dream of death." Gilliam's anecdote also alludes to what was already a familiar motif in early cinema, that of the naïve observer taking everything he sees as real. Christie describes how, "In Britain, Robert Paul showed a yokel seeing his first films and running in fright from a train's moving image (*The Countryman's First Sight of the Animated Pictures*, 1901), while in America 'Uncle Josh' had the same reaction in Edwin Porter's remake for Edison" (15). Such films build on a number of binary oppositions: civilized vs. "savage," sophisticated citydwellers vs. simple and naïve countryfolk, image vs. reality. Joyce's sailor in "Eumaeus" alludes to something similar when he remarks that glass "boggles" the natives in Bolivia. Yet Joyce's scene also plays with these binaries: the postcard that he displays while describing primitive superstition in turn fixates the others in the cabmans' shelter, becoming "a centre of attraction for Messrs the

greenhorns for several minutes if not more" (16.482-83).

One of the things that modernism found to be optimistic about in cinema, according to Armstrong, was the "utopian possibility… that the 'language crisis' of Modernism can be resolved by direct access to the body" (*MTB* 226-27). Cinema offered the potential for a universal language: "In 1926, Virginia Woolf commented, in her one essay on cinema, on its gesturing towards 'some secret language which we feel and see, but never speak'; a language 'rendered visible without the help of words'" (*MTB* 227). At the opening of "Circe," Stephen reflects some of these concerns, as he proposes to Lynch "that gesture, not music not odour, would be a universal language" (15.105-6). Armstrong adds further that there was an analogy between the "heightened readability of the body in silent films" and "visual language": "If Viktor Shklovsky could describe film tentatively as 'conversation prior to an alphabet,' others were already comparing it to hieroglyphics" (*MTB* 227). One of these was Lindsay, who enthusiastically embraced the idea, exclaiming, "the invention of the photoplay is as great a step as was the beginning of picture-writing in the stone age" (199). For Lindsay, the cinema's capacity as universal language, combined with its "Hallowe'en witch-power," held out even greater possibilities: "We have maintained that the kinetoscope in the hands of artists is a higher form of picture writing. In the hands of prophet-wizards it will be a higher form of vision-seeing" (299). Before we dismiss Lindsay's enthusiasms as eccentric, we should note that he shares his sentiments about the potential for this new medium with director D. W. Griffith. Christie cites Griffith's reaction to Lillian Gish's use of the term "flickers": "He told her never to use that word. She was working in the universal

language that had been predicted in the Bible, which was to make all men brothers because they would understand each other. This could end wars and bring about the millennium" (129).

The cinema's potential power for "vision-seeing" provides a technological substrate for the sort of hallucinations and apparitions that we encounter in "Circe." Likewise, the various metamorphoses, which have their Homeric originals in Circe's witch-powers, are also to be found in many early trick films, such as those of Georges Méliès. "Central to all of them," writes Christie, "was the idea of *transformation*—something or someone turning magically into something else—and often, in more than a hundred of his films, he himself played the agent of transformation" (119; italics in original). Bloom's first appearance on the scene makes use of trick techniques; as Keith Williams points out, when "*At Antonio Rabaiotti's door Bloom halts*," "*disappears*," and "*In a moment* […] *reappears*" (15.150-51), the scene "allude[s] to the actual process of stop-motion trickery (by which anything can be made to dis/appear or be substituted with something else)" (101). Immediately preceding this, Bloom sees his reflection in a "*concave mirror at the side*" which "*presents to him lovelorn longlost lugubru Booloohoom*" (15.145-46), the linguistic distortion reflecting the distortion of his image (Williams 101). Stephen, upon his arrival in Nighttown, refers to the possibility of a "universal language" that reveals "the first entelechy, the structural rhythm," making use of Stephen's characteristic "Pornosophical philotheolog[ical]" language (15.109). Bloom's arrival, on the other hand, brings in the practical side: the distorted reflection he sees when he arrives reminds us of the tricks that can be played by manipulating light.

Both Austin Briggs and Keith Williams investigate the ways in which "Circe" makes use of cinematic elements. Briggs argues that, while "the pantomime is a prime source for *Ulysses*," like other popular forms of the time "pantomime went directly into the cinema; and cinema… is even more suggestive than is pantomime of the technic of 'Circe,' Hallucination, and the art of 'Circe,' Magic" (149). Just as "everything in 'Circe' must be granted equal authenticity," he writes, "So, too, cinema claims the same reality for everything it shows" (148). Williams extends this argument, making a case for the specific influence of animated films, noting that "much of 'Circe's' later expressive deformation finds its closest contemporary counterpart in graphic animation" (102). We have already seen stop-motion technique in Bloom's momentary disappearance; Williams argues that Joyce "was also familiar with the use of 'object animation,' essentially achieved by the same 'stop motion' process" (97). Its use was "rife in early cinema" (97-98), Williams writes, and the "thousands of cartoons produced in different genres and countries make it extremely unlikely a regular film-goer and polyvisual writer like Joyce would not have been familiar with their basic techniques and themes" (109).

In a way, object animation is the logical extension of the argument against vitalism: if living things follow the same mechanical laws as the rest of the universe—if we remove any absolute barrier between the living and non-living—then there is no logical reason that non-living objects should be unable to take on qualities of the living. Just as there were with the word "craft," there are two different attitudes which we can take towards this point. We can assume that animated objects have been endowed with a special quality, somehow becoming injected with *élan vital*; to

do so is to adopt animism and in essence return to vitalism. The alternative is to recognize, as we have seen with Scarry in the Introduction, that we already project awareness onto made objects. This is not to say that objects are aware or animate, but that we live with them under the assumption that they behave as though aware of sentience. In this configuration, object animation makes sense because we have already made the conceptual leap to object-awareness.

The slippage between human beings and things is characteristic of cinema, Lindsay writes; it is a medium in which "human beings tend to become dolls and mechanisms, and dolls and mechanisms tend to become human" (53)—a result perhaps of the fact that, as Armstrong puts it, paraphrasing Kracauer, the body "is simply an object among other objects in silent films" (*MTB* 223). However, Lindsay points out, this is "a quality, not a defect" (53). The "mechanical or non-human object," he writes, "is apt to be the hero in most any sort of photoplay while the producer remains utterly unconscious of the fact" (63), stemming from a certain "yearning for personality in furniture" on the part of the audience (61). This yearning is not one that suddenly appears with cinematography. Discussing Madame Tussaud's waxwork Chamber of Horrors as an early form of supernatural spectacle, Christie cites the "recurrent fantasy… of seeing its wax figures come alive" (113). This fantasy was played out in some of Edison's early Kinetoscope films: "the manager of Edison's Kinetoscope department decided to adapt some traditional waxworks tableaux as moving pictures," thereby "'realis[ing]…' the action implicit in static waxworks scenes" (Christie 114).

Christie notes that, "despite being mechanical and photographic," films

"created a strong psychological relationship" with their audiences (127), with both people and things having the capacity to appeal to viewers. Lindsay describes one animated "trick film" entitled "Moving Day," in which various pieces of furniture, articles of clothing, and so on, transfer themselves from one residence to another without any help from human agents. Amid all of this, he writes, "the shoes are the most potent. They go through a drama that is natural to them. To march without human feet inside is but to exaggerate themselves. It would not be amusing to have them walk upside down, for instance. As long as the worn soles touch the pavement, we unconsciously conjure up the character of the absent owners" (142). What is most powerful, in other words, is that the shoes are doing what shoes ordinarily do; the form of animation that most connects with the audience is animation that confirms our unconscious assumption of object-awareness. We see shoes walking on their own and nod, saying, "Yes, that's right; that's what shoes are supposed to do."

Cheryl Herr writes of "Circe": "Having come to the point in his narrative where his heroes' innermost selves were to be revealed, Joyce used theatrical form to demonstrate the cultural scripting of the 'inner'" (96); the theatre, she adds, "was viewed both as an intensification of ordinary experience and as a touchstone of excellence by which the everyday could be measured" (99). Christie describes the cinema in similar terms, calling it "an *intensification* of life, which would draw the spectator into an imaginary version of the 'real' world" (96; italics in original).[xxxiv] In a similar fashion, the hallucinations in "Circe" serve as intensifications or as surreal illustrations to the action of the episode; we can view them as visionary excursions that for all their meandering eventually return to the point from which they set off—

as for example the passage between Zoe's statements, "Go on. Make a stump speech out of it" (15.1353) and "Talk away till you're black in the face" (15.1958). These excursions present us with "the most extreme version of the discontinuity in the novel between an apparently empirical world, existing in real space and time (created by infinitesimally painstaking mimesis) and a self-contained 'elsewhere' with its own physical rules, just like the screen" (Williams 100). This "elsewhere," however, is not completely alien to reality; rather it supplements "real" events in a manner that demonstrates the ways in which film and other media were affecting conceptions of reality.

Christie relates one anecdote about Francis Doublier, an operator traveling with the Lumière Cinématographe who, noticing that interest in the Dreyfus Affair was high in the Jewish areas of southern Russia, spliced together a "Dreyfus film" using stock footage:

> We got out a film of some French officers marching. We pointed to one of the officers and said 'There is Dreyfus.' We showed an old picture of a French public building and said, 'There is the Palais de Justice where Dreyfus was court-martialled'… Then we showed a picture of a little island, and said, 'There is where they took him, Devil's Island.' The customers shed tears. (97)

Christie asks: "Does this simply mean that all or most of the Russian audience were taken in by Doublier's identification of the shots he showed? Or could it equally point to the audiences of 1900 having a different relationship to images?" (97). This "Dreyfus film," he suggests, presented "a 'typical' visualisation with film instead of

drawings or slides" (98). (We are familiar with this technique today in many forms—for instance, in the artist's rendition or the dramatization. Consider also the file photo, in which a photograph of a person accompanies an article, even though the image may have been taken at a point far removed from the event in question. What function does this serve, if not to provide the reader with an image which he or she can use in imaginatively re-enacting the event?)

Some events in "Circe" take on this illustrative quality. The image of Rudy, for instance, is very much an artist's rendition, in that it replicates many of the conventions used in spirit and memorial photography; the image of Bloom's dead son also stands in as an illustration of the attitude he has taken toward Stephen. Much earlier in the episode we see Bloom duck "*into Olhausen's, the porkbutcher's, under the downcoming rollshutter. A few moments later he emerges from under the shutter*" (15.155-57). As readers we understand that it is highly unlikely that a butcher would be open at this late hour (and unlikely that he would set up shop in such a disreputable part of town); the incident serves us to illustrate how Bloom came into possession of "*a lukewarm pig's crubeen*" and "*a cold sheep's trotter*" (15.158-59). Such instances supplement our understanding of "real" events with techniques derived from cinema. The episode reflects a changing understanding of how the "real" world can be represented for "audiences who were learning a new 'realism'" from films (Christie 119). Space and time themselves become malleable. R. W. Paul's *How to Make Time Fly* (1906) had "characters' actions appear to be accelerated and slowed down according to the varying speed of a clock" (Christie 33), while other films showed "a silent world of shadows where figures are mysteriously compressed

or expanded and in which 'suddenly something clicks' and images appear out of nowhere" (Briggs 152)—much in the same way that Bloom's image becomes distorted in the mirror. In the real world too, new theories were suggesting that time and space were not immutable, absolute entities; announcing the experimental confirmation of Einstein's general theory of relativity, the London *Times* of November 7, 1919, declared: "Revolution in Science—New Theory of the Universe—Newton's Ideas Overthrown—Space 'Warped'." As Christie puts it, "Reality would never be the same again" (89).

The image of Rudy that appears at the end of "Circe" reflects how Bloom has earlier tried to imagine his son: "If little Rudy had lived. See him grow up. Hear his voice in the house. Walking beside Molly in an Eton suit. My son. Me in his eyes" (6.75-76). In particular, Rudy's clothing—in "Circe" he is also "*dressed in an Eton suit*" (15.4957-58)—shows how his apparition is in part a projection of Bloom's desire to "See him grow up," an image of how Bloom would have liked him to be. Séances and spirit photography played on desires like these, Kershner writes, noting that "It was the possibility of communicating with one's dead wife or husband, child or parent, that gave the economic impetus to the nineteenth-century séance" ("Framing" 275). Spirit photography, in responding to the desire to know that those who have died are still with us "in spirit," exemplifies the supplement as a presence whose being present merely calls attention to its absence; parents "who to their astonished delight find that they have posed with their late child's earthly spirit" (280) carry away with themselves both evidence of their child's presence and another reminder of its

absence—a supplementary comfort available only through the mediation of technology.

Derrida sees the desire for presence in metaphysics as a way to ward off the absolute absence, death.[xxxv] Technology too responds to this desire. Armstrong observes that "Freud also writes of technology under the sign of mourning. It supplies deficiencies and makes up for absences, correcting defects in sight, replacing a lost loved one" (*MTB* 77). Technology, in other words, is both supplemental and prosthetic—it fills in for a lack while at the same time serving as a constant reminder of that lack. As we move into the next chapter, we will probe deeper into the intersection of technology and desire. Belief in the supernatural stands at this intersection; it responds to the supplemental nature of technology, and is in turn enabled by it. For example, even though it makes use of its metaphors, telepathy still endeavours to achieve what telephony or telegraphy cannot—erase distance: "Even with the knowledge that all communication is 'tele', at a distance, the unfulfillable desire for the collapse of that distance, for 'full' presence, remains" (Thurschwell 22). The simultaneous presence and absence of the supplement—the constant reminder that, to paraphrase Freud, our is divinity is always and merely prosthetic—speaks to a desire whose technological fulfillment is always also, at the same time, its technological frustration.

NOTES

[xxiv] I have used the following abbreviations in parenthetical citations for Armstrong's books: *MCH* (*Modernism: A Cultural History*); *MTB* (*Modernism, Technology and the Body*)

[xxv] Derrida lists a number of these oppositions: "speech/writing, life/death, father/son, master/servant, first/second, legitimate son/orphan-bastard, soul/body, inside/outside, good/evil, seriousness/play, day/night, sun/moon, etc." (*Dissemination* 85).

[xxvi] Closing the sentence cited above, Roughley adds: "in *Finnegans Wake*, Joyce sets writing to work in a way that makes much of it unspeakable" (105). He does so at times in *Ulysses*, as well—perhaps most evidently in the "Aeolus" heading, "???" (7.512) or in the dot that ends "Ithaca" (which should appear at 17.2332).

[xxvii] Later on in *The Mechanic Muse*, Kenner notes that "We become Joyce readers the way we become newspaper readers: by practice. In neither case is there a narrator to help us. We are simply engaging the technology of print" (72). As early as *Portrait*, Joyce uses this relationship between text and reader to disrupt the notion of the written word being the "symbol" of speech. Kenner asks: "If the narrator has disappeared, where is the text coming from? It is certainly not coming from a baby; the words are correctly spelled and the sentences accurately punctuated. Moreover it is in the third person: 'He was Baby Tuckoo.' Let's agree to say that it's present on a printed page, thanks to the intricate and largely anonymous mechanisms by which that can be made to happen" (68). The idea that printed text has to "come from"

somewhere suggests that written words must have a spoken "source"; the opening of *Portrait*, as Kenner points out, puts this idea into question.

[xxviii] Derrida notes that for Rousseau and his metaphysical tradition, the "exemplary model of a pure breath (*pneuma*) and of an intact life… is the *neume*: pure vocalization, form of an inarticulate song without speech, whose name means breath" (*Grammatology* 249).

[xxix] For more on the female body as instrument, see the third section of Chapter 3.

[xxx] Many critics have cited Edison's article, "The Phonograph and Its Future," in the *North American Review*; see Kreilkamp, for example: "'For the purpose of preserving the sayings, the voices, and *the last words* of the dying member of the family—as of great men—the phonograph will unquestionably outrank the photograph'" (Kreilkamp 216, quoting Edison, *North American Review* [May-June 1878], pp. 533-34; italics in original).

[xxxi] Today's reader is very likely familiar with the distinction between analog and digital media. The record player and the phonograph before it are called analog media because the traces recorded in the grooves are physically analogous to the sound vibrations being recordd by the microphone or emitted by the speaker.

[xxxii] Rickard runs into a number of the same logical problems that we have seen with vitalist writers. Later on, he describes what he calls "universal memory" as "the idea that all mind is linked in a universal psychic medium, a vast repository of knowledge that transcends the limitations of time and space which normally dominate the consciousness of the individual human mind" (100). Aside from its supernatural

quality, it is difficult to detect the difference between this "vast repository of knowledge" and a "machine that stores and retrieves data."

[xxxiii] See Chapter 1, pp. 41-42.

[xxxiv] This is reflected even in the physical construction of the movie theatre: the lobby or foyer, Christie argues, was a "key development…, serving as a transit-zone between the street and the auditorium. Here, amid potted palms and theatrical furniture, spectators could adjust their fantasies to mundane reality, or vice versa" (54).

[xxxv] See, for example, "Plato's Pharmacy": "self-knowledge and self-mastery… are the best forms of exorcism that can be applied against the terrors of the child faced with death and the quackery of the bogeyman. Philosophy consists of offering reassurance to children" (*Dissemination* 122).

Chapter 3
Objects of Desire: Technology, Sexuality, Gender

Proponents of early cinema may indeed have been enthusiastic about the new medium's potential as a universal language, as a modern form of hieroglyphics or picture-writing, about its possibilities as a new art-form or its use in the scientific dissection of motion. But there was another impetus behind the development of this technology. As Ian Christie points out, "sex-appeal had more to do with the invention of cinema than has usually been admitted" (65); he writes that "in principle it was an amazingly clear, even simple process," rooted in "the desire to record and replay the human image… And what motivated it was essentially an erotic drive" (65-66). The cinema, writes Tim Armstrong, "is founded on 'omnipresence' and voyeurism" (*MTB* 240), while Mary Ann Doane finds "a specular organization… present in the earliest films" that bespeaks an "implicit alliance between the spectacular deployment of the female body in the cinema and the activation of technology as a compensatory prosthesis" (543). Cinema's precursors had already cast the female body and feminine desire as objects of knowledge: "Charcot's and Muybridge's sequence photography gave rise to a particular motion study of female desire as communicated by the female body" (Leonard 88)—objects which allied cinema from the very outset with the "basic formula for… pornographic depictions," namely the revelation of "a woman's desire to be the object of a man's desire" (88).

In a way, pornography epitomizes the action of technology as supplement, the simultaneous fulfillment and frustration of desire; as a genre, after all, it "titillates us without the presence of real flesh" (Fiedler 29-30). Not all early films were

pornographic, of course—although even non-sexual subjects, such as those in Georges Méliès's trick films, showed a fascination with the human body, focusing on its transformations and its "sudden appearance and disappearance" (Doane 536). But cinema did find itself well suited to voyeurism and pornographic desire, perhaps because of its in-between nature, its functioning "both as a prosthetic device, enhancing or expanding vision, and as a collaborator with the body's own deficiencies" (534). This voyeurism, Christie writes, was a trait of the "new urban sensibility," the discovery of "new erotic possibilities in the city scene itself" (49)—at the time, the "impersonal nature of big cities and large holiday resorts was seen as a particular problem in encouraging deviant behaviour" (Brown and Anthony 97).

Given the cinema's affinity for voyeuristic, erotic, and pornographic subjects, it is interesting to find Judge Woolsey, in his decision exculpating *Ulysses* of obscenity, using the language of cinema to describe Joyce's novel: the effect Joyce seeks, he writes, "is not unlike the result of a double or… multiple exposure on a cinema film," and it is this attempt to "convey by words an effect which obviously lends itself more appropriately to a graphic technique" which accounts, according to Woolsey, "for much of the obscurity which meets a reader" of this text (xi). According to Philip Sicker, in *Ulysses* "Joyce suggests more general psychological affiliations between voyeurism and cinema viewing" ("Hiding Twilight" 828), exemplified in the voyeuristic exchange between Bloom and Gerty MacDowell in "Nausicaa." The matter is not restricted to cinema, however; ancillary technologies are implicated as well, in particular the Mutoscope—a device that employed a series of still photographs animated flipbook-style by the viewer which "became notorious

for providing risqué, keyhole type views to a far from salubrious clientele" (Brown and Anthony x).

A number of critics have picked up on Bloom's association of the "dream" of Gerty's "wellfilled hose" with the "Mutoscope pictures in Capel street" (13.793-94), along with a reference to a specific Mutoscope reel in "Willy's hat and what the girls did with it" (13.795), in order to point out that, as Daniel Shea puts it, Gerty is "seen in terms of a mutoscope fantasy" (89), that Bloom "has been readied for this experience (and knows how to exploit it) by a deep familiarity with pornographic, voyeuristic practice" (Pease 85). Sicker observes that "Gerty's gradual exposure of her stockings, garters, and nainsook knickers unfolds for Bloom like the sequential images on a mutoscope reel" ("Hiding Twilight" 832) or like a series of erotic postcards. Moreover, writes Garry Leonard, Bloom displays "a vague awareness of the extent to which his 'simple' sexual climax has been mediated by such erotic catalogues as advertisements, 'pornographic' flicks…, the bargain bin of Clery's department store, and popular songs such as 'Those Lovely Seaside Girls'" (129); Bloom demonstrates this awareness when he mediatizes his own experience, retrospectively casting the scene as "*The Mystery Man on the Beach*, prize titbit story by Mr Leopold Bloom" (13.1060). For her own part, Gerty shows a certain knowledge too, modeling her own acts after erotic imagery as she notes that her onlooker "couldn't resist the sight of the wondrous revealment half offered like those skirtdancers behaving so immodest before gentlemen looking" (13.731-33).

Critics, however, elide an important difference between the consumption of Mutoscope and cinematic images—an elision we see, for instance, when Sicker cites

the "illusion of inviolable privacy that the mutoscope or cinema viewer experiences" ("Hiding Twilight" 829) or when Shea argues that "Joyce's reference to the mutoscope underscores the isolated and fragmented sexuality of cinema" (90). The Mutoscope, after all, offered single-person, keyhole-type views, and while the devices were to be found in public parlours the spectator's experience was of a gaze isolated; "the solitary viewer's experience," notes Christie, "is very much like spying on something clandestinely" (73).[xxxvi] With the cinematic image, one is part of an audience, and "with the same image projected on a screen, the effect is rather different" (Christie 73). One common way to address the issue of a shared gaze, Christie writes, was "to include a proxy viewer in the picture. And if the subject was one likely to cause embarrassment, then the substitute viewer could take the blame" (73). While Bloom in 1904 Dublin would not have had the benefit of access to Joyce's Cinema Volta, the notion of the proxy viewer is in a number of ways quite compatible with his voyeuristic practices. He in fact becomes such a viewer in "Circe" after Boylan tells him, "You can apply your eye to the keyhole and play with yourself while I just go through her a few times" (15.3788-89). The "little dramas of punishment" with which proxy viewers often meet (Christie 73) would also appeal to Bloom's particular sensibilities, and Molly alludes to such a dénouement in the same scene as she cries out, "Let him look, the pishogue! […] And scourge himself!" (15.3778). The projected tryst in "Circe" also plays upon the "particularly exhibitionist fantasy in the image of adultery writ large on the cinema screen" as manifested in films such as *The Story the Biograph Told* (1904), prompted by "the fear"—and perhaps for some the titillating possibility—"that moving pictures might

produce indiscreet or incriminating evidence" (Christie 50).[xxxvii] There is also a sort of voyeurism in Bloom's habit "in middle youth" of "observing through a rondel of bossed glass […] the spectacle offered with continual changes of the thoroughfare without, pedestrians, quadrupeds, velocipedes, vehicles, passing slowly, quickly, evenly, round and round" (17.498-501)—a scenario which might echo such films as Biograph's *At the Foot of the Flatiron* (1903) which "plac[ed]… the camera at a notoriously windy corner in New York apparently much favoured by admirers of women's ankles" (Christie 49). Indeed, the passing velocipedes and vehicles could very well have presented Bloom with glimpses of "wellfilled hose," like the one he tries to catch of the woman boarding the carriage in "Lotus-Eaters." The idea of proxy viewership even extends beyond the visual image if, as Leslie Fiedler suggests, with works like *Sweets of Sin* we are "not so much to imagine Bloom reading, as to imagine Bloom imagining Molly reading" (30). All of this implicates *Ulysses* itself in the genre of pornography, as in these cases Bloom serves as proxy for us as readers.

This is not to denigrate *Ulysses* in any way; Joyce's novel, after all, unapologetically depicts the consumption of pornography as an everyday phenomenon. Bloom himself, in a way, has been and still is a pornographer. His letters to Martha are a form of pornography, considering her admonishment, "now you know what I will do to you, you naughty boy, if you do not wrote" (5.252-53), alongside his resolution to "Go further next time" (5.272-73). Likewise, his love letters to Molly during their courtship featured explicit and pornographic language, a brazenness which still strikes her but which nonetheless seems to have appealed to her: "then he wrote me that letter with all those words in it how could he have the

face to any woman […] after when we met asking me have I offended you with my eyelids down of course he saw I wasnt he had a few brains" (18.318-22). Bloom is depicted as a purveyor of pornography in "Circe," where Mrs Yelverton Barry alleges, "He offered to send me through the post a work of fiction by Monsieur Paul de Kock, entitled *The Girl with the Three Pairs of Stays*" (15.1022-24), while the Honourable Mrs Mervyn Talboys contends that he "observed me from behind a hackney car and sent me in double envelopes an obscene photograph" (15.1064-65). He has also suggested that Molly "could pose for a picture naked to some rich fellow in Holles street" (18.560-61), and even offers her image to Stephen in a photograph "with her fleshy charms on evidence in an open fashion […] in evening dress cut ostentatiously low for the occasion to give a liberal display of bosom, with more than vision of breasts, her full lips parted" (16.1428-31).

The consumption of pornography in *Ulysses* is not limited to Bloom—among others we have the men in Barney Kiernan's ogling "one of the smutty yankee pictures" (12.1168), along with "the gentleman lodger […] that had pictures cut out of papers of those skirtdancers and highkickers" who "used to do something not very nice that you could imagine sometimes in the bed" (13.702-6). "Nausicaa" in particular shows us how there is no clear demarcation between consumers and producers of pornography, that there is an interplay between consumption and production. Gerty connects the "something not very nice" that the gentleman lodger does with "that dreamy kind of dreamy look in her eyes" that Cissy Caffrey sometimes gets, "so that she too, my dear, and Winny Rippingham so mad about actors' photographs" (13.711-13). The implied association between "actors'

photographs" with the "pictures cut out of papers of those skirtdancers and highkickers" suggests that the consumption of mass-produced images in commodity culture produces a certain kind of erotic subject. Leonard suggests that "the technology that permitted the mass production of erotic postcards for male consumers also led to the mass production of erotic fantasies *within* consumers" and adds, more generally, that advertising works by allowing us to produce "'pleasure scenarios' featuring our 'selves' as the focal point of a symbol-generated experience of 'pleasure'" (16). Gerty has thoroughly absorbed the discourse of advertising, along with the dictates of sentimental fiction and women's magazines, and, as Leonard points out, "the difference between depictions of 'femininity' in the *Lady's Pictorial* and in the Mutoscope picture is one of degree and not of kind" (122). Gerty, then, "produces" herself in a certain way by becoming the object of Bloom's gaze. We saw earlier that she models her action on erotic imagery, bending "so far back that he had a full view high up above her knee where no-one ever not even on the swing or wading" (13.728-29)—playing on a swing being one of those activities that gave girls in Mutoscope pictures "an attractive opportunity to reveal the normally hidden" (Brown and Anthony 98). Her attempt to disavow the erotic nature of her "wondrous revealment" is tautological—"But this was altogether different from a thing like that [*i.e.*, the lodger's "something not very nice"] because there was all the difference" (13.706-7)—and Gerty, for all the claims made about her simplicity and naïveté, is at least aware that she is engaged in something "sinful," as she assures herself, "Besides there was absolution so long as you didn't do the other thing before being married" (13.708-9).

Away from Bloom's gaze too, Gerty converts image consumption into a kind of production. "Tacked up on the wall" of the outhouse she has a "picture of halcyon days where a young gentleman in the costume they used to wear then with a threecornered hat was offering a bunch of flowers to his ladylove with oldtime chivalry through her lattice window" (13.332-37). If we follow Sicker, the whole situation, the solitary setting for both image and viewer, "suggest[s] a voyeuristic scenario reminiscent of cinema" ("Unveiling Desire" 127). At any rate, Gerty does project a romantic narrative on this image, as she claims, "You could see there was a story behind it" (13.337)—perhaps even an erotic narrative, if we equate the way she "often looked at them dreamily" (13.340) with the "dreamy kind of dreamy look" that Cissy sometimes gets. Once again, the consumption of a mass-produced image, this time printed rather than photographic, provokes the production of a certain kind of personal erotica.

Allison Pease finds in Bloom "a high-cultural stereotype of the lower-class bodily reader/voyeur" who "seeks to subjugate the majority of his experience to the interests of his senses"; on the other hand, she contends, "Stephen, displaying a more typically middle-class and Catholic sensibility, separates sexual experience, discursive, pictorial, or real, into a realm apart from the high-cultural sphere he seeks to identify with himself" (85). However, in spite of its associations with technology, advertising, and mass culture, photography does in fact have implications for "high" art, Stephen's intentions notwithstanding. When Stephen contemplates depth perception while walking on Sandymount strand, for instance, he demonstrates how new technologies alter our notions of sensual apprehension: "Flat I see, then think

distance, near, far, flat I see, east, back. Ah, see now! Falls back suddenly, frozen in stereoscope" (3.418-20).[xxxviii] Aesthetic apprehension, despite Stephen's theories, changes as new inventions provide us with different models for our bodily organs.

The theories Stephen propounds are very much implicated with mass production and pornography; try as he might to keep the sexual separate from the high-cultural, "what Stephen presents as the essential basis of any aesthetic discussion—separating 'works of art' from 'commodities'—is precisely what can no longer be done" (Leonard 3-4). Stephen himself is a clandestine pornographer. Some of his earliest "literary" productions include "the foul long letters he had written in the joy of guilty confession and carried secretly for days and days only to throw them under cover of night… where a girl might come upon them as she walked by and read them secretly" (*Portrait* 143)—not all that different from Bloom "implor[ing]" Mrs Talboys "to soil his letter in an unspeakable manner" (15.1070-71). Like Bloom, Stephen has also been an admirer of erotic postcards, "which he had hidden in the flue of the fireplace and in the presence of whose shameless or bashful wantonness he lay for hours sinning in thought and deed" (*Portrait* 142-43). We recall Leonard's observation that the mass production of such images "also led to the mass production of erotic fantasies *within* consumers" (16), that erotic postcards "teach a method of looking and reacting to their subjects by creating a set of expectations of what can be found and seen" (Pease 84). Just as Bloom's familiarity with pornographic images has prepared him for his voyeuristic experience with Gerty (Pease 85), so too does Stephen have his own "seaside girl" for whose appearance the consumption of erotic postcards has prepared him. Directly after resolving to pursue an aesthetic, artistic

vocation, deciding, “He would create proudly out of the freedom and power of his soul, as the great artificer whose name he bore” (*Portrait* 212), he comes across a girl who

> stood before him in midstream, alone and still, gazing out to sea. She seemed like one whom magic had changed into the likeness of a strange and beautiful seabird. Her long slender legs were delicate as a crane’s… Her thighs, fuller and softhued as ivory, were bared almost to the hips where the white fringes of her drawers were like featherings of soft white down. Her slateblue skirts were kilted boldly about her waist and dovetailed behind her. Her bosom was as a bird’s soft and slight. (213-14)

Even though her avian qualities associate her with Stephen’s image of the winged soul and suggest the “living thing, new and soaring and beautiful” he longs to create (212), her legs and thighs “bared almost to the hips” and the wondrous revealment of her drawers evoke soft-core erotic imagery. As if to reinforce the photographic connection, we are told that “when she felt his presence and the worship of his eyes her eyes turned to him in quiet sufferance of his gaze, without shame or wantonness. Long, long she suffered his gaze” (214). The stillness of the scene and the long duration of Stephen’s gaze amid “veiled grey sunlight” suggest a black-and-white photograph, while the phrase “without shame or wantonness” recalls the “shameless or bashful wantonness” he finds in the postcards (though, true to her more modest pose, the girl on the beach shares only the shamelessness). His response is certainly bodily and kinetic (contrary to the static contemplation that his own aesthetic theory would require): “He turned away from her suddenly and set off across the strand. His

cheeks were aflame; his body was aglow; his limbs were trembling. On and on and on and on he strode, far out over the sands, singing wildly to the sea, crying to greet the advent of the life that had cried to him" (214). This vision, which "throw[s] open before him in an instant of ecstasy the gates of all the ways of error and glory" (215), provokes in Stephen an aesthetic desire; his artistic career is from the outset intertwined not with disinterested spiritual contemplation but rather with the "kinetic" responses and the "purely physical" sensations which, according to him, "Beauty expressed by the artist cannot awaken" (258). Even as Stephen repudiates the pornographic "as a 'legitimate' element of aesthetic response" (Leonard 3), the affirmation of his aesthetic calling is expressed in just such a response. *Ulysses* gives us the counterargument to his stance, a work of "high" modernist art that embraces the popular, the mass-cultural, the technological, the pornographic.

Not all agree with such an assessment of *Ulysses*. Pease, for one, sees it as the "classic example" of modernism's "appropriating impulse," arguing that Joyce "incorporate[s] pornographic images and narratives" in order to "use, control, and limit the literature of and for the body to maintain high-art hegemony"—going so far as to call this "a form of aesthetic imperialism" (83). Joyce achieves this, she claims, by asserting formal mastery over the subject matter and "emphasiz[ing] his formal stylization, the aestheticization that at all moments signifies his high-cultural aspirations" (90). In Pease's view, by subordinating pornographic content to form, Joyce's text "foster[s] the disinterestedness that is the supposed guarantee of the aesthetic quality of contemplation" (81): "The assertion of form, the effects of mind,

holds off a collapse into the pornographic" (74). According to this reasoning, Bloom's methods of consumption "reinforce the turn-of-the-century stereotype of mass man.… Exposed to the debasing effects of mass culture…, mass man becomes an effect of their technique, an expression of the urge to subjugate art and representations to the body" (109). This emphasis on formal mastery and spiritual contemplation over bodily interest is consistent with aesthetic theories such as Stephen's, in which the expression of beauty cannot arouse or awaken "purely physical" sensations.

Pease's stance on *Ulysses* seems to equate Joyce's aspirations for his novel with the views of readers—views like the one Eliot puts forth in "*Ulysses*, Order and Myth"—who may indeed have been anxious to claim *Ulysses* for the sphere of high art, especially in the face of allegations of obscenity. This kind of interpretation separates the work from historical contingency and from the "debasing effects of mass culture"; as Ewa Ziarek writes, "these mythical interpretations of *Ulysses* separate modern aesthetics from the impact of technology and mechanical reproduction" (274). But while Pease's take on *Ulysses* itself may place too much faith in Joyce's alleged desire to be a wholly high modernist and to disavow mass culture, her argument regarding conceptions of aesthetic value from the Enlightenment forward provide many insights into the hierarchies informing the opposition between high and mass culture. If "form" in the works of Joyce is a guarantor of high-art status, it is because "form as conceptualized in post-Renaissance aesthetics is always aligned with the shaping powers of the mind" (73)—consider Stephen's Aristotelian reflection that "the soul is the form of forms" (2.75). Thus, the

distinction between "high" and "low" art, and between art and pornography, is predicated upon the privileging of the mind over the body, of contemplative transcendence over bodily response: "As opposed to aesthetic disinterest, pornography provoked interest, both in terms of sensual response and significant profit" (Pease xii).

The rise of mass culture threatened this ideal of aesthetic disinterest; we have already encountered the view that "the masses were seen as bodily consumers of art" in Pease's take on Bloom (134). Bloom does indeed evince such a physical response as he leafs through *Sweets of Sin*, as "Warmth showered gently over him, cowing his flesh" (10.619). We also have the stock physical metaphors for the effects of sentimental fiction—the one shortcoming of *Matcham's Masterstroke* is that "It did not move or touch him" (4.511). Pornography and sentimental fiction, hallmarks of low art, provoke "interest," both physical and emotional. But the greater threat in the erosion of the boundary between the aesthetic and the pornographic "by the expanding interests of the working and lower classes," writes Pease (xiii), was that the masses would begin to subject high art to bodily readings; already their "increased education and literacy in the later nineteenth century threatened… to marginalize the aesthetic tradition of Shaftesbury and Kant and the inherent social structures underpinning that tradition" (Pease xiii). Moreover, modern artists themselves were contributing to this erosion—Armstrong cites as an example Baudelaire's "The Painter of Modern Life" (1860), "in which he declares that while the 'eternal and invariable' is one half of aesthetic experience, its 'soul,' the other is its 'body,' that is 'contemporaneity, fashion, morality, passion'…—categories normally relegated to

the trivial or pornographic" (*MCH* 90).

As an example of the subjection of high art to bodily interests, Pease cites Bloom's "interest" in the statue of Venus at the National Museum, which she casts as prurient, contrary to the statue's "presumed high-cultural function as a symbol of metaphysical harmony" (86). While it is undeniable that Bloom casts his attention upon Venus's "mesial groove," my opinion differs from Pease's on the character of his interest. Certainly there may be a sexual element to his gaze, but this is not what prompts him to look; rather, his investigation is inspired by what we might call a certain scientific curiosity. Shortly before he enters the library in "Lestrygonians," Bloom contrasts the image of "Shapely goddesses," "Quaffing nectar" and "drinking electricity: gods' food" (8.920, 925, 927-28), with humans, "stuffing food in one hole and out behind: food, chyle, blood, dung, earth, food" (8.929-30). This leads him to wonder whether the statues of the goddesses at the library have anuses: "They have no. Never looked. I'll look today" (8.930-31). Bloom, in other words, wonders whether the sculptures are wholly (pun intended) realistic representations of the body. His curiosity is emblematic of Joyce's realism and accounts to some degree for the presence of pornographic or obscene elements in his text: one cannot leave out certain details simply because they are considered "dirty"; one must carve the goddess, anus and all.[xxxix] Likewise, *Ulysses* includes pornographic and sentimental tropes and shows the pervasive effects of mass culture not in order to claim them for high-art hegemony but because they are inextricable parts of life in twentieth-century Dublin. Joyce's text "writes the history of consumption for the first time" (Leonard 8), the "history of the early days of commodity culture" (9). This is not to say that Joyce is

entirely celebratory of commodity culture, but there is a certain recognition that more is at stake than simply the distinction between high and mass culture. The opposition between these two terms, allied as they are with mind and body, involves other binaries, with implications for culture, technology, and gender.

In *Technologies of Gender*, Teresa de Lauretis alludes to the "genderization of science," a "pervasive metaphor in the discourse of science" which invokes "the association of scientific thought with masculinity and of the scientific domain with femininity" (42). This metaphor is related to "the notion of femininity as a privileged condition, a nearness to nature, the body, the side of the maternal, or the unconscious" (19-20). It finds expression, among other ways, in terms such as "the rape of nature," "which at once defines nature as feminine, and rape as violence done to a feminine other" (42). Expressions like "the rape of nature" show how scientific endeavour is often both gendered and sexualized, with the scientist figured as male and the object of knowledge as female. Science "forces" or "persuades" nature to reveal her secrets, a metaphor which turns scientific inquiry into something pornographic, since it usually turns out that Nature's "desire" is to be known—as evidenced in sentiments such as mathematics being a "universal" language by which Nature makes her secrets known to those who understand the right way to ask.[xl]

In the last chapter I commented upon the apparent theory-bias in philosophies of science and technology, whereby the more "abstract" or "universal" knowledge of science is privileged over the "applied" or more specific knowledge involved in technology. Technology, in this formulation, is meant to serve science, primarily in the form of laboratory equipment; scientific knowledge asserts its dominance over

technological application by generalizing and universalizing the data produced by individual, fallible instruments. This is but another instantiation of the hierarchy that holds the spiritual nature of abstract knowledge over the materiality of instruments, which in turns involves the tacit equation of the mind with the masculine and the body with the feminine. Mass culture, with its association with bodily reading and "feminine" consumption (to which we shall return), is seen as subordinate to the higher, mental contemplation of "true" art.

At the same time, if cultural production is coded as male and consumption and nature are both coded as female, then there arise complications for these binaries. Instruments, for all their materiality, are after all cultural productions, and if technological production holds a lower status, it is because it is a debased version of natural production—that is, procreation. As Christine Froula observes, the "direct and indirect devaluation of maternity in favor of the 'higher' economic and spiritual activities claimed by men" is an expression of masculine anxiety, one of many "defenses against male envy of woman" (22). Froula describes how male initiatory rites seek to provide a solution to "the 'common problem'[…], in Margaret Mead's words, that 'Women… make human beings'" (40); they do so by upholding and privileging the association between men and culture: "In contrast to the privileged cultural knowledge, unlinked to any biological event, that prepares a male initiand to participate in the symbolic and public domains of the fathers' culture, a girl's initiatory education may consist in a mystification of biological femaleness" (38).

This set of oppositions becomes implicated in modernist aesthetics. Armstrong cites "the often explicitly masculine rhetoric of 'breakthrough' associated

with the avant-garde," notes that "Pound, Williams and others understood creative activity in terms of masculine aggression and spermatic fecundity" (*MCH* 41), and writes, "it is often suggested that modernism is founded on the confluence of two associated hate objects: women, and the sentimental mass culture they are said to passively consume" (42). Joyce is not immune to these influences; the villanelle that Stephen produces in *Portrait* is the result of a certain kind of spermatic fecundity—David Weir observes that "the poem is not truly complete until it appears in its entirety, and this occurs only after Stephen's fantasy of having intercourse with Emma" (217-18). However, if we regard Joyce's stance toward Stephen and his villanelle, both the finished product and the process of its composition, as ironic, then his subscription to such masculinist imagery is less than wholehearted. Joyce further complicates matters in his "confusing of the poles of masculine and feminine" (Scott 830), in his consideration of the centrality of technology to modern life (integral, as we saw in Chapter 1, to Bloom's most admirable qualities), and in his treatment of the role of consumption in a burgeoning commodity culture.

In the last quote from Armstrong above, consumption is figured as both passive and feminine. Jennifer Wicke confirms this stereotype, noting consumption's "reputation as the passive, effeminate, and mindless side of consciousness and modern social being" ("Who's She" 178), and writing that it is "rarely seen as active, cognitive, or expressive" ("Modernity" 601). But, she adds, consumption is integral to modernity, arguing that "the culture of consumption *is* the culture of modernity" ("Who's She" 175). Moreover, the divide between high art and mass culture is based upon differences in modes of consumption ("Modernity" 595). In other words,

consumption is distinct from appreciation: one appreciates art; one consumes mass culture.

As Benjamin suggests in his comments on "aura," mass culture and the mechanical reproduction upon which it depends also threatens to distance the viewer or consumer from the authenticity of the original; as Wicke puts it, "The production of multiple copies… does indeed displace a cultural trove of authentic originals, breaking out of the Hegelian model of the work of art as a substitute for the religious worship of sacred authenticity" ("Modernity" 602). This presents us with another hierarchy, one that casts mass culture as "false," as an inauthentic expression of a people's "natural" culture. Thus, Wicke notes, the countercurrent to the consumption of mass culture operates by seeking out this "true" culture, often "in the valorizing of a more authentic, original, or folk culture" ("Who's She" 177)—a culture untainted by technologies of mass reproduction. In Ireland, for instance, Yeats and the Celtic Twilight resisted "commercial colonization" by a mass culture conceived as predominantly British "by going in search of the perfectly uncommodified peasant—one whose 'own style' would in no way reflect a British 'lifestyle'" (Leonard 144).[xli]

If consumption is "a mode of work," a "highly complex social and psychic labor" (Wicke, "Who's She" 178), then those who consume are not passive objects; rather, commodity culture creates a certain kind of desiring subject. Consumers are constantly faced with new products and with new advertising campaigns that promote these products as the raw material for new "'pleasure scenarios,' in which 'satisfaction is guaranteed'" (Leonard 16). Not surprisingly, this desire often takes on sexual undertones (if not outright eroticism)—Leonard writes that "all advertising,

and commodity culture in general, is pornographic," if we understand "pornographic" not as overt sexuality but as the construction of pleasure "by obscuring the power that makes such pleasure possible" (92). Thus, Wicke points out, "*Ulysses* presents all its sexuality as having been formed in the crucible of the mass culture it delineates" ("Modernity" 606).

If people in the early twentieth century were starting to consider consumption an active process, there were also anxieties over who exactly was consuming what. The Mutoscope may have been notorious for its risqué subjects, as Brown and Anthony observe, but what was particularly worrisome to those who spoke out against the devices was the kinds of people who frequented them. The "patronage for the more sexually explicit subjects," they point out, "was predominantly juvenile" (96); one cursory investigation of a Mutoscope parlour in London found that the majority of its customers were "girls and youths from 15 to 20 years of age" (109). In a speech before the British House of Commons on August 5, 1901, W. S. Caine remarked that "he had watched hundreds of young lads and lasses looking at these machines, and roaring with laughter at their contents" (Brown and Anthony 322) and deplored that the devices were "permitted, unchecked and uncontrolled, at such places of public resort as Earl's Court Exhibition, at every seaside resort, and on Hampstead Heath, and in all the great thoroughfares of the metropolis" (323). These Mutoscope pictures, he added, were "horribly indecent and obscene, ten times worse from their suggestiveness in their effect upon the minds of young people, and in the fact that they were not ordinary photos or engravings, but living, moving pictures, in which the gestures and the faces of the persons were used to excite prurient and

abominable sequels not fit to speak about" (322). Such concerns stemmed in part from the "Victorian preoccupation with issues such as 'social control,' 'self-improvement,' 'rational recreation,' and the maintenance of established social conventions and norms of propriety" (Brown and Anthony 96), but to a large degree they are an extension of the kind of anxieties that for centuries had surrounded the reception of fiction. These are exemplified in Samuel Johnson's essay "On Fiction," in which he voices the concern that, for "the young, the ignorant, and the idle," realistic fiction serves as "the entertainment of minds unfurnished with ideas, and therefore easily susceptible to impressions; not fixed by principles, and therefore easily following the current of fancy; not informed by experience, and consequently open to every false suggestion and partial account" (16). These concerns have simply been extended to the media of photography and cinema.

The increased literacy of women and the working classes, and the proliferation of lending libraries, meant that more people had greater access to literature that was not necessarily of the most edifying nature. The demand for "forms of aesthetic pleasure that fell outside of traditionally privileged forms" (Pease xiii) was increasing, and texts and films were reaching a wider audience, "a mass audience coded as 'feminine' and suggestible" (Armstrong, *MTB* 229). We see a furtive example of this increased literacy in *Ulysses* as "Miss Dunne hid[es] the Capel street library copy of *The Woman in White* far back in her drawer" (10.368-69), notable because she is reading a popular sensational or sentimental novel, and because she is reading while she is at work, stealing company time in the pursuit of personal pleasure. Those who charged *Ulysses* with obscenity drew upon fears of who would

get their hands on Joyce's book. Pease cites one contemporary review from the *Chicago Tribune* that remarks, "One thing to be thankful for is that the volume is a limited edition, therefore suppressed to the stenographer or high school boy" (80). As Walter Kendrick notes, the police seized the *Little Review* after the New York Society for the Suppression of Vice "dispatched a young woman—'somebody's daughter'…—to the [Washington Square] Bookshop for the *Little Review*'s July-August issue, containing the last third of 'Nausicaa'." This was the tipping point leading to the seizure of the issue, Kendrick explains, "because 'somebody's daughter' was just the sort of person whom obscenity laws had been written to protect" (413).

In all of these concerns over who has access to obscene material, pornography comes across as a masculine domain, more specifically as the domain of upper-class men; women are only meant to be "the objects of, and not the consumers or producers—in other words, not the subjects—of sexual fantasy" (Law 219). In the foreword to the 1934 Modern Library edition of *Ulysses*, Morris L. Ernst, one of the lawyers who defended the book against obscenity charges, reinforces this division of language even as he exults that writers "may now describe basic human functions without fear of the law" (vii). "For decades," he writes, "the censors have fought to emasculate literature" (vii), suggesting that both frank language regarding the human body and its functions, as well as literature as a bastion of high art, are still very much a man's domain, in spite of those who would "emasculate" it in order to protect the public—in order to protect "somebody's daughter," who might get her hands on it and, to paraphrase Pease, subject it to a bodily reading. Ernst uses images of infantile

consumption, describing how the court's decision has "rescue[d] the mental pabulum of the public from the censors who have striven to convert it into treacle, and will help to make it the strong, provocative fare it ought to be" (vii). There is a curious doubleness to this remark, however: the "mental pabulum of the public" should be nutritious, "strong, provocative fare," but, the phrase suggests, it should remain "pabulum" without being converted into "treacle." Those who are culturally entitled to consume literature, however, should be allowed to do so unfettered by "the intolerance which decreed that basic human functions had to be treated in books in a furtive, leering, roundabout manner" (viii). Ernst compares what he calls the repealing "of the legal compulsion for squeamishness in literature" with the repealing of Prohibition, noting that "we may now imbibe freely of the contents of bottles and forthright books" (viii); it is worth remembering the role that women's groups such as the Women's Christian Temperance Union played in the establishment of Prohibition. On the whole, the defense of *Ulysses* rests upon the assertion that it is a "book of artistic integrity" (viii), that it is, in Judge Woolsey's words, "a serious experiment in a new, if not wholly novel, literary genre" (xi)—an argument which presupposes the legal division between a high-art audience, coded as masculine and free to consume whatever it wishes, and the masses, coded as feminine or infantile and requiring the nourishment of "pabulum." Indeed, Woolsey's acquittal of the book rests not so much on the absence of obscenity, but on the assumption that the novel is a "classic," that any content of doubtful character will be read by the sophisticated reader with the proper disinterest and will be inaccessible to the uninitiated.

Molly, for one, complains about this gendered division of language, showing

disdain for euphemism and periphrasis. In “Penelope” she recalls a confessional priest asking if she had been touched “where you sit down” and remarks, “O Lord couldnt he say bottom right out and have done with it” (18.110-11). Likewise, she shows contempt for censorship in texts: “her a—e as if any fool wouldnt know what that meant” (18.490-91). For Molly, the production of pornography by men and the male representation of feminine desire have much that is contrived about them. “I hate that pretending of all things,” she remarks, “anybody can see its not true and that Ruby and Fair Tyrants he brought me […] the part about where she hangs him up out of a hook with a cord flagellate sure theres nothing for a woman in that all invention made up” (18.491-95). The notion that obscene or frank language is somehow exclusively masculine has implications for Molly’s pleasure; it affects her enjoyment of pornography as well as her enjoyment of sex, as she worries that women aren’t “allowed” to use such words, even in the throes of passion: “O Lord I wanted to shout out all sorts of things fuck or shit or anything at all only not to look ugly or those lines from the strain who knows the way hed take it” (18.588-90).

Molly also recognizes to some extent how men’s use of language contributes to power structures. Recalling her gynaecologist, “that dry old stick Dr Collins” (18.1153), she notes how his use of scientific terminology has contributed to his material success: “your vagina he called it I suppose thats how he got all the gilt mirrors and carpets” (18.1154-55). In this case clinical language vouches for the doctor’s bodily disinterest, his mental and scientific detachment from sex through the use of the “proper” terms, which reassures “those rich ones off Stephens green running up to him for every little fiddlefaddle her vagina and her cochinchina”

(18.1155-57). Molly at least recognizes that this detachment isn't total: "with his shortsighted eyes on me cocked sideways I wouldnt trust him too far to give me chloroform or God knows what else" (18.1171-72).

Joyce's novel is not as unquestionably high as the claims of Eliot or Ernst would make it out to be, in spite of its reputation as a "difficult" book. Fiedler contends that *Ulysses* "never was at home in the canon of the Arnoldian Culture Religion" (28) and notes that the book and its characters "have passed—via stage versions, movies and word of mouth—into the public domain of Mass Culture" (27): Leopold and Molly Bloom "are likely to be known by people who have never read Joyce,"[xlii] and "are more like Huck and Uncle Tom (or, for that matter, Superman and Little Orphan Annie) than Proust's Baron de Charlus or Mann's Settembrini" (27). Fiedler goes so far as to call *Ulysses* "a dirty book with ambivalent cultural pretensions" (28). I would return to the image of Bloom examining the statue of Venus as emblematic of Joyce's realism, his curiosity as to whether the sculpture is a full representation of the body, whether it includes the "dirty bits" that high art would prefer to leave out. Such curiosity, as Molly's opinion of Dr Collins might suggest, cannot be completely separated from physical, sexual interest. Joyce's text is indeed ambivalent; it blurs the distinction between high and low, between the popular and the esoteric, between the aesthetic appreciation or scientific examination of the art object and the reading directed toward bodily consumption.

When Arthur Power, in conversation with Joyce, expressed a preference for the plays of Synge over those of Ibsen, Joyce reportedly responded: "You ignore the spirit

which animated him. The purpose of *A Doll's House*, for instance, was the emancipation of women, which has caused the greatest revolution in our time in the most important relationship there is—that between men and women; the revolt of women against the idea that they are the mere instruments of men" (Power 44). Joyce's statement raises one important question: to what extent does his own work show women rejecting the role of men's "instruments"? If we return to "Sirens," we can examine this question using one of the term's literal meanings. As I mentioned in the previous chapter, "Sirens" effects a blurring of the distinction between the human body and the musical instrument, including (but not restricted to) an emphasis on the production of the singing voice. To a certain extent women still figure as "instruments of men"—Bloom muses, "Body of white woman, a flute alive. Blow gentle. Loud. Three holes, all women" (11.1088-89)—but it is worth noting that both men's and women's bodies become instruments: Bloom also reflects, "We are their harps. I. He. Old. Young" (11.582-83), and in the final lines of the episode becomes his own kind of wind instrument. The episode even plays with the easy equation of a woman's body with instrument in the statement, "Tongue when she talks like the clapper of a bellows" (11.973), in which the final word disrupts our expectation of the word "bell," a reasonable (and perhaps too obvious) expectation given the image set up by "clapper" and given the episode's musical logic.

The increase of women's literacy in this period also appears here in musical terms. As Lenehan tries to gain Miss Kennedy's attention while she reads, he exhorts her "To mind her stops. To read only the black ones: round o and crooked ess" (11.243-44). The term "stops," which can refer to the covering of a fingerhole or the

pressing down of a string against the fingerboard, casts Miss Kennedy as the player of an instrument. Bloom's memory of "scales up and down, girls learning" (11.842) reminds us that musical literacy is, and was in the past, widespread among young women. Kittler credits women's proficiency on the piano keyboard for their easy transition onto the typewriter: "women were no longer asked to endow lyrical letters with a singable, ersatz sensuality; the national plague of their dexterity could finally find a practical use on typewriter keyboards (derived from the piano)" (195). In "Sirens," Bloom muses, "I suppose each kind of trade made its own, don't you see? Hunter with a horn.… Shepherd his pipe. Pwee little wee. Policeman a whistle" (11.1239-41); in the case of the typist, it would seem, an instrument created a trade. The increase of women in the workforce in the early twentieth century meant that more and more women were becoming the users of instruments. The maintenance of power structures worked to assuage the anxiety created by this increase, as seen in the frequent conflation in the term "typewriter" of both the machine and the women who used it, whereby the female secretary becomes an instrument for the use of her boss.[xliii] Despite such strategies, however, the typewriter was one of those technologies which "started a social revolution with profound implications for relations between the sexes" (Christie 50).

The role of technology in urban life was certainly one factor in the emancipation of women. As Bonnie Kime Scott writes, "History tends to seize on women as they participated in movements like suffrage and socialism, or for their contribution to war, not on their quieter revolution of the bicycle wheel" (831); she mentions that, in 1904 Dublin, "significant numbers" of women were taking up

cycling, in spite of its still-controversial status (831). The bicycle gave women both increased mobility and increased exposure to the public sphere. It was also, as Leonard points out, a new way for them to show off their legs (140). One early British film, Christie writes, "has a man spying on a woman's ankle as she prepares to mount a bicycle," showing "precisely what had first alarmed traditionalists about women cycling" (80)—traditionalists like the "old Bishop," whom Molly recalls denouncing "girls now riding the bicycle and wearing peak caps and the new woman bloomers" (18.837-39). This bishop's sermon is a "long preach about womens higher functions" (18.838), functions which women are presumably eschewing by choosing the workplace and sexual display in public over the domestic sphere. Traditionalists may well have been alarmed about things such as the "Typist going up Roger Greene's stairs two at a time to show her understandings" (13.916-17) or the behaviour of "factory lasses" as depicted in "My Girl's a Yorkshire Girl"—about, that is, women becoming more public. The fear no doubt was that the "Shoals of them" which "every evening poured out of offices" might indulge "Their natural craving" (13.791).

There was an ambivalence surrounding innovations like cycling, an ambivalence which points to the blurring of long-established boundaries. True, bicycles gave women a new way to show off their legs, but, as Scott notes, many cartoons and caricatures from the time portrayed women riding bicycles as having decidedly masculine figures (835). Nonetheless, the bicycle was still "a vehicle of seduction" even for men (Scott 833); Reggy Wylie, for one, impresses Gerty with "the way he turned the bicycle at the lamp with his hands off the bars" (13.143-44).

Bicycles were also an object of conspicuous consumption, observe Phillip Gordon Mackintosh and Glen Norcliffe, and the "ability to exhibit class status in public in the 1890s necessarily included the *de rigueur* bicycle" (162). Thus, while the bicycle signifies for Gerty a means for sexual display which she cannot use, it also represents the class difference between her and Reggy, "with his swank and his bit of money" (13.594). This difference in status is likely one major reason why "now his father kept him in in the evenings studying hard to get an exhibition in the intermediate that was on" (13.132-33).

While the bicycle and the changes in clothing style it fostered contributed to the "ambivalently made image of the new woman" (Scott 831), it also became part of a struggle over the genderization of public space. Mackintosh and Norcliffe describe how the bicycle served as a means for reform used by women as "agents of domestic embourgeoisment, the use of conspicuous consumption to effect the domestication of public space" (162); the bicycle, they write, "could assist women in their desire to bring order, beauty and responsibility to the unruly streets of the modern city" (172). Meanwhile, men's bicycle clubs sought to mark both public space and the invention as masculine, "gender[ing] the street with their physical presence and reinforc[ing] the masculine athlete/gentleman stereotype" (160). For these clubs, the bicycle was a way to combat what was perceived as an increase in "urban effeminacy" by highlighting "masculine activity" (153).

Anxieties about effeminacy appear to have been common at this time. Andreas Huyssen, as we have seen in the Introduction, has noted "male fears of an engulfing femininity" at the turn of the century ("Mass Culture" 196), while

Armstrong mentions "contemporary fears, in America and Europe, of masculine decline" (*MTB* 149) and suggests that the gendering of modernist aesthetics as masculine, which we saw in the previous section, was "a cultural correlative of widespread fears of masculine weakness and seminal depletion" (*MCH* 93). Tracey Teets Schwarze mentions the "fears of decline" expressed in mid-nineteenth-century "Condition of England" debates "not only in terms of diminishing manhood but also in terms of disintegrating manhood" (116), producing a "masculinist discourse that had achieved an uneasy hegemony in England and Ireland by the late nineteenth century" (114). As Mackintosh and Norcliffe suggest, citing concerns about an increase in urban effeminacy, these fears were exacerbated by the spread of technology. May Ann Doane, for instance, suggests that during the early development of the cinema, it was a "preeminently masculine" body "threatened and haunted by the specter of flaw or failure and by an anxiety generated by a conception of modernity as an assault on the body and its perceptual powers" that was at stake (531). Christie cites a reaction from 1903 to the possible effects of cinema, which claims that "when men think pictorially, they unsex themselves," thinking in pictures being what women "habitually" do (137). Technology threatened to erase the differences between men's and women's bodies; when one is operating factory machinery, it matters less whether or not one is a member of the "weaker sex." And Tim Armstrong notes that "Thomas Edison told *Good Housekeeping* that new appliances would 'literally force the housewife's brain and nervous system to evolve to be the 'equal' of her husband's'" (*MTB* 82).

Technology, then, was diminishing the importance of bodily difference,

promoting mental activity in women, and turning them into users and producers—exactly what in a patriarchal economy they weren't supposed to be. Male anxieties centered around not only women's productivity, but their reproductivity. In the previous section I brought up the traditional binaries which privilege science over nature, making the former the master of the latter, the penetrator and revealer of "her" secrets, at the same time casting technology as a passive tool which science uses in pursuit of higher knowledge. These binaries, however, are conflicted: the privileging of scientific knowledge over the materiality of both nature and technology conflates these latter terms; nature/matter is "inferior" to spirit and yet, it seems, nature is more "authentic" than artificial imitations. The conflation of nature and technology as the lower terms in both hierarchies also brings together natural and mechanical reproduction; in an era in which technologies were markedly proliferating, such a conflation was perceived as potentially threatening. Armstrong remarks that, in this period, maternity is seen as "a bodily making often paired with technological productivity" (*MCH* 130). Even the terms we use to describe it—*re*production, *pro*creation—subordinate the natural process to cultural production and creation through the use of prefixes, while at the same time these prefixes bring together the natural and technological processes into one that is literally prosthetic: as Armstrong notes, the first definition of "prosthesis" in the *OED*, dating to the seventeenth century, is "'the addition of a letter or syllable at the beginning of a word'" (*MTB* 78).

We see the conflation of natural and technological production in "Circe," as Bloom "*bears eight male yellow and white children*" (15.1821-22). These children, we are told, all have "*valuable metallic faces*" and are "*wellmade*" (15.1823-24),

making them the products of both natural and mechanical processes; they are also "*respectably dressed and wellconducted, speaking five modern languages fluently and interested in various arts and sciences*" (15.1824-26), suggesting that they bear the "prosthetic privilege" that "Woolf equates [with] the masculine ego," "the bolt-on armour of education, profession, public recognition and military prowess" (*MCH* 43). Just prior to this birth, Dixon has declared Bloom "a finished example of the new womanly man" (15.1798-99), a term which evokes the New Woman, who eschewed "womans higher functions" in favour of riding bicycles and wearing bloomers (18.838-39). The term "new womanly man" registers the somewhat ambivalent quality of the image of Bloom's "wellmade" metallic children: as it feminizes Bloom it also masculinizes the New Woman, hinting at Bloom's "urban effeminacy." However, the fact that these are all male children counters the trend that Huyssen notices of transforming women into robots and automata. The metallic children here are not threatening specters of otherness; while there may have been a "general anxiety about the species and its bond with the perpetual fertility of Mother Nature" (van Boheemen-Saaf 32), the relatively benign, even desirable, results of Bloom's parturition suggests that mechanical reproduction need not be inferior or debased—though this very idea threatens those who privilege nature as the site of truth.

In *Modernism's Body*, Froula posits a "deeply repressed maternal substrate of masculine subjectivity" which produces what she calls the "law of gender," in contrast to the Oedipal taboo prohibiting incest and "the son's *sexual* desire for his mother"; the law of gender, she writes, consists of a "social and cultural taboo against the son's *identificatory* desire for his mother, the maternal body, and those attributes

his culture categorizes as 'feminine'" (12; Froula's italics). Froula argues that Joyce's work bespeaks an "insight into this hidden history of masculine subjectivity," tracing the trajectory of an early maternal identification, the subsequent, culturally mandated repression of that identification, and finally its "reemergence in symbolic form" (20). Cultural production, therefore, becomes "a paternal appropriation of maternal origin," a male co-opting of the process of reproduction which subordinates the biological process to "symbolic birthgiving" (Froula 39). We have already seen this at work in modernist aesthetics, in "Pound's… stress on a sexualized 'masculine' creativity" (Armstrong, *MTB* 64), for instance, or more generally in the "male usurpation of female generative power" (Weir 208) that underwrites conceptions of art as "the miraculous labor of the artist's symbolic womb" (Froula 60). The male appropriation of parturition in the form of cultural production, then, casts culture as prosthesis by making it stand in for the natural process that its metaphors constantly invoke. It highlights, in Froula's words, "not female lack… but female 'have'" (7). But if "male" cultural production usurps the female body, devaluing the material even as it represses yearnings for "maternal plenitude" (Froula 146), then what it rests upon is a supplemental masculinity, provoking fears not, as Freud has it, that we are prosthetic gods, but that we are prosthetic men.

In her monologue, Molly refers to the penis a number of times. She recalls Boylan's "big red brute of a thing" and compares it to "iron or some kind of a thick crowbar" (18.144, 147-48); later she compares classical female statuary with "what a man looks like with his two bags full and his other thing hanging down out of him or sticking up at you like a hatrack" (18.542-44). Her likening of the male member to

various artifacts—a crowbar, a hatrack—points to the easy replacement of a man's "thing" with an actual thing, of which Molly has taken advantage when she "tried with the Banana" (18.803). Intriguingly, Molly uses these comparisons only to describe the erect penis, suggesting that a man's "natural"—i.e., non-prosthetic, non-artifactual—state is flaccidity or impotence. The similarity of the penis to made objects has occurred to Bloom as well: "Ithaca" makes mention of "a bodily and mental male organism specially adapted for the superincumbent posture of energetic human copulation and energetic piston and cylinder movement" (17.2157-59). Stephen goes one further, having regarded it in the religious fervour of his youth as "a monstrous alien life invading his body to destroy him" (Froula 50). In these cases, the penis becomes a prosthesis, a thing apart from the body itself; this treatment accords with the cultural construction of the phallus, emblem of male power, guarantor of superiority whose prosthetic, supplemental nature recalls even as it covers up male lack and "female 'have'" (Froula 7).

The threat of the prosthetic phallus lies in its appropriation. Perhaps what her detractors find most "monstrous" about Molly is her desire "just to try with that thing they have swelling up on you so hard" (18.1382). Likewise, Sicker points out, Cissy Caffrey's "appropriation of the patriarchal phallus" in the form of her father's hat and cigarette "suggests that masculinity may also be a cultural construct" ("Unveiling Desire" 122). Sicker is not the only critic to pick up on this suggestions: Schwarze calls attention to "societal apprehensions over the instability of the masculine signifier" in Joyce's novel (124), while Leonard argues, "When a woman's body is subordinated to a male-defined cultural ideal of femininity, … then what a 'man' is

becomes equally abstract" (134). Karen Lawrence points to the performative dimension of masculinity by focusing on pockets "as repositories of props" (165); ultimately, she writes, "the 'thing itself,' the phallus, is revealed as a prop" (174). Even that which seems most natural can be artificial—Molly wishes her husband would "smoke a pipe like father to get the smell of a man" (18.508-9), highlighting the fact that scent, which may seem natural, can be and often is supplemented in various fashions. The performance of masculinity produces an anxiety about being "called out" by women (or by men for not being "manly" enough), an ability that Molly possesses, as Bloom remembers pointing out "the man at the corner of Cuffe street" and that Molly "twigged at once he had a false arm" (13.914-15). If women are so sharp at detecting prostheses, what hope can there be for the phallus?

In the face of anxieties over urban effeminacy, over prosthetic masculinity and over the conflation of natural and mechanical reproduction, the period saw what Mackintosh and Norcliffe call a "'cult of muscularity,' which identified firm muscles and 'manly' fitness as necessary attributes of bourgeois masculinity" (160). Schwarze traces this back to Charles Kingsley's mid-nineteenth-century ideal of Christian manliness, which rose to prominence in political and social discourse " as early as 1860" in Ireland (120); Kingsley's ideal emphasized "a virile and distinctly heterosexual manliness, one that required 'boldness,' 'honesty,' and 'plainness'" (117). At the turn of the twentieth century the cult of masculinity and manliness found expression in the popularity of physical culture, as espoused by Eugen Sandow, which among other factors benefited from British fears at the end of the nineteenth century of "physical degeneration" (Kershner, "World's" 682). Among its adherents

we can include Bloom, however brief his involvement might have been, who for a time performed the "indoor exercises […] prescribed in Eugen Sandow's *Physical Strength and How to Obtain It*" (17.512-14). In the first issue of his journal, *Physical Culture*, Sandow states physical culture's goals as "The production of a perfectly sound body… To undo the evil which civilization has been responsible for, in making man regard his body lightly" (5). As his ideal he holds up the ancient Greeks and "their grand Religion of the Beautiful," with its aim of "bring[ing] the body to the highest possible state of power and beauty" (5). It is "physical culture, as understood in ancient Greece and ancient Rome and ancient Ireland," that informs the masculinity of the Citizen in "Cyclops," with its intention "to revive the best traditions of manly strength and prowess handed down to us from ancient ages" (12.900-1, 910-12).

There is a vitalist element to physical culture, with its focus on the body and the detrimental effects of modern technology. Kingsley's Christian manliness posited "the inherence of plentiful 'animal spirits' to biological maleness" and promoted these spirits as integral to the attainment of "genuine manliness" (Valente 98); body reform movements like physical culture strove to produce wholeness and "the expression of a unified being" (Armstrong, *MCH* 69)—a wholeness characterized by self-sufficiency and the absence of any need for artificial supplementation. (The reader will also recall that wholeness and organic unity are important elements of many forms of vitalism.) At the same time, however, physical culture's incorporation of technology belies its claims to the recuperation of self-sufficiency. Bloom's temporary enthusiasm required him to purchase "Sandow-Whiteley's pulley

exerciser" (17.1817) and to keep "a chart of […] measurements […] compiled before, during, and after 2 months' consecutive use" (17.1815-16). This conjunction of bodily exercise and manufactured device was typical of reformers like Sandow, who promoted "a range of devices and cures" to accompany their regimens (*MCH* 66).

Physical culture and vitalistic masculinity promoted above all an ideal of self-mastery and the assertion of personal will, the power of mind over body. Sandow writes, "In bringing the body to its highest pitch of perfection, various moral qualities… must necessarily be brought into play" (6), prioritizing in his system the exercising of one's will over mere "mechanical" exercise: "Mechanical and desultory exertion will never materially increase a man's strength. He must first learn the great secret, which ought to be no secret at all. He must use his mind" (6). It is only by exerting mental control, Sandow claims, that the adherent to physical culture can attain his goals: "by taking thought a man can most assuredly increase the size of his muscles, strengthen all his organs, and add to his general vitality" (6). In prescribing the mastery of "male" mind over the material body, physical culture tacitly equates the mind–body hierarchy with the male–female, thereby inscribing the latter within the single body. Armstrong notes that discipline was often coded as masculine in opposition to the "excessive" or "wasteful" energies that needed to be controlled and which were coded as feminine (*MTB* 9). The emphasis on mastery resulted in a "muscular ideal of manhood," which required the "exercise of this capacity for rational self-control – in strong passions strongly checked – from which the virtues of conventional 'masculinity' (fortitude, tenacity, industry, candor) were assumed to derive" (Valente 97-98).

Physical culture was not, however, the exclusive territory of men; women could, and did, participate. At times this simple fact was cause for concern: Christie describes a 1906 film entitled *The Physical Culture Lesson*, which "went so far as to show a man leading a woman through exercises before pulling her on to his lap for a passionate embrace" (80). Generally, however, the emphasis for women was on the body's aesthetic qualities (*MTB* 110); the goal for the female body in physical culture is "to achieve perfect shape while remaining 'natural'" (110). We see this attitude in Arthur H. Girdlestone's description of a ballet dancer in the first issue of *Physical Culture*: "In particular, her style of dress was dead against her. Ending where it did, it emphasised the work done by the muscles of the leg. The work was necessary, of course, but the emphasis was not" (54). Girdlestone's complaint is that the "work" of the dancer's musculature is "forced on one's attention despite oneself" (54), detracting from the aesthetic appeal of the performance. Girdlestone's concluding remarks on his subject, "The Skirt Dance and its Inventor" (one John D'Auban), aptly reveal the assumptions behind skirt-dancing as an appropriate pursuit for women in physical culture: "For the dancer that holds that crowded house enraptured were, but for him, no dancer, but a mere puppet, lifeless, with strings indeed ready for the pulling, but none to pull" (61). The man in physical culture must assert perfect control, whether it be control of his own body, or that of his female subordinate.

This casting of the body as other to the dominant masculine mind, however, reproduces the anxieties to which physical culture was responding. The internalizing of a model of mind–body coded as male–female re-enacts the effeminization of the masculine body by urban life and modern technology, even as it disavows "the evil

which civilization has been responsible for, in making man regard his body lightly" (Sandow 5). The body as it is envisioned in a system such as Kingsley's or Sandow's, writes Schwarze, "inscribes within itself a feminized—and fetishized—site of Otherness" (127-28), pointing out that "Sandow's exercises were to be performed in front of a mirror," thus transforming the body into a "pleasure-giving object" (127). The male body can thus become the object of a female gaze, as it does for Molly when she recalls "those fine young men I could see down in Margate strand bathingplace from the side of the rock standing up in the sun naked like a God or something and then plunging into the sea" (18.1345-48). Here Molly reverses the dynamics of the gaze in "Those Lovely Seaside Girls," which also takes place "down in Margate" and features a male narrator describing the girls as they display themselves and their clothing as they walk or "cycle down the prom." The emphasis in the song, however, is not on the girls themselves but on the various artifacts and technologies with which they are associated (hats, clothing, cosmetics, bicycles)—accoutrements which are all-important to the "masquerade of femininity" (Leonard 141).[xliv] Molly's "Seaside Boys," on the other hand, conspicuously have no accompanying accessories, "standing up in the sun naked like a God." Yet following this Molly asks, "why arent all men like that" (18.1348), suggesting that these seaside boys can easily become a source of anxiety for the men who look nothing like them and who might turn to physical culture as a way to achieve the same level of apparent bodily perfection. Like femininity, masculinity—even this vitalistic, physical masculinity—is a "masquerade," requiring various prostheses, props, and accessories. Physical culture too is a performance, a series of device-aided techniques to be

carried out in front of a mirror, thereby producing "successively a pleasant rigidity, a more pleasant relaxation and the most pleasant repristination of juvenile agility" (17.517-18). Even Molly's seaside boys will someday find the need for a "repristination of juvenile agility" as their apparently godlike bodies become subject to aging and decay.

In the previous chapter I discussed how *Ulysses* depicts various commodities, such as flowers and food, circulating in an economy of post-living bodily products. There is one important element to the kind of patriarchal economy existent in 1904 Dublin that needs to be addressed, and that is the circulation of women. While women are of course not "post-living" products, they nonetheless occupy an analogous position in the patriarchal economy. The conscious equation of women and commodities is certainly nothing new; a number of critics and theorists have pointed out how patriarchal society is dependent upon the exchange of women between men. In *This Sex Which Is Not One*, for instance, Luce Irigaray writes: "Heterosexuality is nothing but the assignment of economic roles: there are producer subjects and agents of exchange (male) on the one hand, productive earth and commodities (female) on the other" (192); her terms recall to our attention the gendering of (active) production and (passive) consumption. While Irigaray makes no mention of consumption here, if we bring in an argument like Wicke's we can see how easily such binaries become complicated: if women are mere commodities in this system, then consumption, figured as "feminine," becomes a masculine activity; the entire economy rests upon homosocial (to borrow a term from Eve Sedgwick) exchange.

Leonard, among others, describes how this exchange of women functions in *Ulysses*, particularly in the behaviour of Gerty and her friends at Sandymount. Echoing Irigaray, he notes that "the entire stock market of the male-defined sexual economy depends on women's masquerading as 'feminine,' that is to say, as the objects of transaction in all symbolic exchange operations (erotic, economic, and cultural)" (140). Women in this economy, he writes, learn to package and display themselves like merchandise "in the hopes that one man among the many will step forward and pledge whatever is necessary for the singular privilege of unwrapping and handling them in the privacy of his own home" (114). As with other mass-produced items, a uniform standard is key—in this case the standard of beauty and fashion promoted in various magazines and other media. This image of femininity, then, is very much the product of mass culture and modern technology. We have already seen how Bloom's perception of Gerty is informed by photography and the Mutoscope. Likewise, Gerty's end of the exchange is similarly influenced by images of skirtdancers and girls on swings (even though she disavows their influence); she has also internalized the discourses of commodity culture and advertising, which hold out to her the hope of achieving "true femininity" through the consumption of different products (Leonard 100-1).

While *Ulysses* makes use of the language of commodities in describing women—Bloom supposes Gerty's limp is "why she's left on the shelf" (13.772-73) and even calls Milly "A wild piece of goods" (4.429-30)—it also complicates the circulation of women. According to Irigaray, for instance, "mothers, reproductive instruments marked with the name of the father and enclosed in his house, must be

private property, excluded from exchange" (185). Molly, the most sexual woman in the book, may indeed be "enclosed in the house," but she can hardly be considered "private property"; she is "often figured in Dublin's male public discourse as a sexual commodity" (Heininger 161) even though she is a mother—a mother whose daughter is now "in great demand" (18.1025)—and though she may figure herself as a commodity when she "catalogues and evaluates various features of her body… in accordance with how capable they are of making men 'spend,' in the double sense of climaxing and buying her presents" (Leonard 170), she does so ultimately with her own pleasure in mind.

This is not to say that Molly is a fully emancipated woman, or that there are no problematic elements to her portrayal; we should bear in mind however that, as Wicke and Leonard have both suggested, she is an active consumer in a complex commodity culture. It is undeniable that women become implicated in the economy of post-living products through the text's frequent association of them with flowers. We have already seen the "Language of flowers" (5.261) in the passage from "Lotus-Eaters," over the course of which Bloom conflates Martha's letter and body not only with flowers but also with perfume and the pins in her clothing, making these manufactured items into the scent and thorns of her floral body. While van Boheemen-Saaf suggests that "the conventional mute 'language of flowers' may be an appropriate shorthand label to denote Joyce's practice of reducing the female to the material" (36), it is worth asking how complete such a reduction might be. In commenting on gift exchange in Joyce's work, Mark Osteen notes that Gerty "pictures flowers as ideal presents" and argues that she "translates herself" into a

similar kind of offering ("Female Property" 33); he asserts, however, that flowers "do not epitomize the perfect gift" because "they do not in themselves embody the gift-exchange circuit; once they are given, they stay put, decay, and die" (38). I would suggest, though, that it is this very property of flowers that makes them an apt metaphor for the status of woman in a patriarchal marriage economy: once "given," passed on from father to husband, and "deflowered," the virgin-become-wife-and-mother loses her exchangeability; in terms of the sexual economy she does indeed "stay put, decay, and die." The associations drawn by Bloom, Molly, and Gerty (among others) therefore reflect long-held cultural notions about what a woman "should" be.

This is not, however, a simple reduction of the female to the material, or an equation of the feminine with the natural. As Osteen points out, flowers in *Ulysses* "are usually associated with conventional or self-deluded characters, and with trite or insincere expressions of love" ("Female Property" 38). Even though flowers have a certain pastoral appeal for Molly, generally they are for her, as Osteen points out, "'cultural artifacts'—wallpaper, house decorations, songs—not natural blooms" ("Female Property" 38). Furthermore, her idea of nature—"the wild mountains then the sea and the waves rushing then the beautiful country with the fields of oats and wheat" (18.1559-60)—includes human agricultural activity, meaning it is not entirely "natural." The point is that in *Ulysses* flowers point to a nostalgia in modern technological society for the natural even as they are seamlessly incorporated into the exchange of commodities.

The unquestioning equation of the female body with flowers easily leads to

the objectification of women. Thus we see Blazes Boylan eagerly include women in the post-living economy. Boylan, it would seem, is a consumer *par excellence*, "a young gentleman, stylishly dressed in an indigoblue serge suit made by George Robert Mesias, tailor and cutter, of number five Eden quay, and wearing a straw hat very dressy, bought of John Plasto of number one Great Brunswick street, hatter" (11.880-83)—a description that would not be much out of place as a caption in a fashion magazine. His exchange with the shopgirl in "Wandering Rocks" suggests his association of the consumption of women with the consumption of food; as she arranges "fat pears" and "ripe shamefaced peaches," he walks about the shop, "lifting fruits, young juicy crinkled and plump red tomatoes" (10.305-6, 308-9). As he peers "into the cut of her blouse" with a carnation clenched between his teeth, the girl herself becomes "A young pullet" (10.327), finally "blushing" along with the peaches (10.331).

Bloom's desire is more complex. In the first chapter I remarked how his sympathy and understanding of the human body's interaction with technology—exemplified in his expression of concern for the "poor buffer" standing in the X-ray machine—means that he avoids treating people as insensible objects. Likewise, when it comes to sex, Bloom wants more than an object-woman. When he remembers the "Girl in Meath street that night" and "All the dirty things I made her say" (13.867-68), he dismisses the experience by thinking of "Parrots. Press the button and the bird will squeak" (13.871-72). Bloom, it would seem, dislikes women who act like automata—which is not to say that he desires a fully "genuine" experience. Rather, the problem is that this particular girl's performance was "All wrong of course. My

arks she called it" (13.868-69). Bloom's masochistic fantasies require various performances, as opposed to an expression of "natural" sexual desire; Boylan, on the other hand, relies upon more conventional active–passive, subject–object binaries, to the point where Molly worries about disrupting the whole experience by saying something "unladylike." "Ithaca" confirms Boylan's attitude in describing the grammar of his encounter with Molly, which upholds these binary relations: "the natural grammatical transition by inversion […] of an aorist preterite proposition (parsed as masculine subject, monosyllabic onomatopoeic transitive verb with direct feminine object) from the active voice into its correlative aorist preterite proposition (parsed as feminine subject, auxiliary verb and quasimonosyllabic onomatopoeic past participle with complementary masculine agent) in the passive voice" (17.2217-23). In other words, the phrase "He fucked her" is translated into "She was fucked by him,"[xlv] a transition which maintains the male in the active role and the female in the passive.

Bloom's experience as an ad canvasser means that he knows the role that desire and the perception of lack play in provoking the modern consumer to shop. His idea to set up "a transparent showcart with two smart girls sitting inside writing letters, copybooks, envelopes, blottingpaper" (8.131-33) in order to sell stationery makes use of the desire and curiosity of the (presumably male) onlooker and suggests the perceived sexual availability of the modern female office worker. Little needs to be said about the conjoining of sexual desire and advertising—"sex sells" has long been a truism. Leonard notes this dynamic at work in *Ulysses*, observing that Molly's "erotic reveries" are "laced… with recollections of shopping (and hopes for future

shopping)"; advertising, he adds, was starting to recognize that any consumer "capable of desiring one thing… must be considered an individual who might desire anything" (96). Armstrong identifies "a new advertising pattern" emerging in the late 1910s, "focusing on the fears and failings of the consumer," and notes, "It is from the 1920s that the instantly recognizable modern body-threat copy dates" (*MTB* 99). In this burgeoning commodity culture, "countless articles began to be manufactured and advertised with reference to the human body" (Leonard 125), a body which, male or female, "always" has "something wrong" with it, as Molly observes (18.1100, 1108-9). Thus the supplemental quality of the modern commodity-as-prosthesis: advertising posits any number of bodily defects and presents various commodities as remedies, "implying a 'whole' body which can only be achieved by technology; a whole which is constantly deferred" (*MTB* 100).

The conjunction of bodily artifacts and sexual desire is certainly not unique to the early twentieth century. Pease points out that, in the eighteenth century, items like hats or clocks were considered "emblematic… of female genitalia" and that "they continued to signify such things in the music hall of the early nineteenth century" (116). Herr has made a convincing case for *Ulysses*'s indebtedness to the music-hall tradition; in this light, Milly's "new tam" and the fact that, as she writes, "Everyone says I am quite the belle" in it (4.399), suggests her own developing sexuality—something Bloom also realizes: "O, well: she knows how to mind herself. But if not? No, nothing has happened. Of course it might" (4.428-29). Later on, Gerty gazes at Bloom "from underneath the brim" of her hat (13.515) and captures his attention by swinging her leg, flashing the buckle of her shoe, transforming herself into a kind of

clock: “she could see the gentleman winding his watch and listening to the works and she swung her leg more in and out of time” (13.555-57)—not to mention the fact that the action of “winding the watch or whatever he was doing to it” becomes something quite different for Bloom (13.558-59). Pease also remarks on the common association of the New Woman with the act of genital self-examination and self-exploration in the mirror; gazing into a mirror becomes “a moment of self-reflexive sexual knowledge” (117). The mirror also gives the viewer an opportunity to enhance his or her image; Gerty, for instance, has learned “how to cry nicely before the mirror” (13.192), while Molly recalls her sexual awakening by remembering “after when I looked at myself in the glass hardly recognised myself the change” (18.647-48).

Mirrors, then, are important to the performative aspect of sexuality. The mirror in the Blooms’ front hall allows for last-minute adjustments, not just when stepping out but also when letting others in—as Leonard points out, in a commodity culture, “what one buys to put in the room of a home also makes that room a stage” (158). Sex appeal, after all, is very much about “stage setting,” a fact that Bloom recognizes: “See her as she is spoil all. Must have the stage setting, the rouge, costume, position, music” (13.855-56). Bloom seems particularly susceptible to artificial augmentations of a “woman’s natural beauty,” as he attests to Stephen the importance of “taste in dress” (16.896, 895); Molly sneers at “that slut that Mary […] padding out her false bottom to excite him” (18.55-57) and remarks of her husband, “hed kiss anything unnatural” (18.1402-03). *Ulysses* abounds with examples of Bloom’s love of “wellfilled hose,” of glimpses of undergarments, of cosmetics and clothing, even of “fleshy parts [which] are the product of careful nurture”

(15.2361)—that is, parts which bear the traces of the commodities and techniques used to enhance their appeal.

Bloom, however, is not alone in these preferences in a commodity culture. Moving "beyond Marx" and commodity-fetishism, Armstrong claims that "the commodity itself invokes the body in its desirability; charged with a sexual energy by the mechanisms of advertising" (*MTB* 79). The sexual charging of made objects points to the idea that desire is not natural, that "there is nothing essential about what is erotic, pleasurable, memorable, or historical in modern culture," as Leonard puts it (7). As Bloom and the fetish more generally demonstrate, we don't just desire people through the use of commodities, we come to desire commodities themselves, or at the very least a combination of person and commodity. Commodities, then, are not mere conduits or tools; they form an integral part of what is desired. The "transparent stockings" that Gerty uses as part of her seductive ensemble are an interesting example of the conjunction of body and object. Their value lies in being transparent, that is in looking like they are not even there, yet in order to serve as a fetish-object they must also be noticeable. We encounter then a kind of mimesis at play, where the "perfect" enhancement to a woman's "natural" beauty—be it transparent stockings, false bottom, rouge, or whatever else—must be undistinguishable from her "actual" body, in the same way that the "perfect" prosthesis would completely resemble the part for which it stands in. All of this brings us into the territory of the Baudrillardian simulacrum or the Derridean notion of the double. If vitalism maintains that there is always some element that distinguishes a human being from a cleverly constructed automaton, a person from an object, then there are some decidedly anti-vitalistic

qualities to desire as it is constructed in modern commodity culture: desire makes no such distinction, sets up no absolute barrier, between the body and the commodity.

Advertising pushes this even further, spilling over into animism and endowing its commodities with a soul. In line with Scarry's theory, advertising recognizes the object as the projection of a contrafactual wish, but obscures the signature of the human maker. To use Scarry's terminology, the commodity erases the first half of the arc of projection–reciprocation, making it appear as though the reciprocation originates with the object—as though the object itself has recognized a particular need or desire and has fashioned itself to meet it. Leonard points out the affinities Stephen's aesthetic theory has with marketing, writing, "The object with a soul in Stephen's aesthetic theory is—despite his refusal to see it in these terms—a commodity" (3); like Marx, Stephen discusses "the phenomenon of modern commodities as objects with souls capable of inducing a sort of soporific spiritual transcendence" (4). Heininger refers to advertising in this period as "the 'magic system'" because of the "wonderful transformations" it promised for consumers' lives (159). Similarly, both Osteen ("Seeking Renewal") and Leonard suggest that the discourse of advertising is intimately connected with the language of religion, promising miracles, regeneration, fulfillment, and the "attainment of paradise" (Leonard 35). Indeed, in the body–spirit dualism that religion embraces, perhaps even requires, human beings themselves become "objects with souls," fleshy machines that require a vital spark to handle the controls.

The technologization of modern life, just as it provoked a desire to differentiate absolutely between people and machines, also raised anxieties about the

preservation of an "authentic" sexuality. The scene between the typist and the "young man carbuncular" in Eliot's *Waste Land* epitomizes how technology and modern life were seen as threatening any connection. The technologization of modern life and the suggestion that human beings are merely conscious machines looms over sexuality, threatening to transform it into a solely mechanical process devoid of emotion (a "piston and cylinder movement," as it were). Anxieties concerning mechanical reproduction once again come into play, and the female body seems to become a guarantor of proximity to nature. As Ewa Ziarek observes, this results in a sort of double motion with respect to technology: "On the one hand, the female body facilitates a retreat from the technologized public space into a singular form of enunciation and the privacy of subjective experience.… On the other hand, the technologization of the female body reveals it as a site of diverse cultural inscriptions, which cannot be unified into a singular form of enunciation" (280). Ziarek finds a "strange bifurcation of female desire" in "Penelope," manifest in various "oppositions between technology and organicism, between the public and the private" (265).

The problem with which we are faced is similar to that facing thinkers like Bergson: how, in a mechanized, commodified, mass-cultural world, do we maintain a space for subjective experience and the fulfillment of desire (with the added stipulation of not falling back on a vitalistic conception of an authentic self)? Clearly, reverting to solipsism and treating others as objects will not suffice, as Bloom recognizes in his technological expressions of sympathy. Nor will relying upon a "magic system" to endow us, animistically, with wholeness and self-sufficiency; as Molly reminds us, there's "always something wrong" with everyone, and Bloom as

an ad canvasser recognizes how advertising plays on these feelings of incompletion. The key, it would seem, lies in embracing the technological object as a supplement, in regarding it as extending our capacity for fulfillment and not threatening some notion of bodily purity or integrity; it requires the "stage setting" as a necessary component but, at the same time, also requires a momentary forgetting that this component is there.

One of Bloom's fondest erotic memories is the kiss he shared with Molly on Howth: "O wonder! Coolsoft with ointments her hand touched me, caressed: her eyes upon me did not turn away. Ravished over her I lay, full lips full open, kissed her mouth. […] Softly she gave me in my mouth the seedcake warm and chewed. Mawkish pulp her mouth had mumbled sweetsour of her spittle. Joy: I ate it: joy" (8.904-8). Bloom's rapturous remembrance is not merely the image of two bodies entwined: it includes artifactual elements that are integral to the experience—Molly's "coolsoft" ointments, her "blouse of nun's veiling" that heightens Bloom's enjoyment of her breasts (8.914). Most important is the seedcake that becomes the focus of Bloom's memory of the kiss. It is a made object shared between two desiring subjects, and while the image of the seed may suggest nature and fertility, it is important to remember that it is also a baked good, a made object, somewhere between the organic and the technological, the living and the dead. The sensuousness of the experience for Bloom centres on this object that Molly gives him; rather than seeing it as threatening the authenticity of the experience he uses it to bring the memory to a full florescence of joy.

Responding to Joyce's comment on the "revolution" that had taken place in

the relationship between men and women, Arthur Power called it a "pity" that "the relationship between the sexes has now been ruined; an intellectualism has been allowed to supersede a biological fact, and the result is that neither is happy" (44). Power's terms recall a more traditional paradigm of "natural" gender roles purportedly determined by "biological fact," while at the same time he evokes a Bergsonian distinction between the falsifying work of the intellect and more authentic experience. In reply, Joyce claimed to Power that it is "the intellectual outlook which dissects life" that "is now what interests me most, to get down to the residuum of truth about life, instead of puffing it up with romanticism, which is a fundamentally false attitude" (45). He also admitted, "The relationship between the two sexes is now on a different basis, but I do not know whether they are happier or unhappier than they were before; I suppose it depends on the individuals" (44). Bloom's memory of the seedcake kiss is certainly nostalgic—immediately following the lengthy recollection comes the statement, "Me. And me now" (8.917)—yet in acknowledging the centrality of the cake to the experience he points to an understanding of the roles that commodities, artifacts, and technology can play in sexuality. Rather than retreating from the urban landscape into vitalistic or animistic notions of living bodies and of sexuality, Bloom has recognized a need to understand and accept technology. he has found a way to develop a certain comfort with, and even how to derive pleasure from, the technologies of modern life.

NOTES

[xxxvi] Christie in this passage is actually describing the Kinetoscope, Edison's rival device, which operated along the same principles as the Mutoscope.

[xxxvii] This could even be for a way of producing incriminating evidence of Molly's infidelity, in which case the cinema camera becomes a means for the "Exposure by mechanical artifice" (17.2202) that Bloom contemplates.

[xxxviii] The stereoscope, by the way, in "allowing individual viewers to see images with a striking illusion of realistic depth, proved especially suited to pornographic purposes" (Christie 75).

[xxxix] Christine van Boheemen-Saaf offers a similar reading of the text when she notes that the "physicality of Joyce's 'Penelope' embodies a response countering the Enlightenment construction of the bodiless subject" (32-33).

[xl] Christie remarks that in early nature films, such as Charles Urban's popular "Unseen World" series, "the language of the titles constantly evokes the penetration of secrecy" (100-1), the idea of penetration suggesting a quasi-pornographic undercurrent.

[xli] The relations between consumer culture and imperialism are complicated, particularly when one brings gender into the mix. We must resist the urge to cast the British as producers (masculine, active) and the Irish as simply consumers (feminine, passive). The consideration of consumption as "cognitive, analytic work" (Wicke, "Who's She" 181) provides one route around this simplification without dismissing the power relations that structure the Irish economy.

[xlii] This is quite true. In a single evening, one could watch Mel Brooks's *The Producers*, which features a protagonist named Leo Bloom, and follow it up by meeting one's friends at Molly Bloom's Irish Pub.

[xliii] The term "computer" was applied in a similar fashion to both women and the machine, as Patricia Fara points out in referring to the "human computer, Henrietta Leavitt, one of countless women employed during the past three hundred years as scientific drudges." Such "drudges" "include not only pre-electronic mathematicians generating tables of figures, but also 1960s housewives recruited to decipher the photographic tracks of subatomic particles" (391).

[xliv] Indeed, we could even say that these accessories *produce* woman as the "weaker sex," as Molly remarks that "all staysed up you cant do a blessed thing […] thats why I was afraid when that other ferocious old Bull began to charge" (18.628-30).

[xlv] I am making an assumption here about the identity of the "monosyllabic onomatopoeic transitive verb," but, I think, a justifiable one.

Conclusion:
Future Directions

Joyce's name continues to attract controversy. On June 2, 2010, Armando Galarraga of Major League Baseball's Detroit Tigers was pitching in the bottom of the ninth inning in a game against the Cleveland Indians. Galarraga had already recorded an out for each of the first twenty-six batters he had faced; if he could retire the next one, Indians shortstop Jason Donald, he would become just the twenty-first pitcher in baseball's hundred-plus-year history to record a perfect game (twenty-seven batters, twenty-seven outs—no hits, no walks, no errors). Moreover, two other pitchers had already thrown perfect games in 2010, making Galarraga's bid for an unprecedented third on the year even more remarkable. With one ball and one strike, Galarraga threw a slider; Donald hit a slow ground ball to the right side of the infield and sprinted towards first base. Tigers first baseman Miguel Cabrera moved to his right, fielded the grounder and tossed the ball to Galarraga, who had run over from the pitcher's mound to cover the base. It was a relatively routine play. Galarraga caught the ball cleanly and put his foot down on the base to record the final out; instant replays showed that he had beaten Donald by a step and a half, a fairly wide margin in plays of this kind. Galarraga's teammates were already moving to congratulate their pitcher when the call came from the first base umpire: safe. Safe, even though instant replay—available to the play-by-play commentators and television audiences worldwide, but not available to the umpiring crew—showed that Galarraga's foot had clearly come down on the bag before Donald's. Galarraga got the game's final out on the next batter to record a complete-game, one-hit shutout, and Tigers players and

their manager converged on the first base umpire to voice their displeasure. That umpire's name? Jim Joyce.[xlvi]

His name is of course a matter of coincidence. What is relevant here, though, is that this incident led almost immediately to calls for an expanded role for instant-replay technology in the game of baseball. As the rules stood at the time (and as of this writing continue to stand), the use of instant, slow-motion replay is allowed in baseball only to review borderline cases of whether a hit can be ruled a home run; all other calls are up to the umpires on the field, who have final say. To his credit, directly following the game Joyce, having now seen video of the play, recognized that he had in fact made an error and publicly apologized to Galarraga: "'It was the biggest call of my career,' an emotional Joyce told reporters, 'and I kicked it. I just cost that kid a perfect game'" (Beck). Proponents of video replay decried baseball's refusal to make greater use of the available technology during actual games, as is frequently done in professional hockey and football. Baseball traditionalists, however, maintained that, in spite of Joyce's historic mistake, such technology should be kept out in order to preserve the game's "human element," a phrase much used in the days following Galarraga's "imperfect" game. Columnist Mike Bauman, for instance, wrote, "We [traditionalists][xlvii] favor the umps over the intrusion of the machines, the incessant, time-consuming, time-wasting replay reviews," specifically ascribing this stance to the fact that "the umpires represent baseball's human element." For those on the other side of the debate, this "human element" was too ill-defined to serve as a justification for the exclusion of technology; sports blogger Jeff Passan displays this sort of frustration when he reports how MLB Commissioner Bud Selig "defended the

game's human element as if it was some mystical life force that keeps baseball right and fair and just," adding: "Selig must swallow whatever romanticism remains regarding the subject of replay and do right by the game."

While Passan's comments are tongue-in-cheek, the allusion to a "mystical life force" in this case of humans vs. machines shows us that the vitalist debate is still very much with us, though it may from time to time appear in different forums. Sports provide frequent grounds for this debate because, in the minds of many, they are supposed to foreground the physical achievements of the pure human body unaided by any external factor, including technology. Witness the debates that crop up with each Olympic Games, not only over the use of performance-enhancing drugs but also over the idea of "technological doping," the notion that some athletes gain an unfair advantage from their equipment.[xlviii] Nevertheless, the need for equipment, along with professional athletes' extensive training regimens, point to the impossibility of a human "independence" from technology; the line drawn between the "natural" body and technology, or any artificial technique, can only ever be arbitrary.

In the case of baseball, traditionalists tended not to offer a concrete definition of what the game's human element might be, although it seemed to involve the possibility for error and for imperfection, or at least imprecision. The reader will recall that a similar human element comes into play when the young men of the unnamed town in Hoffmann's "Sandman" develop a "detectable mistrust of the human form," demanding that "their young ladies should sing and dance in a less than perfect manner" in order to convince the men that "they were not in love with a

wooden doll" (121). The mistrust of mechanical exactness appears also in the later nineteenth century's Arts and Crafts movement, whose adherents "associat[ed] beauty only with hand work, such as hand-carved furniture and hand-loomed rugs that are irregular and rough" rather than with the identical mass-produced goods being manufactured mechanically in factories (Sussman 149). In this way the "human element," be it in sport or in the production of goods, takes on some of the same qualities that Benjamin's "aura" has in the aesthetic object, maintaining a bond with tradition and guaranteeing a kind of authenticity that mechanical reproduction cannot reproduce. This makes a vitalist reading of Benjamin's concept of "aura" possible, which in turn could add to our understanding of vitalism's role in shaping twentieth-century reactions to technology and modernist aesthetics.

Each of the chapters in the present study could easily be expanded into its own work simply by the inclusion of authors other than Joyce. As I mentioned in the Introduction, I chose Joyce in part because his attitude toward technology differs in many ways from his contemporaries. Vitalism's influence on other modernist figures, and how that influence relates to technology, has for the most part been underinvestigated; studies of Bergson's impact do exist, but tend not to foreground the specifically vitalistic details of Bergson's theories or to consider the role of technological innovations in his thinking. There is also certainly more to be said on the role that phonography and other forms of artificial memory played in promoting the period's interest in memory and on different types, such as involuntary, race, or metapersonal. Finally, the issue of mechanical as opposed to biological reproduction bears further consideration as well; the previous comments on Benjamin's aura

suggest one line of questioning; the assembly-line-style Hatcheries in Aldous Huxley's *Brave New World*, to pick but one example, presents another avenue for investigation.

Technology provides one of the most dramatic arenas of change, and was one of the most important factors driving social and cultural change in the twentieth century; as we move deeper into the twenty-first we still require a better understanding of how people respond to and relate with technology. Such an understanding can only be enhanced by investigating how those who came before us reacted, how in a period of unprecedented proliferation they were influenced by the possibilities, the pitfalls, the potential of modern technology.

NOTES

[xlvi] A number of Joyceans have pointed out that, like Joyce the author, in this case Joyce the umpire's eyesight was wanting.

[xlvii] Bauman affixes this label to himself in the previous sentence, when includes himself among "those of us who have spent many traditionalist seasons arguing against replay."

[xlviii] Speedo's Fastskin LZR swimsuit at the 2008 Summer Games in Beijing is a prime example; the swimsuit itself is widely credited with making possible the multiple world records set at those Olympics, rather than the athletes' "natural" abilities.

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Ziarek, Ewa. "The Female Body, Technology, and Memory in 'Penelope'." Pearce 264-284.

CURRICULUM VITAE

Name: Patrick Casey

Post-Secondary Education and Degrees:
Queen's University
Kingston, Ontario, Canada
2000-2004 B.A. (Hons.)

University of Western Ontario
London, Ontario, Canada
2004-2005 M.A.

University of Western Ontario
London, Ontario, Canada
2005-2011 Ph.D.

Honours and Awards:
Ontario Graduate Scholarship
2004-2005, 2007-2008, 2008-2009, 2009-2010

Related Work Experience:
Teaching Assistant
University of Western Ontario
2004-2009, 2010-2011

Research Assistant
University of Western Ontario
2006-2007, 2009-2010

Publications:

"Life Among the Machines: James Joyce's *Ulysses* and the Vitalist Debate" (conference presentation). The 2009 ACCUTE Conference (May 23-26, 2009) at Carleton University, Ottawa, Ontario, Canada.

"'Moved by Craft': Technology and the Supernatural in *Ulysses*" (conference presentation). The XXII International James Joyce Symposium (June 13-18, 2010) at Charles University, Prague, Czech Republic.