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James Joyce, the "Wonder Worker," and Inventions*

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I

James Joyce is a core writer in discussing how modernism can be defined, as Morton Levitt nominates the Modernist age as "the age of James Joyce" (136). Most critics and literary historians' discussions of and debates about the characteristics of modernism have anchored mainly on his stylistic experiments such as stream-of-consciousness or interior monologue. As the Cubist painter Fernand Léger's statement—"If pictorial expression has changed, it is because modern life has made this necessary" (Armand 23, qtd)—reifies a variety of modernist artistic attempts to make art possible in the aftermath of World War I, Joyce witnessed and was interested in the advent of new technologies that revolutionized everyday lifestyles. Even if T. S. Eliot eulogizes Joyce's "mythic method" as "a way of controlling, of ordering, of giving a shape and a significance to the immense

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panorama of futility and anarchy which is contemporary history" (177), his emphasis on the classical temper disregards Joyce's engrossment in technological progress and popular culture, which in turn poses a threat to modernist artists like Joyce, who was confronted with the responsibility of making art viable in the emaciated world. In other words, Joyce recognizes that modernism is contiguous with the new era when new technological devices such as telegram, telephone, television, etc., are integrated into everyday life: "During roughly the second half of the nineteenth-century technological change rapidly and dramatically accumulated. Telegraphy, the telephone, photography, the typewriter" (Armand 25). Many readers, who have *a prior* information about the fact that *Ulysses* is set on June 16, 1904, easily forgets that the first moment that readers can realize it is when Miss Dunne clicked the keyboard of a typewriter to write the date: "—16 June 1904" (*U* 10.377). The typewriter is a metonymic device to indicate the materiality of the historical setting of *Ulysses*, aligning itself with other technical inventions. Many scholars have discussed the ways in which machines or technological inventions play an important role in constituting Joyce's understanding of the modernist transformations in art and culture.[1] Here I will discuss Joyce's interest in and deployment of technological progress and its discontents.

According to the Linati schema, Joyce wants to enlist symbols, colors, human organs, arts, etc., so as to characterize each chapter in *Ulysses*. The art assigned to "Wandering Rocks" is mechanics, even though "Aeolus" is rather predominant with machines such as pressing apparatuses.[2] In *The Mechanic Muse*, Hugh Kenner emphasizes on the emergence of machines, and champions T. S. Eliot and James Joyce as being representatives of the new era (9). It could be appropriate to say

1) See for detailed discussions Sara Danius, *The Senses of Modernism: Technology, Perception, and Aesthetics* (Ithaca: Cornell UP, 2002), and Donald Theall, *James Joyce's Techno-Poetics* (Toronto: U of Toronto P, 1997).

2) Jeffrey S. Drouin insists that the term 'mechanics' is usually understood to refer to the characters' supposedly automatic responses to state and religious authority" (65). But this response dismisses Joyce's sense of the materiality of history, which I will explain later.

that modernism focuses on civic life and urban space, which are inseparable from technological progress. Obviously, Joyce's *Ulysses*, a record of Dublin life on a specific day, June 16, 1904, demonstrates the contemporary city as "a complex technological construction" (Theall 31). While he wanders through Dublin, Bloom, who is an ad canvasser, reveals his curiosity about various things, such as advertisements and innovative gadgets. So it is no wonder that Joyce describes HCE as "Bygmester Finnegan" (*FW* 4.18), which reminds the readers of Ibsen's Norwegian play, *Bygmester Solness*, translated into *The Masterbuilder* (Atherton 155). It is well-known that Joyce compares himself to an engineer: "I feel like an engineer boring into a mountain from two sides. If my calculations are correct, we shall meet in the middle. If not..." (Budgen 356). It is interesting that Joyce's remark undermines the perfect punctuality of his own work as an engineer. The challenge Joyce encounters here is exemplified by Joyce's own remark on his last project, which shows his aesthetic principle applied to *Work in Progress*, the Ur-text of *Finnegans Wake*:

> In writing one must create an endlessly changing surface, dictated by the mood and current impulse in contrast to the fixed mood of the classical style. This is *Work in Progress*. [...] In other words, we must write dangerously: everything is inclined to flux and change nowadays and modern literature, to be valid, must express that flux." (Power 75)

Especially, in *Finnegans Wake*, the result of his dangerous writing, dangerous because his ambitious project could result in a failure, Joyce explores a new phenomenon of plurality and multiplicity triggered by new sciences at the turn of the century. The advent of communication devices such as radios, TVs, and movies was also a challenge to Joyce, who attempted to express the flux of reality in his writing.

The two things I would like to discuss here are the newly emergent discourse of conflict between humans and machines, which is characteristic of the new era of automation, on the one hand, and the conspired relationship between masculinity

and war ideology on the other. In *Ulysses*, Joyce deploys these innovative devices, which signify the implicit convergence of machines and humans in conflict. In the first place, the idea of automation must have been challenging and so interesting to the writer who was interested in telling stories about humanity. Joyce must have been aware of the emergence of automated machines, which will predictably displace human labour in the near future and instead will privilege efficiency and productivity in a capitalistic society, thus ironically impoverishing the human conditions. Joyce presents not only the conflict between humans and machines, but also blurs the boundary between them by associating them in a merged way. For example, in "Ithaca," the sexual act is described in terms of an internal combustion engine: "Of a bodily and mental male organism specially adapted for the superincumbent posture of energetic human copulation and energetic piston and cylinder movement necessary for the complete satisfaction" (*U* 17.2156-59). In "Aeolus," a machine is delineated as operating as a speaking subject: "Sllt. Almost human the way it sllt to call attention. Doing its level best to speak" (*U* 7.175-76). In "Circe," inanimate things are allowed to speak. For example, even the waterfall appears as a witness to testify Bloom's sexual secret. Joyce plays with possible variations on the phrase 'wonderworker' in order to reveal the underlying relationship between masculinity and war ideology. He debunks the underlying ideology of masculinity and militarism, by revealing its ironical meanings. No discussions about what modernism is can be made inseparably from referring to the emergence of technical development. So it is necessary to discuss the ways in which Joyce deploys technological inventions in order to drill a hole in the veil of the unexposed conspiracy between scientific development and warfare practice.

II

Before discussing Joyce's interest in the relation between technological innovation and its discontents, I will look at the deployment of mechanical

inventions in his work. One of the earliest references to inventions in Joyce's work may be a pneumatic tire, even though it was wrong spelled as rheumatic wheels in "The Sisters," the first short story of *Dubliners*.

> If we could only get one of them new-fangled carriages that makes no noise that Father O'Rourke told him about, them with the rheumatic wheels, for the day cheap, he said, at Johnny Rush's over the way there and drive out the three of us together of a Sunday evening. He had his set on that...Poor James! (*D* 10)

Although Hugh Kenner attempts to explain about the use of the wrong word by suggesting no intention of "being put on exhibit to amuse outsiders" (71) in order to valorize the mistake, I think that Eliza's misspelled item as "rheumatic wheels" implies not only her anxiety about rheumatism because of old age, but also her lack of education, since her brother James Flynn must have monopolized financial sources in their family to enable him to study abroad in Rome. The Greek word "pneuma" whose meaning is air is related to the Holy Ghost in the Gospel (Senn 27). In addition, this invention triggered the popularization of riding on bicycles, because the pneumatic tires commercialized by Dunlop decreased the noise old tires could have made, and guaranteed the comfortable riding experience. In turn, the bicycle with pneumatic tires had a deep impact on women's fashion and outdoor life, because long dresses were not comfortable enough for women to ride on bicycles, thus resulting in introducing more comfortable clothes such as bloomers. This change in women's fashions has contributed to improve women's rights. The two sisters' fate could be contrasted with that of new women at the turn of the century. When Eliza regrets to miss an opportunity to rent the new-fangled carriages with the pneumatic wheels, we can see the family's last wish unfulfilled—to visit their home town, Irishtown, the residential area of Catholic poor people in comparison to Kingstown, the Protestant living district. So Eliza's misspelling extends to indicate the system of religious and social oppression on women.

To Bloom, who works as an advertisement canvasser, many new devices could

be interesting in terms of innovation and its profitable possibility. In "Hades," a chapter of thanatology, Bloom thinks of distinctive devices such as gramophone and photograph even when he focuses on remembering the dead.

> Besides how could you remember everybody? Eyes, walk, voice. Well, the voice, yes: gramophone. Have a gramophone in every grave or keep it in the house. After dinner on a Sunday. Put on poor old greatgrandfather. Kraahraark! Hellohellohello amawfullyglad kraark awfullygladaseeagain hellohello amawf krpthsth. Remind you of the voice like the photography reminds you of the face. Otherwise you couldn't remember the face after fifteen years, say. (*U* 6.962-68)

Bloom is thinking of the recording of the posthumous voices, thus interrogating the problematics of memory, since mechanical devices can compete with the novel's medium, language, in terms of the capability of communication. In a sense, technology operates "as an ersatz sort of immortality" (Lewis 186), but the onomatopoeic registers such as "kraark" and "krpthsth" are only linguistically arbitrary representations, which dismantle the traditional notion of complacent apposition of signifier and signified in communication. In 'Circe,' the gramophone appears as an analogue recording device: "Whorusaleminyourhighhohhh...(*the disc rasps gratingly against the needle*)" (*U* 15.2211-12). The gramophone's imperfect transcription of vocal sounds, which results in the confusion of the two words, whore and Jerusalem, reveals an effect of Joyce's secularization of the sacred, which is one of the main topics he deals with in *Finnegans Wake*. Joyce incessantly juxtaposes two senses—acoustic and visual, voice and text, undermining the hierarchical apposition of logocentrism.

Bloom is incessantly overridden by thoughts about new technological devices. Innovation presupposes human need: "A nun ... invented barbed wire" (*U* 8.154). Whether its origin is true or not, barbed wire was invented to protect against any impingement. The story of inventing barbed wire presupposes the female anxiety about male domination and potential physical violence. Another important invention

is X-ray, as is referred to in "Lestrygonians": "Then with those Röntgen rays searchlight you could" (*U* 8.1029-30). As Danius have emphasized, Rontgen's X-ray opened a new territory of the interior by means of the medical invention (75). To Bloom, whose curiosity does not exclude anything even trivial, smart ideas can be motivating for his advertisement canvassing. In "Wandering Rocks," Bloom wanders through the streets of Dublin when he spots a new invention in front of a theater:

> —See? he said. See now the last one I put in is over here: Turns Over. The impact. Leverage, see?
> He showed them the rising column of disks on the right.
> —Smart idea, Nosey Flynn said, snuffling. So a fellow coming in late can see what turn is on and what turns are over.
> —See? Tom Rochford said.
> He slid in a disk for himself: and watched it shoot, wobble, ogle, stop: four. Turn Now On. (*U* 10.476-483)

Owing to Eamonn Finn, who found the patent application #27,617 titled "Improvements in Programme Indicators for Theatres of Varieties, Music Hall and the like", for an invention by Thomas Henry Rochford (19 Wellington Quay, Dublin, Engineer), dated 1908, detailing its construction, mechanism, and usefulness, this device really existed in Joyce's Dublin. This device was Rochford's patent invention in order to easily show the turns for the theater-goers. But sooner or later it was disused and discarded away from the public's concern. Even though this device cannot be cited as a successful invention, Bloom's interest in automation is is deployed in Joyce's other works, since new inventions transform lifestyles and sensual experience.

Automation promises a more comfortable life for human beings, but Joyce must have had in mind both advantages and disadvantages of the mechanical inventions, because he has experienced the Great War's horrible impact on modern life with destructive war machines. In "Circe," Bloom's utopia discredits the role of

machinery when he refers to Dutchmen as rich merchants:

> Machines is their cry, their chimera, their panacea. Labour saving apparatuses, supplanters, bugbears, manufactured monsters for mutual murder, hideous hobgoblins produced by a horde of capitalistic lusts upon our prostituted labour. The poor man starves while they are grassing their royal mountain stags or shooting peasants and phartridges in their purblind pomp of pelf and power. (*U* 15.1391-97, my emphasis)

Machinery saves labour, but could function as "manufactured monsters for mutual murder" in the form of military machine guns. Having in mind that he say, "[a man of genius's] errors [...] are the portals of discovery" (*U* 9.229), Joyce also makes a slight but purposeful mistake in the spellings of two words: peasants and phartridges. The insertion of the letter 'h' in the wrong place produces a surprising result: killing peasants, not killing pheasants, game for hunting. Joyce's awareness of the working class as victims of collateral damage is inscribed in his emphasis on the importance of labour, which is the core element of socialism. Joyce is aware that machinery is the bourgeois class's 'panacea', which can insure prosperity. This scene chimes with Jean-Michel Rabaté's emphasis: "The metaphor of the machine describes not only the book's theoretical functioning, but also the labour which has constructed it" (81). I cannot deal with Joyce's socialism in detail here, but I had better deal with his keen interest in class conflict. There are some references to Joyce's interest in socialism. In "A Painful Case," Mr Duffy attends the socialist meeting, but believes that "[n]o social revolution [...] would be unlikely to strike Dublin for some centuries" (*D* 98). In "Ivy Day in the Committee Room," Mr Hynes supports Colgan, the labour party's candidate for the municipal election by saying that "it's labour produces everything" (*D* 109).

Joyce must have been aware that automation becomes a daily commodity. In Book I, chapter 8, the so-called "Anna Livia Plurabelle," the washer women gossip about ALP:

> Didn't you spot her in her windaug, wobbling up on an osiery chair, with a meusic before her all cunniform letters, pretending to ribble a reedy derg on a fiddle shebogans without a band on? Sure she can't fiddan a dee, with bow or abandon! Sure, she can't! Tista suck. Well, I never now heard the like of that! (*FW* 198.24-28)

The two washer women are talking about Anna's pretending to play a fiddle, but they don't believe, because they have never heard of her musical talent. Even though they do not know about the situation, ALP seems to play a fiddle, which can be made possible by the so-called 'bottomless violin.' The Hupfeld Phonoliszt Violina is popularly called as the bottomless violin, whose automated system makes it possible for someone to pretend to play a violin without any effort. The phrase "with bow or a bandon" implies an automated fiddle with a bow and *a band on*. This automated violin makes the two washer women mistake ALP as playing the violin. As Margot Norris emphasizes, the washer women's labour of laundering must be considered in the relationship with talking (154). Their gossip operates as a thrust into the seemingly comfortable situation of authoritarian appropriation of facts.

Joyce embraces not only innovative devices, which revolutionized lifestyles and sensual experience, but also technological failures in order to undermine the effectiveness and efficiency of scientific innovation. For example, 'hailcannon' (*FW* 174.22) is a shock wave generator designed to disrupt the formation of hailstones in the atmosphere, but its effectiveness was not proved scientifically. This device which looks like a huge megaphone shows human attempts to modify the weather by discharging a cannon in order to form a strong whirlwind that could prevent the formation of hail (Holmes). This kind of unsuccessful device suggests possibility of imperfect technological progress. I will discuss another example of a technological failure:

> With a grand funferall. Fumfum fumfum. 'Tis optophone which ontophanes. List! Wheatstone's magic lyre. They will be tuggling foriver. They will be

> lichening for allof. They will be pretumbling forover. The harpsdischord shall be theirs for ollaves. (*FW* 13.16-19)

Here we have similar devices mentioned in relating scientific frauds. Optophone was invented in 1914 by Edmund Fourier D'Albe to enable the blind to read by sound. It is an innovative machine which uses light sensitive cells to convert a text into audible signals, so the word 'ontophanes' means that the text "exists" as sound signals (Theall 81). But it resulted in a failure because in a demonstration at the 1918 Exhibition, in which Mary Jameson participated, she could read at one word per minute. In addition, Joyce's reference to Wheatstone's magic lyre implies that the scientific innovation resulted in a failure or fraud. Wheatstone called his own invention an 'acoucryptophone' (meaning 'hearing a hidden sound'), but what it could be called "the Aeolian harp in mass-production" (McCormack 101) is only a magic lyre, which connotes both a musical instrument and a liar. So their result is not a harpsichord, which can produce a harmonious music, but only a harps*dischord*, ironically the disruption of harmony.

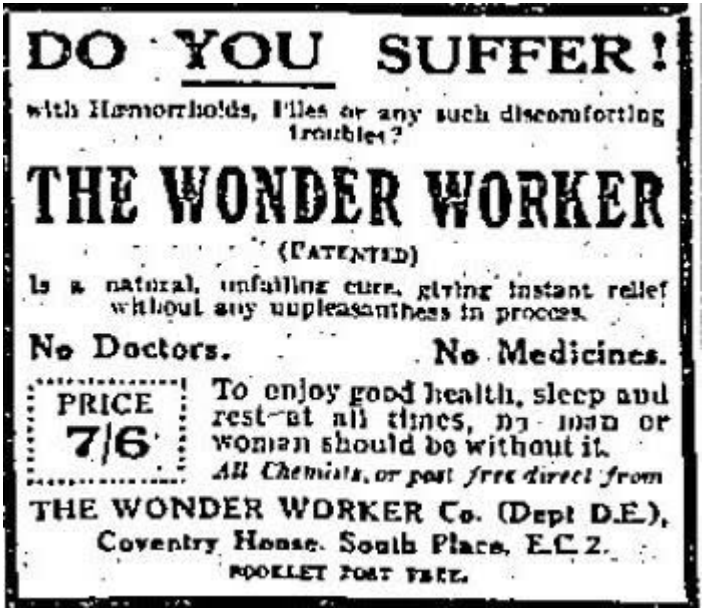
Joyce's indication to scientific failures is transformed into a critical thrust into the myth of technological progress, which could result in mass destruction reified in the World War I. I will show the ways in which Joyce reveals the complacent conspiracy between mechanical inventions and war ideology. Another patent invention that haunts Leopold Bloom's mind in *Ulysses* is the Wonder Worker, a medical device for curing piles, because he suffers from slight constipation in "Calypso":

> Midway, his last resistance yielding, he allowed his bowels to ease themselves quietly as he read, reading still patiently that slight constipation of yesterday quite gone. Hope it's not too big bring on piles again. No, just right. So. Ah! Costive. (*U* 4.507-10)

In "Sirens," after having a trouble relieving himself in the morning, Bloom is reminded of the wonderworker: "Bloom went by Barry's. Wish I could. Wait. That

wonderworker if I had" (*U* 11.1224-25). Here the reference to this patent device is very simple and trivial at first. But this device gets more significant every time it is referred to in *Ulysses* and, further, in *Finnegans Wake*. In "Ithaca," we can witness that he keeps an advertisement of the Wonderworker in one of his drawers:

> 1 prospectus of The Wonderworker, the world's greatest remedy for rectal complaints, direct from Wonderworker, Coventry House, South Place, London E C, addressed (erroneously) Mrs. L. Bloom with brief accompanying note commencing (erroneously) Dear Madam. (*U* 17.1819-23)


DO YOU SUFFER!

with Hæmorrhoids, Piles or any such discomforting troubles?

THE WONDER WORKER

(PATENTED)

Is a natural, unfailing cure, giving instant relief without any unpleasantness in process.

No Doctors. No Medicines.

PRICE 7/6

To enjoy good health, sleep and rest at all times, no man or woman should be without it.

All Chemists, or post free direct from

THE WONDER WORKER Co. (Dept D.E.),

Coventry House, South Place, E.C.2.

BOOKLET POST FREE.

Figure 1

The figure 1 shows that Joyce must have seen this advertisement, since the address mentioned is the same with the above passage: "Coventry House, South Place". Molly also remembers that the mail from the Wonderworker addresses her husband as feminine: "Some advertisement like that wonderworker they sent him addressed dear Madam" (*U* 18.715-17). We can easily guess that this mistake of sexual identity is attributed to Bloom's name, changed from the Hungarian Virag, meaning

a flower. Throughout *Ulysses*, Bloom's gender identity is incessantly interrogated, thus resulting in his phantasmagoric transformations in "Circe," in which he is turned finally into a woman and becomes even pregnant, giving a birth to a child in the end. This gender confusion poses a threat to the traditional understanding of gender differences, thus interrogating the fixity of identity itself. In addition, the reason why Bloom is addressed as female is that the wonderworker is known to be useful especially to women, just as is mentioned in another place:

> Ladies find Wonderworker especially useful, a pleasant surprise when they note delightful result like a cool drink of fresh spring water on a sultry summer's day. Recommend it to your lady and gentlemen friends, lasts a lifetime. Insert long round end. Wonderworker. (*U* 17.1829-33)

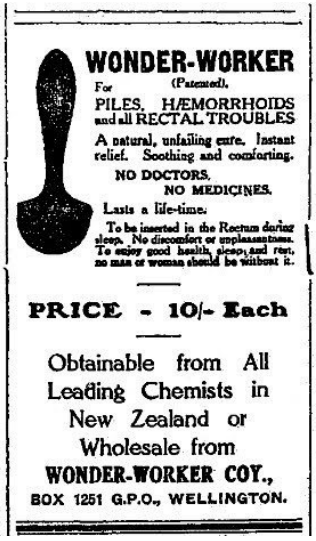


Figure 2

The figure 3 testifies Joyce's description of the shape of this device. Another thing I have to mention is that Joyce identifies the penetration of the wonderworker into female rectal organs as a sexual experience. The shape of the wonderworker is obviously phallic. In a dialogue with the Nymph in "Circe," Bloom talks about

sleep, thinks of steel wine as a cure for snoring, and then mentions the Wonderworker:

> Sleep reveals the worst side of everyone, children perhaps excepted. I know I fell out of bed or rather was pushed. Steel wine is said to cure snoring. For the rest there is that English invention, pamphlet of which I received some days ago, incorrectly addressed. It claims to afford a noiseless, inoffensive vent. (he sighs) 'Twas ever thus. Frailty, thy name is marriage. (*U* 15.3272-77)

Here Bloom's gender identity is again mentioned. In terms of gender politics, the relationship of Bloom and Molly is not tradition, since she domineers him in terms of family structure and sexual relation. In addition, a reference to the maker of the device, England, reveals the symbolic relationship of colonialism through sexual fantasy. But one more thing we have to focus on is Bloom's marriage crisis. Marriage had been regarded as a sacred union, especially by Catholic believers. As we know, Bloom is confronted by matrimonial crisis. Joyce interrogates the meaning of marriage as an institution, which has been regarded as natural or sacred. Molly's adultery forces the readers to think again what love and marriage is respectively. Furthermore, it is necessary to refer to the lines in *Finnegans Wake* in order to clarify the meaning of this invention:

> This is big Willingdone mormorial tallowscoop Wounderworker obscides on the flanks of the jinnies. Sexcaliberhrosspower. (*FW* 8.34-36)

The so-called "museyroom episode" introduces Kate the janitrix－janitress and genitrix, who guides the museum of wars, especially ones in which Duke Wellington participated. Although the Wellington museum in Brussel no longer existed when he visited the battlefield in 1926, Joyce seems to associate the defunct battlefield museum with the Wellington Monument in his Wakean dream vision. Joseph Campbell emphasizes that this museum "should be regarded as a kind of reliquary containing various mementoes symbolising not only the eternal

brother-conflict, but also the military and diplomatic encounters, exchanges and betrayals of recorded history" (40). The Wellington Memorial Monument was erected in Phoenix Park in 1817 in order to commemorate his military achievements, with three plaques delineating his career including Battle of Waterloo and Indian Wars. The obelisk formation of the Wellington monument suggests phallic significances, as well as it is denounced as a "tallowscoop," a culinary utensil that is used to scoop fat or lard. Furthermore, it is well-known that Duke of Wellington holds a telescope in hand on the battlefields. Here Wellington's monument is described as "Wounderworker," a nomenclature which may signify a worker of miracles—"Wunder" in Germany—, one who gives wounds to others, perhaps in battles, or a patent device for curing piles. At this point, why does Joyce change Wellington's name into Willingdone? It can be suggested that the name of Willingdone could be a combination of human will and its fulfillment ("done"). Joyce's doubling technique is, however, employed here to associate Duke Wellington with Marquess of Willingdone, who was appointed as the Crown Governor of Bombay, on 17 February 1913. The latter's imperialist policy, which includes the increase of taxes in spite of the famine in the Kheda region of Bombay, triggered Gandhi's hunger strike. As one of the plaques of the Wellington Monument has witnessed, Duke of Wellington was also commissioned to lead Indian wars during his sojourn in India. By associating the geological map of Dublin and its environs with the supine shape of HCE as a sleeping giant, Joyce implicates the Wellington Monument as the phallus of the sleeping giant, HCE (Bishop 162). But later Wellington's virility seemed to fall into a vulnerable situation when Harriette Wilson appeared. She used to be a famous courtesan in London, so she had sexual relationships with famous people. Before she published *Memoirs* in 1825, in which she provided details of her liaisons with such noblemen as Duke of Wellington, she sent letters to her former partners, demanding a sum of money in exchange for their exclusion from her memoirs. Wellington is alleged to have returned the letter with these words: "Write, and be damned!" As a result, Wellington was described as a bastard in her published memoirs. In the following

expression—"Cherry jinnies. Figtreeyou! Damn fairy ann" (*FW* 9.13-14), the French word *fichtre* is a euphemism for another French word 'foutre'—meaning "fuck you." The parable of the figtree in the Bible is a story of Jesus' curse on the fig tree, so "figtreeyou!" could be interpreted as "damn you." In addition, the above expression sounds like "Ça ne fait rien" in French, meaning "that does not matter" in English. By playing on Wellington's alleged response with a double attitude, Joyce depreciates the military achievements of Duke Wellington with his sexual scandal, which reveals the noble man's debauchery and stinginess.

Joyce's exploration of the relation between technological innovations and war ideology can be traced in dealing with communication devices, too. In *Finnegans Wake*, the radio is described as "equipped with supershielded umbrella antennas for distance getting and connected by the magnetic links of a Bellini-Tosti coupling system with a vitaltone speaker" (*FW* 309.17-19) while the television is seen as "[t]he bairdboard bombards screen" (*FW* 349.09), since 'Bairdboard' is named after John Logie Baird, who transmitted the first television images in 1925, which captured a moving image for the first time in history. The television is also described as "the charge of a light barricade" (*FW* 349.11), a reminder of "the disastrous charge of the Light Brigade directly into Russian artillery at Balaclava in 1854" (Crease 20-21)[3]. So these combinatory expressions show that this technical innovation could operate as "a medium whose technological prowess matches the warfare being described" (Duffy 197). By citing a line, "Say mangraphique, may say nay por daguerre" (*FW* 339.23), Enda Duffy continues to discuss how Joyce connects technological devices with the war ideology: "the French sentence '*C'est magnifique, mais c'est ne pas Daguerre*' can be translated as 'It's magnificent, but it's not as true to life as photography' (invented by Daguerre), or as 'It's magnificent, but it is not true to the war [guerre] itself.'"

3) Peter Crisp suggests that he may have watched the 1936 film, 'Charge of the Light Brigade' directed by Erroll Flynn, since this movie was released two years before Joyce's Crimean War treatment in *Finnegans Wake*. So Joyce's description is derived from his experience of the beams of light on the screen.

(197). The former version of photography invented by Daguerre, which cannot capture the moving objects precisely, is related with the guerrilla war. James Joyce, who witnessed the devastated cities in the First World War, must have believed that a machine could be used as an instrument to kill people at a large scale.

III

Before reaching a conclusion, I would like to refer again to Dunlop's pneumatic wheels, because Joyce's definition of history in *Finnegans Wake* presupposes the image of a bicycle wheel:

> [...] this Esuan Menschavik and the first till last alshemist wrote over every square inch of the only foolscap available, his own body, till by its corrosive sublimation one continuous present tense integumented slowly unfolded in all marryvoisingmoodmouldedcyclewheeling history [....] (*FW* 185.34-186.02, my emphasis)

The references to Esau, Jacob's brother, and Menscheviks, one of the Russian revolutionary movements in 1903, are important in terms of thematic formations which run through *Finnegans Wake*: fraternal rivalry and consequential warfare. Finn Fordham, who traces the revisions for this part, points to an interesting change: 'Manyvoiced' became 'marryvoicing', thus carrying Marivaux, a writer whose style was famous for "being full of neologisms" (58). These references suggest that Joyce does not try to represent fixed patterns, but to represent the flux of reality as I have already mentioned. It is usual to associate Joyce's idea of history with Vico's cyclic idea of history—"The Vico road goes round and round to meet where terms begin" (*FW* 452.21-22), but we need to be wary of this complacent identification, since Joyce's use of cyclewheeling, not just a cycle, indicates that he must have been aware of the new impact of technological innovations on artistic awareness of motion and mobility, just as is shown as

"moodmoulded." As an engineer, Joyce constructs his last work as "our wholemole millwheeling vicocicleometer" (*FW* 614.27). The "wholemole" refers to three things: the whole, a hole, and a mole. So a mole makes a hole in the whole, which can epitomize Joyce's critique of totality. The "millwheeling" also implies the dynamic operation, and the "vicociclemeter" could be understood as an instrument to 'measure' Vico's cyclical history in order to "explore the syntax of velocity" (Danius 127). To Joyce, even Vico's notion of history must be reified with its materiality.

In a letter to Harriet Shaw Weaver on 16 February 1931, Joyce remarks the metaphor of the wheel:

> I am glad you liked my punctuality as an engine driver. I have taken this up because I am really one of the greatest engineers, if not the greatest, in the world besides being a musicmaker, philosophist and heaps of other things. All the engines I know are wrong. Simplicity. I am making an engine with one wheel. No spokes of course. The wheel is a perfect square. (*LI* 251)

Joyce employs not a usual image of the wheel with spokes, but the paradoxical image of the wheel as 'a perfect square.' This image reminds the reader of Bloom, in whose mind the geometrical question, 'squaring the circle', reverberates while he is walking through the streets of Dublin. Bloom's solving of this problem is equivalent to Joyce's aesthetic strategy, which is hinted at in the following line: "Now by memory inspired, turn wheel again to the whole of the wall" (*FW* 69.5-6). The Hole of the Wall is a pub located near the Phoenix Park, but here indicates to the amalgamation of whole and hole—totality and its puncture. In other words, Joyce's wheel could be understood as a tool of making a hole in the totality of fixed reality, and forever like a moving cyclewheel.

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Abstract

Joyce, "the Wonder Worker," and Inventions

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James Joyce's work plays a crucial role in defining what modernism is, so his stylistic experiment has been a focus to scholars and readers. But his interest in technological innovation presents another approach to the definition of modernism. Joyce deploys many innovative devices, all of which did not contribute to the progress of science. In *Ulysses*, Leopold Bloom is obsessed with troublesome constipation and its resulting piles, when he is reminded of the innovative device, the Wonder Worker, the pamphlet of which is shown to be kept in his desk drawers. Although Molly points to the male anxiety about virility by thinking of this device, the significance is increasing when it is referred to in *Finnegans Wake*. By associating the Wellington monument with the Wonder Worker, Joyce invokes the relationship between war ideology and phallic power. Joyce's doubling technique is employed to associate Duke Wellington with Marquess of Willingdone, who as appointed as the Crown Governor of Bombay. The latter's imperial policy triggered Gandhi's hunger strike. Joyce continues to present a scandal of adultery between Duke Wellington and Harriette Wilson, thus emaciating his virility, since her biography exposed the weakness of the Duke's sexual power. By referring to the television as "the charge of a light barricade," Joyce invokes one of the most notorious battles, the Charge of the Light Brigade, in which 600 cavalry men were killed under the attack of cannons in the Crimean War. Joyce witnessed the climax of technological progress in the First World War, which made mass destruction of human beings possible.

■ Key words : James Joyce, *Ulysess*, *Finnegans Wake*, Machine, Modernism, Warfare

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