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"Worse than two fathers": Steampunk *Pygmalion* and a new look at double standards and the

language of things in the digital realm.

INTRODUCTION

It is recognised by Nicholas Davis, Head of Society and Innovation at the World Economic

Forum, that we live in the era of the "'Fourth Industrial Revolution': a fundamental shift in

how we produce, consume and relate to one another, driven by the convergence of the

physical world, the digital world and human beings ourselves". With the U.S.A. and the

European Union seeing the Internet of Things as a major contributor to these global

revolutionary developments, attention is increasingly focused on issues relating to the

(re)production and exchange of data that raise pressing social and cultural questions, as

illustrated by The British Academy and The Royal Society coming together to sponsor a

report in 2017 on the twenty-first century digital environment that pressed the need for new

perspectives on "data governance" ("Data management and use" 6). In this article I begin

with a brief consideration of recent steampunk productions of *Pygmalion* to show how we

can use George Bernard Shaw's play from the start of the twentieth century to help shape an

understanding of the harvesting and manipulation of data from a digitally connected world of

things in the twenty-first century. In particular, I consider how Shaw's critical examination of

a tendency to treat language as a thing produced by people having only thing-like status

connects with drives to standardise and reify language in his own era, and I then go on to

demonstrate how his treatment of those issues in *Pygmalion* is still relevant today. More

specifically, in considering how the play prompts contemporary audiences to think about the social, cultural and political implications of rendering human beings into objects that produce data as a form of language, I argue that *Pygmalion* can become a lens for critically reviewing challenges to identity and agency posed by increasing pressure to standardise collection and communication of data as part of the exponential growth of the Internet of Things.

Inevitably, my reading focuses on the wager between Colonel Pickering and Professor Higgins, which results in the latter proclaiming to Liza that he will be "worse than two fathers" in teaching her to speak like a duchess rather than a cockney flower girl (25). In my reading, the power dynamic indicated by that phrase is indicative of how Shaw's play poses difficult questions about language, identity and agency. I begin with a brief consideration of recent steampunk versions of *Pygmalion* and what they can tell us about the relevance of the play to contemporary audiences who inhabit a twenty-first century world of digital communications. Whist this gives Shaw's play a futuristic dimension, the steampunk aesthetic also insists upon a critical retrospective which is important to my interpretation. I therefore turn to Bakhtin School theory to show how Shaw's focus on Higgins and Eliza connects with both the late nineteenth-century drive in England to establish a national English through imposition of a literary language, and also with early twentieth century insistence that the emerging science of phonetics could secure the place of such a language for all children through the English national education system. I next consider how this impacts upon Shaw's critical examination of the concept of language as a thing, and the attendant assumption that some language producers are objects without identity or agency, through exploration of the play's multi-dimensional range of time reference. More specifically, I show how *Pygmalion* can be used as a lens to reconsider the cultural politics of linguistic standardisation in the nineteenth and the twentieth centuries, whilst also allowing

us a critical perspective on the drive for standardisation of production and reproduction of data as a form of language that is central to the growth of digital communications in the twenty-first century. I conclude that steampunk productions of the play accentuate its retro-futuristic examination of language, and that my reading of *Pygmalion* shows how its critical exposure of power at work in the standardisation of language in the nineteenth and twentieth centuries is still relevant to the exchange of data as a form of language between things (including human beings) in the digital world of today's audiences.

"STEAMPUNK" PYGMALION: A PLAY FOR PAST, PRESENT, AND FUTURE

In November 2012, Josh Aterovis in *Steampunk Magazine* reviewed a "Steampunk production of *My Fair Lady* in Washington DC, the classic Lerner and Loewe musical based on Shaw's *Pygmalion*". In March 2015, a steampunk staging of *Pygmalion* itself was reviewed by Margaret Gray in a piece in the *The Los Angeles Times*, with a quote from the director Jessica Kubzansky claiming "I'm actually wondering if I need to put a giant sign in the lobby of the Pasadena Playhouse that says, 'This is not like *My Fair Lady*'". Commenting on a UK tour of the play in 2017 for *The Guardian*, Alfred Hickling saw the portrayal of Professor Higgins as an amalgam of the popular culture figure of the techno hipster and a global icon of the steampunk aesthetic, stating that "Alex Beckett's professor sports the Shavian beard of a Shoreditch uber-geek and is as overweeningly self-involved as Sherlock". Whilst not exactly constituting an epidemic of steampunk productions of *Pygmalion*, this contemporary appropriation of a work by Shaw first performed in England in 1914 is worthy of further consideration. Steampunk puts an emphasis upon retro-futuristic representation. It allows us to engage with the past and the future through the creation of alternative worlds of retro (steam) technology, and a disruptive (punk) interrogation of the present. As such, it is often seen as providing a critique of gender, technology, environmental issues and other

socio-political concerns through the prism of the re-imagined past. Ordinarily, however, it does not offer much of value in terms of insights into language, the main concern of Shaw's play. Of course, the complex timeline of *Pygmalion* lends itself to an approach that looks to the past and the present, with the play first conceived in the late 1890s, written in 1912, first performed in England in 1914, and undergoing several revisions by Shaw for the 1938 film version, as well as being adapted as a musical. But steampunk productions open the way to something much more than a new look at that timeline. My focus is upon Eliza Doolittle (Liza), the female figure who is both central to the play's exploration of language (she is the speaking subject who wins the wager), and also strangely peripheral to the action (for Higgins and Pickering she is the mere object of their bet). Recent steampunk dramatic interpretations of the play and the derivative musical suggest an extended reading of the patriarchal forces operating upon Liza, allowing us to focus in new ways on how this textual dynamic figures the forces of de-centralisation and centralisation which the Bakhtin School puts at the heart of a cultural politics of language theory.

Writing for *Steampunk Magazine* in November 2012, Aterovis admits that he went to a steampunk production of *My Fair Lady* at the Arena Stage (Washington DC) with some trepidation, wondering "Would they rewrite it to have some more Sci-Fi or Fantasy bent? Would Eliza Doolittle be a time traveller from a dystopian future? Would Professor Higgins be a mad scientist instead of a phoneticist?". Anyone familiar with the 1964 film version of *My Fair Lady*, starring Audrey Hepburn and Rex Harrison, will not be too surprised to learn that fashion accessories featured large in this modern-day staging, in which "steampunk elements come entirely via costuming". This indicates the superficial overlaying of a contemporary aesthetic onto a piece of musical theatre owing more to the twentieth-century than the twenty-first. However, two steampunk productions of *Pygmalion* suggest that this

kind of modern-day interpretation of Shaw's work has a deeper contemporary significance. Jessica Kubzansky's insistence in Gray's piece in *The Los Angeles Times* that her staging of *Pygmalion* in Pasedena in 2015 should not to be confused with a production of the stage musical is bound up with a focus on the centrality of gender politics to Shaw's work, evidenced by her claim that "our take on the play is that Henry is taking Eliza out of one cage and putting her in another". This informs her decision to deliver a production in which "Eliza's costumes are inspired by 'a lot of modern S&M runway stuff' and the gritty, industrial set has 'an almost steampunk aesthetic'". Importantly, she sees these as signalling a production which deliberately brings Shaw's twentieth-century interest in language to a digitally-aware, twenty-first-century audience:

> And really, when I started thinking about *Pygmalion* through a modern lens … the question of language as access is so present in our culture. The way we speak informing who we are, what doors are open or closed to us, if we may amend the way we speak to fit in with a different group. And there's a whole other language now on Twitter. It's a completely new communication. If you don't know what 'hashtag' means, there's a whole segment of society you can't really communicate with.

The creation of an explicit link between *Pygmalion* and the (re-)production of language in the digital world of twenty-first century audiences is also apparent in a UK production that toured in 2017. Under the heading "Higgins the hipster bleeps Shaw into the 21st century", Hickling for *The Guardian* not only draws an explicit comparison between Shaw's male lead and the iconic steampunk figure of Sherlock from recent film and TV interpretations of Conan Doyle, but also references this modern day aesthetic to claim it would be "reasonable to suppose that if Henry Higgins were available for consultation today, he'd be a hipster operating out of a minimalist live/work space in east London full of the latest sound-manipulating gadgets".

The invocation of Tech City and Silicon Roundabout in Shoreditch suggests how today's productions of *Pygmalion* accentuate a connection between retro technology and the present day of digital technologies. The steampunk lens also takes in the ramifications of what happens to the reproduction of sound and language in that realm, as referenced by the reviewer's comment that "Bypassing the standard Edwardian trappings, Pritchard sets the play in 'Pygmalion-land', an anachronistic hybrid of Shaw's world and the present day, in which Professor Higgins has taken to the world of digital sampling". Adding an extra dimension to Kubzansky's claim that *Pygmalion* can comment on today's use of language through digital platforms such as Twitter, the reference to the capacity of today's technologies for a potentially limitless production and reproduction of digital samples hints at a potential broader engagement in modern-day forms of communication. However, if this is to be anything more than the superficial over-layering of one stylised historical period upon another, it will be necessary to address a glaring absence in the range of retro-futuristic critiques produced by the steampunk aesthetic: namely, its reluctance to say anything significant about language and the technologies of today's world of digital communications.

With its freedom to range across aesthetics, philosophy, creative arts, fashion and design, steampunk re-works the past and also allows us to be critical of the present. In particular, its retro-futuristic disruption of a technology-enabled environment invites us to reconsider the digital world we inhabit today. For instance, in reviewing the development of this genre, Carmel Raz focuses on Kevin Wayne Jeter's 1980 "sequel" to *The Time Machine* by HG Wells as opening a "new era" in which:

> Nineteenth-century-inspired science fiction and fantasy literature such as *Morlock Night*, for which Jeter later coined the term 'steampunk', would become an

increasingly popular sub-genre of science fiction over the next few decades,

influencing literature, the visual arts, and lifestyle subcultures (92).

At the heart of the argument proposed by Raz is her insistence that the "characteristic trait of

steampunk is the projection of contemporary technological fantasies onto nineteenth-century

mechanical means, mixed with a subversive, fanciful re-imagining of the nineteenth-

century's social conventions, gender roles, and cultural ideals" (93). This powerful drive is

encapsulated by Victoria Lucas Orlofsky, who writes:

> In the world of steampunk, Charles Babbage's Difference and Analytical Engines
>
> were developed into active, influential, and fully realized machines. Indeed, the
>
> impracticality of building a working Analytical Engine in the 1840s in some sense
>
> directly spurs the imaginative possibilities of steampunk. Had the Engine been built,
>
> had the time and funding and skill been possible to do so, would the history of
>
> practical computing have begun in the 19th century as opposed to the mid-20th?
>
> Steampunk provides an opportunity to explore what might have been (171).

Babbage, until recently promoted as the lone founder of modern computing on account of

nineteenth-century designs for the Difference Engine and the Analytical Engine, is often

invoked in steampunk fiction. So, in one of the best-known steampunk novels that effectively

establishes the parameters for this aesthetic Raz traces back to Jeter's work in 1980, *The*

Difference Engine by William Gibson and Bruce Sterling depicts how the clockwork and

steam-driven technologies behind Victorian London produce a miasmic fog of fumes from

the mud of the Thames in an environmental disaster resulting in chaos of biblical proportions.

Babbage's presence is explicit in the title *The Difference Engine*, with its overt reference to a

prototype computing machine of that name often attributed to Babbage from its inception in

1822, although not developed until the 1830s. Moreover, in effect the novel draws more

heavily upon undeveloped plans for a more advanced machine called the Analytical Engine, which was not completed before his death. These inventions from the first half of the nineteenth century permeate a book which offers a stark warning about a surveillance society. In this world, Lord Babbage's mighty Engines monitor everyone according to their allocated "Citizen Number", and the Department of Criminal Anthropometry in the Central Statistics Bureau (not to be confused with Quantitative Criminology, or Nonlinear Analysis) can use "fifty-five miles' gear-yardage" of "giant identical Engines, clock-like constructions of intricately interlocking brass, big as railcars set on end" to render any communication – or any individual – into ticker tape data that can be decoded (313; 126).

Despite the potential offered by this seminal steampunk text, however, the aesthetic has shown a reluctance to develop a subversive critique of a key cultural, social, and political institution: language. Indeed, it is more likely that overt commentary upon language will be restricted to instructions on how to create what might be termed "steampunk speak". For example, "Steampunk.com – An online home for the Steampunk movement in all its manifestations" offers "Nineteenth-Century Language Resources" that show you "How to speak Nineteenth Century", and include a "Nineteenth-Century slang dictionary". Whilst this may look stylish, and ostensibly gives the desired retro effect, it is an impoverished rendition of language when the words are removed from their historical context. As such, the paucity of steampunk's engagement with language is epitomised by resources found at "The Steampunk forum at Brass Goggles", with its "steampunk dictionary/lexicon" of inert words deemed necessary to the production of language for standard use in steampunk texts. Steampunk productions of *Pygmalion* may not have what Raz identifies as the aesthetic's established iconography of "cogwheels, gears and clockwork mechanisms, steam-powered devices, monocles, goggles, and mechanical prostheses" (93). It can be argued, however, that

Shaw's approach to questions about language involves an ostentatious retro-futuristic dimension which, through the lens of contemporary productions, shows how steampunk *Pygmalion* does raise significant issues about conceptualisations of language in the past, and also in the present and future digital age.

Historical wagers on the power of the language of Shakespeare and Milton

> You see this creature with her kerbstone English: the English that will keep her in the gutter to the end of her days. Well, sir, in three months I could pass that girl off as a duchess at an ambassador's garden party. I could even get her a place as lady's maid or shop assistant, which requires better English (16).

This display of braggadocio between two men, the professor who is "author of Higgins's Universal Alphabet" and the Colonel who is "the author of Spoken Sanscrit", becomes the basis of a wager which Pickering seals a little later in the next Act by stating to Higgins "I'll say youre the greatest teacher alive if you make that good" (26). In sealing the bet, Higgins effectively elides Liza's individuality in favour of making her a thing-like component of a transaction that has no interest in her identity. As Mrs Pearce brings her into his presence when she enters his home for the first time, he petulantly moans "Why, this is the girl I jotted down last night. She's no use: Ive got all the records I want of the Lisson Grove lingo; and I'm not going to waste another cylinder on it. [To the girl] Be off with you: I don't want you" (22-3). On her own, initially without the attraction of being a component of the gentleman's game proposed by Pickering, Liza is not worth the expense of Higgins' equipment, and he refuses to value her above the cost of one of the wax cylinders he uses to record speech. His interest in her is both elevated and diminished by the wager, since he sees some use for her in his demonstration of linguistic expertise, but only as a vessel for his knowledge. For the audience, this accentuates the play's representation of Liza as both the object and subject of

Higgins's language. Whilst it is true that she is peripheral to the exchange that results in the two men making the bet, the terms of the deal are set by her, since she is the one who approaches Higgins to take him up on his boast that he could teach her how to speak like "a lady in a flower shop stead of sellin at the corner of Tottenham Court Road" (23). Still referred to as "The Flower Girl" at this point, she takes the initiative in a way that is shortly confirmed by the reference to her from then onwards as "Liza", indicating and confirming her individuality as a character. Moreover, from this point the play elicits the sympathy of the audience for Liza's efforts to win Higgins the wager, deploying stagecraft and comic devices that emphasise her individuality even whilst she becomes the mouth-piece for the language Higgins imposes on her. This is most obviously the case in the infamous response of "Not bloody likely" when she is asked at the end of the Eynsford Hill "at-home" whether she is going to walk home across the park (60).

The incident is only the most pronounced example of how Liza's expression of individuality also exposes the language Higgins imposes upon her as alien. For instance, she may appear to be the dolt of the following exchange, but in her response to Higgins we see a crucial aspect of the wager about language acquisition being brought to the fore:

> Higgins: To get her to talk grammar. The mere pronunciation is easy enough.
>
> Liza: I dont want to talk grammar. I want to talk like a lady in a flower-shop (29).

It is not only that Liza is clear about the utilitarian aspect of the language she wishes to acquire. Just as importantly, her response comically deflates Higgins' position as a linguistic expert by highlighting her concern that the form of language he wishes to teach her will impose constraints upon her speech and control over her ability to combine words together. Her fears are justified, as she later confronts Higgins with the consequences of his actions:

> You told me, you know, that when a child is brought to a foreign country, it picks up the language in a few weeks, and forgets its own. Well, I am a child in your country. I have forgotten my own language, and can speak nothing but yours. Thats the real break-off with the corner of Tottenham Court Road (94).

Liza is a dramatic representation of how acquisition of a form of language deemed to be socially, culturally, and often politically, superior would often lead to individuals experiencing a form of self-alienation as they were left unable to use their habitual form of speech. It is also important to note that in performing to the linguistic standard required by the bet, Nepommuck says of Liza's ability to speak English that she does so "Too perfectly. Can you shew me any English woman who speaks English as it should be spoken? Only foreigners who have been taught to speak it speak it well" (70).

The comic references to "talking grammar" and taking on a form of language that would not actually be heard by "any English woman who speaks English" underline a serious point, and one that fits with key tenets of theories developed by the Bakhtin School. For instance, in "Discourse in the Novel", Mikhail Bakhtin tells us that:

> Language – like the living concrete environment in which the consciousness of the verbal artist lives – is never unitary. It is unitary only as an abstract grammatical system of normative forms, taken in isolation from the concrete, ideological conceptualisations that fill it, and in isolation from the uninterrupted process of historical becoming that is characteristic of all living language (288).

For Bakhtin, unitary national language - imbued with a social, cultural and political status - is found solely as a hypothetical product of a fixed system of grammar. This is in stark contrast to the material reality of a social heteroglossia he believes to be present at all times:

A common unitary language is a system of linguistic norms. But these norms do not

constitute an abstract imperative; they are rather the generative forces of linguistic

life, forces that struggle to overcome the heteroglossia of language, forces that unite

and centralize verbal-ideological thought, creating within a heteroglot national

language the firm, stable linguistic nucleus of an officially recognized literary

language, or else defending an already formed language from the pressure of growing

heteroglossia. (270-71)

In effect, it is not Liza's dialect speech that challenges the standard language. Rather, we see

that it is her expression of continued individuality, despite the pressures exerted upon her by

these two men, which results in her contesting the elevated status of what Bakhtin calls "the

unity of the reigning conversational (everyday) and literary language, 'correct language'"

(270)

For Bakhtin, "unitary language constitutes the theoretical expression of the historical

processes of linguistic unification and centralization, an expression of the centripetal forces

of language" (270), whereas in a manner amply illustrated by Liza in *Pygmalion*, he

maintains that "every utterance participates in the 'unitary language' (in its centripetal forces

and tendencies) and at the same time partakes of social and historical heteroglossia (the

centrifugal, stratifying forces)" (272). The principal means by which Liza challenges the

"unitary language" taught to her by Higgins with Pickering's enthusiastic support is not

through persisting with the dialect speech with which she opens the play. By focusing, and

also challenging, the dual pressures of class and gender operating upon her as Higgins

attempts to win the wager, Liza's oscillation between subjectivity and objectivity exposes the

centripetal and centrifugal forces that operate upon her through the linguistic machinations of

someone "worse than two fathers". This can be seen clearly in relation to her initial approach

to Higgins with a view to paying for his services as a teacher of language. Her request is momentarily forgotten as a result of the wager made by the two men whilst ignoring Liza, which results in Pickering saying to Higgins "I'll bet you all the expenses of the experiment you cant do it. And I'll pay for the lessons" (26). In setting the financial basis for the wager, these two remove agency from Liza who has approached Higgins with the explicit intent of paying him to teach her the language needed to be "a lady in a flower shop stead of sellin at the corner of Tottenham Court Road"(23). She actually set Higgins the challenge of keeping to the most difficult part of his earlier hubristic statement that he could bring about such a transformation, and it is only as he and Pickering remove her control over the transaction that the wager focuses upon the easier option of preparing her to pass the linguistic test of being taken for "a duchess at an ambassador's garden party".

Higgins' initial boast is important because it emphasises how class prejudice based on linguistic expression was a particular burden for women attempting to enter the workplace in early twentieth-century England. This was in part because some of the best-paid work for women was in domestic service or customer-facing interactions in shops. This class element of the bet is over-accentuated by the comic portrayal of Liza's father, with Higgins having an inadvertent impact upon Mr Doolittle that lifts him from his working-class position as a dustman. Whilst on one level this emphasises that the linguistic wager is pure theatre, it also opens a space in which class and the power of men over women come together to have a direct bearing upon Liza's position as both the subject and the object of the bet. At their very first meeting Pickering offers Liza "three hapence" out of pity and embarrassment about her position on the street, but an anonymous bystander instructs her to give him a flower in exchange as there is "a bloke here behind taking down every blessed word youre saying" (10). That person turns out to be Higgins, initially positioned in this scenario as a police agent

taking evidence of what appears to be Liza's involvement in street prostitution. Later, when Higgins meets Mr Doolittle for the first time there is a threat of masculine violence and competition, as Higgins affirms "if theres any trouble he shall have it with me, not I with him" (39). This is later converted into an explicit patriarchal transaction, in which Liza becomes the object of financial exchange between her father and her male teacher at the cost of £5, informing Higgins's promise to Liza, "I'll be worse than two fathers to you" (25). The phrase is a cold warning that, through the wager between Higgins and Pickering, the combined forces of patriarchy and class operate upon Liza.

The fact that Liza retains subjectivity, even whilst positioned as the object of a male, class-based wager, is crucial to Shaw's play. Through the famous refusal to allow textual closure in the form of a marriage to deliver a traditional ending to a romantic comedy, Liza remains a dynamic figure that oscillates between subjectivity and objectivity. As such, she figures (ie, represents) a dynamism within language that encapsulates the alternation of centrifugal and centripetal forces identified by the Bakhtin School. Moreover, another dynamic oscillation is brought into the play through the way in which the wager on language places Liza as the subject/object of class and gender power relations. It is important to note that Shaw refuses to constrict Liza with an over-simplified stereotype of gender and class. Her initial form of speech is identified by Higgins as "kerbstone English" rather than working-class dialect, effectively enabling Shaw to hold to his belief in the validity of different pronunciations of English words by avoiding a linguistic label that would have been interpreted as pejorative by many of his audience. Moreover, Liza's remonstrations with her father are just the clearest example of how she is more than capable of standing up to men as an independent woman. However, the wager means that these elements are always viewed in relation to socio-cultural pressures. Higgins and Pickering as men of comfortable wealth also enjoy the social and

cultural entitlement of apparent mastery over language. And yet, the wager also complicates

the historical authority of male knowledge about language, refusing to set Higgins in either

the nineteenth or the twentieth century, and repeatedly demonstrating that he has a foot in

both.

In many ways this replicates the complex temporality of both the text and an author whose

longevity meant he was often portrayed as both a Victorian and a key cultural figure of the

twentieth century. However, in steampunk productions we see more clearly that it is also an

aspect of how Liza's involvement in the wager agreed to by two men brings a retro-futuristic

element into the play's representation of the cultural politics of unitary language. Shaw's

directions for the stage setting at the start of Act II of *Pygmalion* are very precise:

> In this corner stands a flat writing-table, on which are a phonograph, a laryngoscope,
>
> a row of tiny organ pipes with bellows, a set of lamp chimneys for singing flames
>
> with burners attached to a gas plug in the wall by an indiarubber tube, several tuning-
>
> forks of different sizes, a life-size image of half a human head, shewing in section the
>
> vocal organs, and a box containing a supply of wax cylinders for the phonograph (20).

From today's perspective this provides the audience with the retro look of the early twentieth

century, with the "steam" technology of these phonetic instruments and measuring devices in

stark contrast to the digital audio files and streaming practices familiar to members of the

audience. For contemporaneous theatre-goers, however, this paraphernalia would have had

the reverse effect, with Shaw deliberately placing props on the stage that speak loudly of a

futuristic science of phonetics and its advanced technology. On this point, it is interesting to

note that Benjamin Steege uses this scene setting to illustrate a new "episode in the history of

listening", stressing how this visual representation of the "emergence of *newness* … in the

Higgins drawing room" demonstrates an historical "rupture" that "might be retrospectively

identified as a kind of modernism" (6;4;7). In many ways this in keeping with Shaw's own gesture towards a new era, commenting in his "Preface" that "if the play makes the public aware that there are such people as phoneticians, and that they are among the most important people in England at present, it will serve its turn" (4). However, it is equally important to note that an emphasis upon the future of language study also serves the purpose of highlighting the presence of what would have been for this audience the retro, Victorian approach to language, apparent in the first sighting of Higgins in Act I when he is using a notebook to make a written transcription of the speech of Liza and other characters. Such systems of transcription could cause confusion even amongst Victorian experts, as illustrated by the way that Alexander Ellis devised a way of writing dialect speech that many dialectologists of the time could not use. It would be a mistake to see this simply as the supersession of Victorian by modern approaches to language. Rather, just as the play refuses to conform to romantic comedy by ending with marriage between a working-class woman and the upper-class hero who raises her from her life in the streets by improving her language, it also resolutely refuses to prioritise either nineteenth or twentieth century ways of thinking and speaking about language. Instead, the emphasis is not upon the separation, but rather the dramatic coming together, of retro and futuristic approaches to language. This means that Liza figures as the meeting point of two historically specific ways of thinking, and speaking, about standardisation of language and imposition of a national form of English language, a point emphasised by how Higgins uses both to exclude her from an active role in production of her own language.

When Higgins insists to Liza at the start of the play that "your native language is the language of Shakespear and Milton and The Bible" (16), he echoes a way of thinking and speaking about Standard English that has its roots in the introduction of Elementary

Education in England in the second half of the nineteenth century. In his study, Charles

Birchenough tells us that in 1858, the Newcastle Commission was set up to "inquire into the

present state of popular education in England, and to consider and report what measures, if

any, are required for the extension of sound and cheap elementary instruction to all classes of

the people" (92). The *Newcastle Report* was published in 1861, forming the basis of William

Forster's Elementary Education Bill proposing a new, national elementary education system

for England, presented to Parliament in 1870. The solution it favoured was that of putting

schools under economic pressure, so that they had the responsibility for educational

improvement as it was directly linked to their receipt of funding. From 1862 onwards,

elementary schools were divided into six "Standards" or classes, enabling the inspector to

examine the children according to the level of achievement in reading, writing and arithmetic

specific to each standard. The system lasted into the 1890s, however Birchenough notes that

as early as 1867 school inspectors were critical of how results masked the deficiencies of the

system, including none other than Matthew Arnold, who proclaimed:

> It was found possible, by ingenious preparation, to get children through the Revised
>
> Code examination in reading, writing, and ciphering, without their really knowing
>
> how to read, write, and cipher. … When the Inspector comes they are presented to
>
> read in this book; they can read their sentence or two fluently enough, but they cannot
>
> read any other book fluently. Yet the letter of the law is satisfied (300).

Birchenough tells us (296-317) that such protests were ineffective, and the economic

determination of elementary school education was accelerated through the 1870s, with four

shillings initially paid to schools for each child passing the appropriate "Standard"

examination in reading, writing and arithmetic, whereas by 1875 this had dropped to three

shillings - but with an additional four shillings per child earned in respect of pupils passing

newly introduced "class subjects". Obviously this cash inducement was of paramount interest

to schools, and it should therefore be noted that in 1882 it was officially stipulated that where class subjects were taught, the subject of English (literature and grammar) was compulsory. Not surprisingly, by 1890 English had become the most popular class subject, being taught in 20,304 departments. 1882 was also influential in other respects with regard to the establishment of teaching English. Birchenough tells us that in the Code of that year, a seventh standard was attached to the existing six for examination purposes, and it emphasised the increasing status of literature in elementary education by stipulating that pupils must be able "To read a passage from Shakespeare or Milton, or some other standard author, or from a History of England." (319).

The problems resulting from the notion of "standard authors" becoming central to educational practices which sought to impose a national, standardised language are illustrated by the findings of another Royal Commission, under the chairmanship of (Lord) Assheton Cross between 1886 and 1888. The Commissioners make it abundantly clear that the teaching of English was to be seen as synonymous with teaching language through reading and recitation, with examples of the national language to be found in the literary texts children were taught to read. Not surprisingly, on this basis the *Final Report* of the Cross Commission insists that essential subjects of elementary education include "English, so as to give the children an adequate understanding of their mother tongue" (Vol. 35, 146). However, despite the emphasis upon the business of elementary education being to instruct children how to acquire the national language located in literary exemplars chosen by policy makers, the *Final Report* also echoes a comment made by the Newcastle Commission over twenty years earlier when it claims that:

One of the chief difficulties connected with reading is said to be that the language of

the reading books is not the language of the children's home and out-of-door life, and

'is an unknown tongue to the children of the illiterate' (Vol. 35, 135).

With the introduction of Standard English via the new State Elementary Education System,

the "mother tongue" of Shakespeare or Milton imposed on many children in England was an

inanimate object they did not recognise. On that point, it is significant that for the 1938 film

version of the play, Shaw added a scene to show Liza's first lesson with Higgins which

includes the following exchange as she recites the alphabet:

Liza: Ahyee, beyee, ceyee, deyee –

Higgins: [*with the roar of a wounded lion*] Stop. Listen to this, Pickering. This is what

we pay for as elementary education. This unfortunate animal has been locked up for

nine years in school at our expense to teach her to speak and read the language of

Shakespear and Milton. And the result is Ahyee, Be-yee, Ce-yee, De-yee. [*To Eliza*]

Say A, B, C, D. (49-50).

Higgins is here denigrating Liza as someone for whom Elementary Education has left her in

the preceding century when it comes to the language she speaks. However, his own faith in

the nineteenth-century value attached to the language of Shakespeare and Milton is subverted

by Liza's evident inability to pronounce the literary language taught by the Elementary

Education system as though it were her own way of speaking. Just as importantly, the sense

of a slippage in time is present in his retort, in which he invokes a discourse about a literary

standard language so closely associated with the second half of the nineteenth century. He

refers to her as an "unfortunate animal", solely on the basis of not being able to reproduce the

nation's mother tongue as her own. This echoes the way in which that discourse promoted a

unitary form of literary English as the linguistic norm possessing a set of social, cultural and

political expectations that effectively worked to exclude as sub-human anyone deemed incapable of meeting that standard.

Higgins therefore brings into the text a powerful nineteenth-century discourse about standard language in his interactions with Liza. However, this authoritarian figure also articulates a discourse on Standard English found in educational policy of the early twentieth century. In 1919, the report of yet another commission on education led by Henry Newbolt, insisted that "To every child in this country, there is one language with which he must necessarily be familiar and by that, and by that alone, he has the power of drawing directly from one of the great literatures of the world" (13). Whilst echoing the dominant discourse of the previous century, the report also betrays an anxiety that the cultural project of an era that began with preparation for the introduction of Elementary Education had still not been completed. This can be seen in the way members of Newbolt's Commission offer a message of hope in their belief that "the time cannot be far distant when the poet … will invade this vast new territory, and so once more bring sanctification and joy into the sphere of common life" (258). They advocate the "enrolment of a fraternity of itinerant preachers on English Literature" (25), adding that "the ambassadors of poetry must be humble, they must learn to call nothing common or unclean – not even the local dialect, the clatter of the factory, or the smoky pall of our industrial centres" (260). However, the desperation with which these plans are put forward is accompanied by a markedly different way of talking about the acquisition of standard English, signalling a new, twentieth-century discourse on language. The Commissioners insist in their report that the future success of Standard English becoming properly adopted is dependent upon "speech training" (64). Moreover, they demand the introduction of "classes for teachers in phonetics and voice production", effectively turning their attention to shaping those who impart knowledge of language so that the state can move

to impose the "really scientific method … to associate each sound with a phonetic symbol" and "teach all its pupils who either speak a definite dialect or whose speech is disfigured by vulgarisms, to speak standard English" (65; 66). In the Newbolt's report, expertise in phonetics is explicitly linked with, and fundamental to, a cultural, social and political project of the early twentieth century, being one of the principle means by which the universal adoption of Standard English will be achieved. Whilst it acknowledges the failed efforts to impose that unitary language in the nineteenth century, it also speaks to the twentieth-century by making the science of phonetics the driver of the future, more efficient, identification and national adoption of a form of English based upon exemplars drawn from the language of literary texts. This new, scientific discourse joins with the earlier literary discourse to formulate and promulgate a specific form of unitary language as Standard English.

These two discourses come together in the figure of Higgins. The point is effectively endorsed by Shaw's comments in his "Preface" that he is partly modelled on the Poet Laureate Robert Bridges, invoking the literary language promoted by nineteenth-century technologies of state power through the elementary education system, and also upon Henry Sweet, the phonetician lauded by Shaw as leading advances in the study of language transcription and analysis. Higgins is a retro-futuristic figure whose discourses on language represent the coming together of two centuries. This is figured by the positioning of Liza as their meeting point, producing a discursive conflux that involves an explicit emphasis upon gender in the over-determined patriarchal forces that operate upon her acquisition of a unitary language. However, Higgins is right to proclaim that he will be worse than two fathers to Liza, as his interaction with her gives glimpses of other discourses bound up with literary and scientific ways of speaking about the acquisition of standard English in the nineteenth and early twentieth centuries.

Closer analysis of texts such as the Cross Commission or the Newbolt's report reveals how those literary and scientific discourses that conceptualise Standard English co-join with other ways of speaking about language that are historically specific. So, in the nineteenth century it is possible to see discourses at work in relation to regulation, social justice, cultural imperialism, as well as class and gender. In the *Newbolt Report*, some of these are present in modified form, with the terms of Reference of stating that the purpose was:

> To inquire into the position occupied by English (Language and Literature) in the educational system of England, and to advise how its study may best be promoted in schools of all types … regard being had to –
>
> 1. the requirements of a liberal education;
> 2. the needs of business, the professions, and public services; and
> 3. the relation of English to other studies. (1)

The connection between speaking a correct form of national English and the interests of business and employers conceptualises unitary language in relation to economic interests. This is given comic play by the miraculous rise to fortune of Alfred Doolittle in *Pygmalion*. However, there is deeper significance to the comedy resulting from Liza's attempts to purchase language lessons from Higgins. Her offer to pay is taken up by Higgins and Pickering and converted into a rate equivalent to that of "two-fifths of a millionaire's income for a day" (25). This leaves Liza aghast at the thought that he could be expecting her to pay £60 per lesson, but the more important issue here is how Higgins makes her into a figure that is the centre of multiple discourses that conceptualise and define language. Her alternation between being the subject/object of the centrifugal and centripetal power of the discourses that define standard English allows us to focus on how the text re-presents those discourses as problematic. This is particularly important in relation to another discourse on language that is

at the heart of the retro-futuristic alternation between nineteenth and twentieth centuries in *Pygmalion*, and which has additional significance for twenty-first century audiences as magnified by recent steampunk productions. In Bakhtin's words, this is:

> Thanks to the ability of a language to represent another language while still retaining the capacity to sound simultaneously both outside and within it, to talk about it and at the same time to talk in and with it – and thanks to the ability of the of the language being represented simultaneously to serve as an object of representation while continuing to be able to speak to itself. (358)

I will argue that a key "language" represented by Shaw's text is a materialist discourse on language that conceptualises words as derived from things. The remainder of this article considers how this discourse speaks about itself having cultural, social and political impact upon understandings of language in the early nineteenth century and the twentieth century, and how steampunk productions show that it is a discourse on language which also speaks to twenty-first century of audiences of *Pygmalion*.

PYGMALION AND HOW TO READ THE LANGUAGE OF THINGS IN THE TWENTY-FIRST CENTURY

Act I is, of course, significant for the way in which language effectively brings together Higgins, Liza and Colonel Pickering, resulting in the infamous wager. However, it is important to note that Colonel Pickering, "the author of Spoken Sanscrit", has come to London from India specifically to meet Higgins, the "author of Higgins's Universal Alphabet" and the embodiment of modern phonetic approaches to language (17). Their coming together permits the wager they eventually enter into, making Liza the object/subject of their test of linguistic methodologies. But it also effectively places her at the meeting point of a futuristic twentieth-century scientific discourse on language, and a retro Victorian philological discourse on language that has its roots in the end of the eighteenth century. In

his seminal work *The Study of Language in England, 1780-1860*, Hans Aarsleff points out

that in February 1786, Sir William Jones delivered his paper "On the Hindus" in which he

outlined for the first time the connection between the Classical languages of Greek and Latin

and the Sanscrit he was studying in India. Whilst his history of the development of theories of

language in England in the nineteenth century is predicated upon the far-reaching influence

of that discovery, Aarsleff is obliged to admit that the eventual development of the New

Philology occurred over fifty years after Jones revealed his findings, because an entirely

different theory of language emerged in the same year in England and took hold until the

1840s. Reluctantly he admits that 1786 is an important date because it not only saw Jones

deliver his discourse "On the Hindus", but is also the year in which John Horne Tooke

published the first part of *The Diversions of Purley*, and "both had a profound influence on

the course of language study" (3). In that work, Horne Tooke set out a materialist approach to

language that was politically radical in its stance against grammars produced by

establishment figures such as James Harris, former Chancellor of the Exchequer, in his

Hermes. As a well-known radical, Horne Tooke's objective was to liberate working people

from the control exerted over them by grammarians such as Harris, who used their definition

of language to maintain political as well as social and cultural advantage. At the very heart of

his theory of language was an insistence that there was a core group of "necessary" words

from which all others derived as "abbreviations", and that the former were all nouns or verbs

derived from objects in the material world. On this basis, he insisted that there was no need to

access grammars to understand language, as working people possessed a deep understanding

of words from their relationship with things around them in the material world in which they

existed. In contrast with an idealist philosophy of language found in books like *Hermes*, in

Diversions Horne Tooke developed a materialist discourse that conceptualised language to

the advantage of the uneducated and socially, culturally and political excluded. Language

defined through this materialist discourse meant that even the word think was ultimately derived from the noun *thing*, with Horne Tooke proclaiming "Remember, where we now say *I Think*, the antient expression was - *Me Thinketh*, that is *Me Thingeth, It Thingeth Me*" (609).

A definition of language as emanating from things does not sit well with Aarsleff's preference for a comparative philology that he believes to have been in reach so much earlier through the work on Sanscrit by Jones. However, he is forced to admit that "history is not so simple that 1786 was the end of one tradition and the beginning of another" (4), since:

> It was a beginning for both, and in England the battle lasted for two generations. In 1860, the Philological Society of London committed itself to the final plan for the dictionary which is now known as the *Oxford English Dictionary*. It is unquestionably one of the chief philological monuments of the century (4).

For Aarsleff, victory of one discourse over another is sealed by the Philological Society's "*New English Dictionary*, the great project … which owed its inception largely to Richard Chenevix Trench, who along with Sir William Jones deserves to be remembered in the history of language study for the truly Faradayan saintliness he carried to the enterprise" (230). In stating that the "plan for the dictionary depended upon the methods and results of the new philology, but behind it lay the desire to overcome the Tooke tradition" (4), his dismissal of the historical and socio-political importance of a materialist discourse on language that persisted for the first half of the nineteenth century is evident. And yet, in a highly persuasive re-reading of the work leading to development of the new dictionary, Tony Crowley argues that the project so favoured by Aarsleff launched a discourse on language through which words were reified into things to build a 'philological monument' to the national language.

For Crowley, definitions of language in the mid-nineteenth century in England were shaped by the emergence of a new discourse, which he calls "the history of the language". Writing of this period he comments that the "project was to make the English language its own meta-language; or to put it another way, to construct a history of the English language simply by using ordered examples from the language itself" (37). It is in this context that he revisits the drive by Trench and the Philological Society to produce the philological monument, championed by Aarslef as the final displacement of the materialist discourse on language which defined words as derived from things. Crowley says of *The New/Oxford English Dictionary* that "the construction of that text was to ensure the durability of 'the history of the language' both as an academic discipline and as the predominant form of linguistic research in Britain" (109). According to his analysis, this entailed a politically-motivated reaction to working-class unrest epitomised by Chartism, and resulted in a socio-cultural counter-force that determined the discursive conceptualisation of language throughout the remainder of the Victorian period. Crowley concludes that the "concept of a 'standard' literary language was crucial to the *N/OED* project since without it the task could not proceed" (109). Most importantly, that construction of a philological monument to Standard English is the most powerful instance of how a new discourse effectively made words into objects, and constructed a national, unitary language out of the word-things it identified in literary texts as the building blocks of the nation's "mother tongue". This appropriation of a materialist discourse on language, so often seen as inimical to the New Philology, perhaps explains Talbot J. Taylor's significant mis-reading of his predecessor when he writes that, "as Aarsleff has demonstrated, Tooke's ideas were probably the main inspiration driving the proposal and eventual composition of the *New/Oxford English Dictionary*" (22).

In *Pygmalion*, Higgins's constant promotion of the authority of the language of Shakespeare and Milton evokes discourses from the nineteenth century that reified literary English as the

linguistic norm. For Liza, like the children referred to by the Newcastle and the Cross

Commissions, this is a foreign language rather than a mother tongue - what Valentin

Voloshinov would call "dead, written, alien language" (73). In Voloshinov's analysis, this

"isolated, finished, monologic utterance" is promoted as the unitary language at the end of the

nineteenth century, and is characterised as "the ancient written monument" to a national

language for which the "dictionary word" found in literary writings is the thing-like building

block (73; 72). As an "unfortunate animal" obliged to produce this language on request, Liza

is referred to by Higgins as being sub-human – a thing-like producer of language. Moreover,

as a combination of Bridges and Sweet, Higgins is not only the spokesperson for a reified

literary language, but also the promoter of scientific conceptualisations of language that risk

making language thing-like and reducing human beings to language-producing objects.

Bystanders in the opening scene cannot understand his phonetic transcriptions, since his notes

render the language they have spoken alien and thing-like. However, insistence upon modern,

even futuristic, presentation of speech is problematic. Shaw feels obliged to abandon his own

attempts to represent Liza's dialect speech on the page, confessing that "with apologies, this

desperate attempt to represent her dialect without a phonetic alphabet must be abandoned as

unintelligible outside London" (9). In abandoning this form of transcription, Shaw recognises

that to untutored twentieth-century eyes it works against his purpose by making words thing-

like and incomprehensible. This obstacle evokes reification of language from two periods: on

the one hand, the notation is reminiscent of nineteenth-century attempts to introduce a

phonetic alphabet by dialectologists, leading to transcriptions that often could only be read by

the inventor of the system of notation; on the other hand, as his exchanges with opponents

through newspaper letters and articles in the early decades of the twentieth century indicate,

Shaw is also drawing attention to a modern problem of how advanced knowledge of

phonetics can be utilised without producing a futuristic script that is incomprehensible to his contemporaries.

In many ways, this is a pessimistic reading of the text. It ignores the way in which Liza is not simply the object of gender and class pressures that magnify the centripetal power of historically specific discourses to construct a thing-like, unitary language that effects her socio-cultural exclusion as a sub-human thing with significance merely as the producer of that fixed/dead national unitary language of literature. Importantly, she is also the subject who challenges the power of gender and class to render her thing-like, and in so doing focalises centrifugal forces that make ways of speaking about a literary, unitary language as the linguistic standard in the nineteenth and early twentieth centuries highly problematic. The point is not that Higgins embodies Robert Bridges or Henry Sweet, as Shaw playfully suggests whilst admitting that neither possibility is truly credible. What Shaw creates in *Pygmalion* is a character through which key discourses on language are magnified: literary, scientific, economic, regulatory, materialist discourses that co-join with discourses of class and gender. That character, however, is not Higgins or Pickering: it is Liza, the central/decentralised subject/object of their wager who figures the confluence of those discourses, and reveals them to be problematic in their construction of unitary language as a thing, and their insistence that language is produced from things. The question then becomes: what do steampunk productions enable us to see more clearly about conceptualisations of language in the digital world of twenty-first century audiences through *Pygmalion*'s retro-futuristic critique of discourses that construct an understanding of language as thing-like and produced by things rather than human beings?

One of the clearest instances of language as an object produced by things rather than human beings occurs when Liza first visits Higgins at his home. He says to Pickering:

> This is rather a bit of luck. I'll shew you how I make records. We'll set her talking;
> and I'll take it down first in Bell's visible Speech; then in broad Romic; and then
> we'll get her on the phonograph so that you can turn her on as often as you like with
> the written transcript before you. (22)

In a significant reading of the play, Jennifer Buckley traces Shaw's own experimentation with Visible Speech and subsequent embrace of technologies leading to oral recordings of speech, all of which was considerably enhanced by having Chichester Bell as his neighbour, to show how he moved eventually to a position where he "imagines a dual-format 'phonetic edition' of *Hamlet* in Visible Speech and on gramophone disc" (32). Shaw's own combination of nineteenth and twentieth-century approaches to language not only replicates the tendency of his fictional character to use notebooks and wax cylinders to capture the speech he hears. It also takes on additional significance in light of how Buckley sees his own attempts to avoid reification of language as making *Pygmalion* relevant to early development of computer languages. Referencing his argument that, with Visible Speech "Bell ... found the Holy Grail of modern media: a code that can pass as an adequate substitute for the original" (28), she reminds us that Visible Speech for John Peters is "the primal scene of the supersession of presence by programming" (29). As such, Buckley produces a critical assessment which positions the play's exploration of language in relation to the "pre-history" of today's forms of digital communication. Here it is interesting to note her emphasis upon how Shaw saw himself as a Babbage Engine in the way that he wrote his plays:

> He claimed to be 'an empty digestive apparatus with a brain clacking at the top,' or –
> even better – the fully mechanised 'Babbage's Calculating Machine,' all wheels and

'levers,' sparking and 'whirring' as he churned out play after play and essay after essay in an unending stream of Shavian text (22).

Potentially of far greater significance is her comment that for Higgins, Liza is "entirely measurable as, and reducible to, phonetic data and their storage format" (36). However, this modern-day version of how Higgins objectifies her for the purpose of winning his wager with Pickering also needs to recognize a modern-day version of how Liza contests the power he would impose upon her through his use of dominant ways of thinking and speaking about language. In that sense, whilst Buckley is correct in stating that *Pygmalion* "critiques a techno-fantasy" (38), this critical assessment needs to look forward as well as back in time. The figure of Liza challenges the *male* "techno-fantasy" that the meaning of language is "reducible to phonetic data and their storage format". Rather than only looking back to the origins of computing languages, the retro-futuristic dynamism of the play enables Liza to focalise and challenge discourses on language which are relevant to how we think and speak about language in the digital realm of the twenty-first century. It is a dynamic that is key to the steampunk aesthetic, and returning to steampunk fiction shows us the way forward.

Catherine Siemann says of *The Difference Engine* that it "is widely regarded as one of the first and most influential of steampunk novels", noting that Patrick Jagoda thinks it "may be the closest text that steampunk has to a canonical novel" (184). Importantly, she argues that it marks itself out from other first-wave steampunk writing because it does not simply use the re-imagined Victorian era as backdrop, but instead:

> Centers on a particular 'what if' – what if Charles Babbage's proto-computers, the Difference Engine and the Analytical Engine, had actually been constructed? How would Victorian England, the British Empire, and the world around it, have differed? What would the social, political, and economic consequences have been? (185)

The question "what if" permeates *Pygmalion* – not simply because we are constantly wondering what would happen if Liza won the bet for Higgins and Pickering, but because the figure of Liza leaves the text open to a dialogic dynamic of alternative possibilities that are magnified by the refusal to close off the fate of the flower girl through marriage to the patriarch who has been "worse than two fathers". Steampunk productions of *Pygmalion* also emphasise another question: *what if* a female figure intervened in this male techno-fantasy about the means of producing language as data? Whilst analogies between Shaw and Babbage oblige us to look back, the risk is that we lose sight of the retro-futuristic dynamism of his text. The canonical steampunk text *The Difference Engine*, however, is a better indicator of how recent productions of *Pygmalion* show a critical lens through which we can read a critique of the production of language as data, and the (re-)production of data as a form of language from things in the twenty-first century. In that novel a female figure exists at the periphery of the plot, and yet this "Queen of Engines, the Enchantress of Number" (96), holds the potential power through her fabled knowledge of a "Modus" to bring everything about this steam world of technology crashing down in a vision of punk chaos that permeates the narrative. That figure appears in a significant number of the novels that define first and second wave steampunk fiction. She is Ada Lovelace, and for many years she was simply known as the daughter of "two fathers".

With Byron, her biological father and the voice of poetry, and Babbage, invariably portrayed as her intellectual father figure and the voice of science, Ada Lovelace is a striking parallel for Liza even without the prompt given by recent steampunk productions. Whilst for many years Babbage was accredited with laying the foundations of modern computing, Lovelace was barely acknowledged in this historical narrative, relegated to the marginal note of being a woman who happened to be around at the birth of this male techno-fantasy. In recent years,

that has undergone significant challenge. As Orlofsky tells us, we now have "Ada Lovelace Day, a day devoted to blogging and sharing stories about women in technology, … founded on March 24, 2009, by Suw Charman-Anderson, a British social media consultant" (169). There have also been influential re-interpretations of the history of computing that accord Ada Lovelace a more central role, and both Shaw's fictional character and this nineteenth-century figure have left their names as markers on the history of computing. As Buckley tells us, Joseph Weizenbaum had Eliza Doolittle in mind when he created ELIZA as a "pioneering chatbot" in 1966. Whilst this sees Liza's name taken for a natural language processing computer programme, between 1980 and 2005 the US Department of Defence referenced Ada Lovelace by pushing ADA as the standard computer language for its key systems. Indeed, Ricky Sward notes that "some thought that ADA could become a dominant, general purpose programming language and not just used for embedded systems on DoD projects" (130). All of this invites further consideration of how a steampunk critical perspective on *Pygmalion* can open up ways in which Shaw's retro-futuristic work creates a female figure who foregrounds the essential dynamism of language as a site of social heteroglossia. Just as importantly, we also need to consider how the text's re-presentation of discourses that shape understandings of language in the nineteenth and twentieth centuries creates a lens to look back at the origins of computing, and forward to developments in the twenty-first century digital technologies and communication.

The link between Shaw's character and Ada Lovelace magnified by steampunk productions of *Pygmalion* risks reverting back to the familiar, problematic figure of the woman as object without agency. Buckley points out that Weizenbaum used the name ELIZA primarily because he saw it as analogous to an "actress who commanded a set of techniques but had nothing of her own to say" (40). ADA fell from grace in 1997, and even though it re-

emerged, this was with restricted success. Moreover, despite the involvement of women such as Jean Sammet in its development, it was never designed specifically to speak for the historical contribution Ada Lovelace made to the birth of computing language. However, to understand how steampunk *Pygmalion* takes the retro-futuristic aspects of the play and offers a critique of language in the digital realm of today and the future, we need to focus in a different way on what we can see through its lens. Here it is useful to note Buckley's reading of *Pygmalion* and other writings by Shaw "as critical meditations on the complex processes and mixed consequences of conceptualizing spoken language, its notation, and its performance as mere data" (21). What we catch sight of through the steampunk lens is not just a correlation between the character and the historical figure: it is also the figuring of discourses, and articulation of a critique of how they have constructed a notion of data as a form of language from things in the twenty-first century.

Hossein Pirnajmuddin and Fatemeh Shahpoori Arani invoke Foucault to argue that in *Pygmalion* "discourses, here mainly those of class and education, affect the construction of social subjects" (147-8), and that "these discourse practices are interdependent" and "produced through the exercise of power" (148). Pointing to her eventual departure from Higgins, they argue the "crucial point is that though Eliza gains power, Higgins is still superior because of his sex and class. With this linguistic knowledge Eliza only learns how to play the game of power" (151). It is significant that Buckley refutes a similar reading by Kittler, which she sees as resulting in the conclusion that Liza "is completely subsumed by the discourse networks of capitalist society" (37). Buckley rejects that notion of Liza as someone who acts like an insensate thing merely voicing the language she is programmed to reproduce. She concludes that "Liza finally emerges as a fictional analogue of Shaw's ideal actor – the hybrid performer fully capable of decoding the phonemic data of the Shavian text,

and just as capable of managing and playing it with verve, vitality and independence" (39).

Through the steampunk lens we see the correlation between Liza and Ada – two female

figures with two (literary and scientific) fathers – in a different light, and this offers a

different reading of how Liza is both objectified by, and offers a challenge to, discourses that

operate upon her. Just as Liza contests those discourses and their power to render her an

object rather than a subject of language as they seek to imbue her with a reified unitary

language and make her a thing-like reproducer of that language, so Ada is a figure that

contests the patriarchal power operating on and through discourses that have shaped

understandings of the history of computing languages.

Liza does not, as Buckley argues, give us sight of "Shaw's ideal actor", and neither does re-

telling the history of computing give us access to a primordial scene in which it is a woman

who invents computer languages. Rather, through the lens offered by Shaw's representation

of Liza we can see how Ada Lovelace is a figure that mobilises the centrifugal forces of

language and, as a subject rather than an object of discourses, is not a thing but a figure that

contests their centripetal power within the sphere of computing. It is no coincidence that a

collection of essays commemorating *Ada's Legacy* includes an account of two projects that

extend this. Amy Cunningham talks about "*Oracle*, an artwork that takes the form of a video

song cycle for soprano voice and HD video", indicating how it was "intended that the off-

screen disembodied singing voices in *Oracle* would echo the critical and analytical role that

Lovelace took in her work" (205). Jenny Ungbha Korn writes of her work to "analyze

discourse to explore recorded interactions among male and female users of Programmed

Logic for Automatic Teaching Operations (PLATO) from 1972 to 1976", and how the

"findings of this study demonstrate that PLATO's discourse promoted the dominance of men

as experts and the muting of women by women as complicit partners" (222; 213). These are

examples of how "Ada Lovelace" figures ways in which the digital realm becomes a place where discourses can be re-presented to create alternative voices. However, there is more to what steampunk *Pygmalion* and the figure of Liza allow us to see of the discursive construction of language in the digital realm, and ADA can be used to demonstrate this.

Recounting the origins of ADA in an interview with Thomas Bergin, Jean Sammet tells how her involvement developed from "a very significant effort by the Department of Defense to create a single language for all services, because at that time, each service was using its own language" (123). The "idea that having each service with a different language was ridiculous and there ought to be a single programming language" was the context for Sammet's involvement (123), and is underscored by Ichbiah's reference to how the project also drew upon her work on COBOL ("common business-oriented language"), the precedent for world-wide adoption of a standard computer programming language (107). Ichbiah tells us that the motives were the same as when the Department of Defense championed adoption of COBOL in the previous decade, namely "to stop the proliferation of languages and dialects" (107), adding that "it took from 1977 to 1983 to produce a standardized language" (111). Sward notes that "some thought that Ada could become a dominant, general purpose programming language" (130), blaming "political and social forces of the time" (130-31) for what he calls its "decline and fall from favour" (131). Ichbiah points out that in fact ADA was "frozen", adding that by contrast with "dead languages like Sanskrit or Latin" this meant that even though "the standard is a freezing point … every five years or so one does a revision of a language", drawing comparison with "what the French Academy does in standardizing the French language" (113). All of the above talks to attempts to construct ADA as a national (indeed, supra-national) standard language of computing, echoing how Liza figures standardisation of language as a discursive construct in *Pygmalion*. Even more importantly,

talk of standardisation also dominates the digital realm of the second decade of the twenty-first century. Once again the important point is not to concentrate solely upon Liza and Ada, or even ELIZA and ADA, but rather how steampunk *Pygmalion* accentuates a retro-futuristic representation of a discourse that is key to development of today's world of digital communication.

CONCLUSION

For twenty-first century audiences of *Pygmalion*, the Internet of Things is the present and future stage of the technological and digital revolution transforming our lives. For the U.S. Department of Commerce in 2017, the "Internet of Things (IoT) – in which connected devices are proliferating at an unprecedented rate – is a technological development that is transforming the way we live and do business" ("Fact Sheet" 1). From a European Union perspective, the "IoT inaugurates a new age of ubiquitous connectivity and intelligence in which components, products, services and platforms connect, virtualise and integrate everything in a communication network for digital processing" ("Commission staff working document" 1.1). In the words of the European Commission on behalf of the E.U. when preparing its own staff to understand the launch of its new strategy for Digitising European Industry, the Internet of Things "represents the next step towards digitisation where all objects and people can be interconnected through communication networks, in and across private, public and industrial spaces, and report about their status and/or about the status of the surrounding environment" ("Commission staff working document" 1.1). The Commission confidently predicts that there will be 6 billion Internet of Things connections within the E.U. by 2020, whilst the Department of Commerce affirms that by that point "the number of connected devices in the United States will nearly double from 2.3 billion to 4.1 billion; [and]

globally connected devices will increase from 16 billion to 26 billion over the same period"

("Fact sheet" 4).

At this time of intensified development of the Internet of Things, the current challenge is

whether to impose regulation, or give free rein to market forces, in order to establish the open

data standards essential to creating the capacity of computing language to facilitate

interoperability between devices and real-time analysis of big data. In its release of the

strategy for "Digitising European Industry. Reaping the full benefits of a Digital Single

Market", the E.U. stated clearly that there "is a need to accelerate the development of

common standards and interoperable solutions. Interoperability is essential for the

deployment of the IoT and seamless flow of data across sectors and regions" ("Digitising

European Industry" 3). Standardisation in the digital realm is not to be equated with attempts

to standardise language in England in the nineteenth and twentieth centuries. However, it is

indicative of how digital communications continue to be spoken of as forms of language,

effectively extending claims that, as noted earlier for example, ADA is a standardized

language, designed to stop the proliferation of dialects, and with the potential to have been

used as international computing language before being frozen at standard, to be revised every

five years like the French Academy does in standardizing the French language. Again,

standardisation of key aspects of the exponential growth of the Internet of Things is not to be

equated with a single computing language standard, but it is indicative of how a discourse is

being used in the development of the twenty-first century digital realm that has a complex

history. Setting the parameters of the field in which key decisions will be made in relation to

the fourth industrial revolution are the E.U. and the U.S.A., creating a dynamic, conflictual

discursive arena that is crucial to future developments of the Internet of Things. The E.U.

clearly talks of this in terms of centralised regulation and control, using its analysis of the

Internet of Things as part of the launch of its Digital Single Market strategy to impose:

> A Free Flow of Data initiative, to ensure that data can circulate without obstacles
>
> within the Union by removing unjustified restrictions to the location of data and by
>
> addressing emerging issues on "data ownership", (re)usability and access to data
>
> (including research data), and liability amongst others in relation to the Internet of
>
> Things. ("Commission staff working document" 2.5)

By contrast, for those leading on commercial imperatives relating to the Internet of Things in

the U.S.A., it "is the Department's position that a private-sector-led approach to standards

development with appropriate government participation is fundamental to successfully

developing these standards" ("Fact Sheet" 44). Put bluntly, here the view is very firmly that

"governments should not take the lead or direct development of standards" ("Fact Sheet" 45).

There is no certainty about which discursive representation of the best way to achieve

standardisation of the digital realm will win through, and a real probability that regulatory

and market discourses will continue to compete for ascendancy on a global scale for some

time to come. If anything, this adds extra weight to the concluding comments from the report

by The British Academy and The Royal Society, not simply in terms of the importance of

understanding data governance in the fourth stage of the digital revolution, but also with

regard to the pressing need to find alternative perspectives on the way technologies are

revolutionising our communication with each other and with things in the world around us. In

the way it talks and thinks about language, we can see that *Pygmalion*: reminds its audiences

of troubled, discontinuous and unpredictable discursive connections with the past; offers a

striking representation of how power over language seeks to operate through appropriation of

discourses in the present; and speaks to the need to embrace a destabilising counter-pressure

as a key element of how we talk of future conceptualisations of language in the digital realm we take for granted. This retro-futuristic impulse, and the challenge to power exerted upon and through the discursive construction of language, are present in Shaw's play from its first performance. The lens offered by steampunk productions of *Pygmalion* allows us to see the need to reconfigure language as dynamic, and ourselves as figuring the contestation of powers worse than two fathers that might operate upon us. Most importantly, rather than being an aesthetic patina that gives the play a modern feel, steampunk versions of *Pygmalion* emphasise the need to resist being reified by the discursive construction of data as a form of language from things, including human beings.

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