Matt Garley and Benjamin Slade

Virtual meatspace: Word formation and deformation in cyberpunk discussions

1 Introduction

In 2013, US government contractor Edward Snowden made public information about PRISM, a global Internet surveillance program run by the US National Security Administration, in a highly-publicized case which led to his flight into exile abroad. In 2014, a group known as the Guardians of Peace, possibly sponsored by North Korean government elements, hacked into the computer systems of Sony Pictures Entertainment. In 2009, the US Secretary of Defense established a 'United States Cyber Command' (USCYBERCOM), which "unifies the direction of cyberspace operations, strengthens DoD [Department of Defense] cyberspace capabilities, and integrates and bolsters DoD's cyber expertise" (U.S. Strategic Command 2015).

In a present where drone warfare is a commonplace means of international action, and corporate and government interests intersect around notions of "cyberwarfare," there are many parallels to be drawn from reality to the cyberpunk genre of science fiction. William Gibson, coiner of the term *cyberspace* and author of seminal cyberpunk works like *Neuromancer*, noted in 2012 that "Cyberpunk today is a standard Pantone shade in pop culture" (Evans 2012).

Since its inception, the cyberpunk genre of science fiction, which has instantiations in literature, cinema, and videogames, has influenced music, fashion, and spawned a subculture of fans interested in its ideas and aesthetics. This chapter deals with the use of linguistic forms in online cyberpunk discussions. This domain is interesting precisely because this culture is digitally "native," dating to the earliest instantiations of Internet communication and surviving across the intervening decades, with the locus of active discussion shifting across multiple CMC platforms. These discussions are characterized by frequent neologisms and jargon.

In an initial exploration of cyberpunk glossaries found online, we noticed a variety of formation processes for cyberpunk terms: compounding (*screamsheet* 'newspaper'), clipping (*base* 'database') and acronym formation (*DNI* 'direct neural interface'), as well as fantasized borrowings (*gomi*, Japanese 'junk'). In

Matt Garley, York College, City University of New York
Benjamin Slade, University of Utah

this analysis, we are motivated by the question of which methods of word-formation are most characteristic and productive within cyberpunk discussions online from the late 1980s to the present day. This research question engages with long-standing questions in sociohistorical linguistics regarding actuation, the origin of linguistic features; and transmission, the means by which such features spread. We deal with the latter question on a subculture-wide level, engaging the question of which forms are favored in this particular subculture.

In this chapter, we examine the ways in which words characteristic of cyberpunk are formed and deformed through diverse and complex processes, including blending around common sound/character sequences (*corpsicle*), re-spelling (*tek* for 'tech' or *cypx* for 'cyberpunk') and sequential clipping-compounding (*netrode* 'network' + 'electrode') as well as more complex creations (e.g., *teledildonics*).

We find clipping with compounding to be the most characteristically 'cyberpunk' word-formation process in the data in terms of both frequency of word-formation strategy, and frequency of use of the resulting neologisms. Our data include corpora from the Virtual Meatspace forum, including posts from the years 2006–2013 (Cyberpunk Review, 2013) and the Collective Cyberpunk Community forums, spanning the years 2011–2013 (Collective Cyberpunk Community, 2013) alongside 1980s-90s Usenet data from alt.cyberpunk. We combine these analyses in order to provide a longer-term view of lexical formation/deformation within the cyberpunk subculture. Several roots, including clipped forms like *trode* 'electrode' seem to be especially productive. Other common constructions take the form of c*yber-X, X-punk, X-jockey/jock*, and *X-boy/girl*. While some of these formation processes are well-known (see, e.g., Bauer & Renouf 2001), the large-scale use of such lexical innovations in the context of a subculture is not well-researched, and through the combination of synchronic and diachronic analysis, we make an effort to fill this research gap.

Part of the examination of the spread of neologisms must also involve analysis of the development and spread of elements more abstract than lexical items, i.e. morphological processes. The nature of online discourse – posts marked with explicit dates, threaded conversations, etc. – offers an ideal opportunity to observe and categorize the adoption of neologisms and investigate the abstract morphological means of their coinage.

2 Cyberpunk: A primer

Cyberpunk is an artistic genre (mainly literary) which coalesced in the early 1980s, and is most strongly associated with the early works of William Gibson, Bruce Sterling, Rudy Rucker, and John Shirley, though cyberpunk's prevailing

vision of the future as non-utopian (and often dystopic) can be traced back further to authors like Philip K. Dick. Certainly the film *Blade Runner* (1982), an adaption of Dick's *Do Androids Dream of Electric Sheep?*, did much to establish the visual aesthetics for cyberpunk, and Dick's novel indeed presages the genre with guiding questions of what constitutes 'human'. Gibson, Sterling, and other "cyberpunk authors" broke away from the mainstream science fiction of the time, and dealt with "marginalized people in technologically-enhanced cultural 'systems'" (Frank et al. 1998). Technology is often shown in a somewhat ambivalent light in cyberpunk depictions: both as a tool used to oppress, and as a means of escaping (or transgressing or transcending) limitations, both legal and natural.

The term *cyberpunk* was itself coined in the title of a short story by Bruce Bethke, who notes on its formation:[1]

> The invention of the c-word was a conscious and deliberate act of creation on my part. [...]
> I was actively *trying* to invent a new term that grokked the juxtaposition of punk attitudes
> and high technology. [...] How did I actually create the word? The way any new word
> comes into being, I guess: through synthesis. I took a handful of roots – cyber, techno,
> et al – mixed them up with a bunch of terms for socially misdirected youth, and tried out
> the various combinations until one just plain sounded right. (Bethke 1997: para. 3)

Beyond its status in literature, cyberpunk became a subculture of sorts, as people began to both identify and be identified as cyberpunks. As with many subcultural communities, gatekeeping and authenticity soon became significant. As R.U. Sirius, editor of erstwhile cyberpunk zine *Mondo 2000*, put it:

> Cyberpunk escaped from being a literary genre into cultural reality. People started calling
> themselves cyberpunks, or the media started calling people cyberpunks. The first people to
> identify themselves as cyberpunks were adolescent computer hackers who related to the
> street-hardened characters and the worlds created in the books of William Gibson, Bruce
> Sterling, John Shirley, and others. Cyberpunk hit the front page of the New York Times
> when some young computer kids were arrested for cracking a government computer file.
> The Times called the kids "cyberpunks." Finally, cyberpunk has come to be seen as a
> generic name for a much larger trend more or less describing anyone who relates to the
> cyberpunk vision. This, in turn, has created a purist reaction among the hard-core cyber-
> punks, who feel they got there first. (Sirius, cited in T and Maniac 2004a)

---

1 The *cyber-* of *cyberpunk* is ultimately from *cybernetic*, either via shortening/clipping or blend-
ing or both, itself introduced into English in the first half of the twentieth century (based
on ancient Greek *κυβερνήτης* 'steersman'), applied to self-regulatory automata, or mechanisms
exhibiting some sort of automatic control, but by the sixties at latest coming to be associated
particularly with the integration of living organisms (particularly humans) and electronic
or other technological devices, as in *cyborg* (for *cybernetic organism*). (Cf. "cybernetic, adj." &
"cyber-, comb. form." *OED Online*. Oxford University Press, June 2015. Web. 14 June 2015.)

Since the early 1990s, when the above quote was written, it would be increasingly rare to find anyone who identified primarily with the label 'cyberpunk' – however, many fans in diverse groups or as individuals still identify themselves as being interested in cyberpunk fiction, aesthetics, media, fashion, etc. For the majority of its existence, then, cyberpunk should not be understood as a single close-knit or monolithic fan community as, for example, the online *Buffy the Vampire Slayer* community is (see, e.g., Gatson 2011; Gatson and Zweerink 2004), but rather something more diffuse and widespread than a traditional sociolinguistic community, which has as its organizing principle not a location or web address, but an informal canon of media. Furthermore, those who engage with cyberpunk media largely do so by the use of, and extension of, various lexical innovations.

The seminal cyberpunk novel is usually considered to be William Gibson's *Neuromancer* (1984), which introduced or popularized words like *deck*, *simstims*, *ICE*, *cyberspace*, and *matrix*. This is one of the first literary works to depict an alternative reality space whose existence is mediated by technology, a 'matrix' that can be entered by interfacing human minds with computers. Later works like Neal Stephenson's *Snow Crash* (1992), sometimes considered the first 'post-cyberpunk' novel or an almost-parody of cyberpunk, continued to develop the idea of a virtual cyber-world ('metaverse') which takes on an importance equal to that of the 'real' (or 'meatspace') world. Stephenson's novel popularized the term *avatar* in the sense of a user's virtual online body, or a user's alter ego in the metaverse. Neologisms are an especially prominent and noticeable linguistic feature characteristic of cyberpunk discussion, and the analysis of such neologisms will form the primary matter of the present chapter.

Cyberpunk is particularly interesting in terms of linguistic analysis for several reasons. First, it constitutes a culture that is technologically aware and has been online since the earliest days of the Internet. It is thus digitally native in the sense that it primarily coalesced online. Second, it survived across several decades, with the locus of active discussion shifting across multiple CMC platforms, from USENET groups to web forums and social media. Because of these features, cyberpunk is a domain of interest for questions regarding how neologisms are formed and spread, and more specifically, how and to what degree orthographic features influence the formation and spread of these neologisms.

3 Data

In order to collect a diverse set of linguistic interactions within the cyberpunk subculture, we evaluated a large number of resources from varied sources, informed by (often fairly dated) clearinghouses online like The Cyberpunk

Project (http://www.cyberpunk.ru) which collected comprehensive lists of links to cyberpunk resources and locations of communication online. The primary data we analyze were collected from the Cyberpunk Review Forums (http://cyberpunkreview.com/forums/index.php), established in January 2006, and its successor the Collective Cyberpunk Community Forums (http://cyberpunkforums.com), where the non-review forums of the Cyberpunk Review Forums were moved to in August 2011. Together, these data consist of about 90,000 threads and approximately 4.88 million words.

We also examined data from the USENET archive of the newsgroup alt.cyberpunk, accessible via Google Groups. The earliest posts archived today date to 1987, and this newsgroup was active at least through the late 1990s. The current configuration of Google Groups prohibits full scraping of the alt.cyberpunk archive, but is fully searchable – we examined this archive manually for forms of interest, searching for terms we identified in the other corpora to provide historical perspective.[2]

In order to understand the influence of neologisms in published cyberpunk literature on neologism formation and use in cyberpunk interaction online, we additionally collected a small corpus of cyberpunk literature, comprised of 42 fiction texts (ranging from short stories to novellas to novels) published between 1980 and 2007 by 17 noted cyberpunk authors. The corpus contains 2,153,406 word tokens. The authors most frequently represented in the corpus, in light of their prominent influence in the cyberpunk genre, are William Gibson (7 sole-authored texts and one co-authored text, including the seminal *Neuromancer* trilogy), Bruce Sterling (5 texts) and Rudy Rucker (4 texts). This corpus is not intended to be exhaustive in terms of the canon of cyberpunk literature, but contains what we consider to be a core set of firmly in-genre texts, based on a combination of online lists of cyberpunk works and literature which was available online in plaintext format.

---

2 We also collected the top 1000 'top' posts and top 1000 'controversial' posts (together with comments on the posts) of all time (as of September 2013) from reddit.com/r/cyberpunk. These data consist of approximately 831 thousand words. However, we found that the corpus we collected from reddit was largely uninteresting in lexical terms, in that vanishingly few neologisms were present. In examining these data, we found that the redditors in /r/cyberpunk weren't creating new vocabulary, or even using much pre-existing cyberpunk vocabulary. We suggest that this is part of the nature of being a subreddit – that because /r/cyberpunk is just one small piece of reddit even for /r/cyberpunk-subscribers, the community and the community interaction structure is very different from a dedicated cyberpunk forum. For these reasons, we do not cite any examples originating in these data in the present chapter.

4 Method

We began our investigation by creating an XML-format corpus from the combined forums, removing quoted lines (any lines reproducing material seen in the last 200 lines of forum interaction). This XML corpus was then reformatted into a second file with one line per post, ignoring usernames used in the last 10 posts, lowercasing all words, and keeping only alphanumeric characters. This corpus was 4,962,921 word tokens in size. From this file, a frequency-ranked wordlist was created from the combined forum corpus, removing words found in an aspell wordlist containing US and British spellings, created using the SCOWL tool (Atkinson 2014). After removing dictionary words, the authors jointly annotated the first 2752 entries by frequency in the list of 85,114 remaining neologism candidates[3] (a wordlist of non-dictionary words).

The hand-annotation of the wordlist served two purposes, the first being to remove those words known to the authors to be uninteresting acronyms, proper names, brand names, typos, usernames, etc – i.e. to filter material which were non-dictionary words but which did not represent word-formation in the cyberpunk subculture. The second purpose of hand-annotation was to categorize the remaining forms according to word-formation processes. Before annotating the wordlist, we consulted several available cyberpunk glossaries (e.g. T and Maniac 2004a) to get a feel for what members of the subculture considered cyberpunk terminology and to gauge the kind of lexical items we might find in the corpus. In advance of analysis, we also informally looked over a selection of words from the corpus, finding that several categories of words seemed to be especially relevant to cyberpunk literature or culture – in doing so, we allowed our proposed categories to emerge organically from the data. However, in performing annotation, we kept in mind that these categories were suggestions only, and subject to revision – many words seemed to be included in multiple categories, for example, *netrode* for 'networked electrode.' This example qualifies as a form produced by both clipping and subsequent compounding, or else a blend – we devote a later part of this chapter to discussion of the putative difference.

We independently hand-filtered and coded the first 2752 unknown word-forms, a list including every form occurring 10 or more times in the forum corpus (and occurring at least twice per million word tokens in the corpus). Details of the tagging scheme are discussed in the next section.

---

3 Out of 127,762 words types in the corpus, 85,114 were not found in the aspell dictionary. 65,465 of these were hapax legomena (occuring only once in the corpus) and 10,878 were dis legomena (occuring only twice).

The annotators' lists agreed on the categorization of 140 wordforms, and 823 in total were identified as neologisms by at least one of the two annotators. In the end, we took some examples from this larger inclusive list as we recognized that one or the other of us had missed a form which, upon reflection, we both agreed was a valid neologism. However, the list of 140 was useful in that these terms certainly seemed to be the most prototypical cyberpunk neologisms of those under consideration.

After using these corpus methods to identify neologisms, we performed qualitative morphological and orthographic analysis of their formation processes, confirmed their use in context, and examined their occurrence in the other corpora. Because Google's USENET archives of the alt.cyberpunk newsgroup date to only three years after the first publication of *Neuromancer* (1984), finding terms in use in the USENET archive as well as in our more recent forum corpus could theoretically establish a pattern of use within cyberpunk subculture for 26 years, i.e. the time between the foundation of the USENET archive and the collection of the Internet forum corpus. Such a pattern of use would reveal continuity of use across users interested in cyberpunk, likely through re-seeding of the lexicon from primary sources (the canonical cyberpunk works).

5 Analysis

5.1 Preliminaries: the problem of compounding, clipping, and blending

In our initial identification of categories, we posited five word-formation processes:

- compounding, whereby (usually) free morphemes are compounded into a single word – e.g. *meatspace*;
- clipping, whereby part of a word, usually one or more syllables, is omitted from the beginning or end – e.g. *trode* for 'electrode' or *net* for 'network';
- respellings, whereby orthographic substitutions are made that would not alter pronunciation – e.g. *lo-tek* for 'low tech';
- acronyms/initialisms (e.g. *ICE*, 'intrusion countermeasure electronics'), whereby a word is made from the initial letters of several other words in sequence; and
- foreign borrowings, which reflect influence from a non-English language in the cyberpunk fantasy context, e.g. *gomi*, Japanese for 'junk.'

Table 1 provides a listing of 20 representative terms from the 140 on which the annotators agreed, and Table 2 presents a breakdown by category of the results of the annotation task.

Table 1: Representative neologisms found in the cyberpunk discussion forum corpus

Wordform	Categories assigned	Freq. (raw)	Freq. per mil. words	Presence in novel corpus	Earliest use in Usenet	First/last use in forum corpus
cy	clipping	439	88.46	Not found	Not found	Nov. 2006–May 2013
vr	acronym	328	66.09	5 authors, earliest 1991	Aug. 1988	Feb. 2006–May 2013
meatspace	compound	194	39.09	3 authors, earliest 2001	Jan. 1998	Jan. 2006–Feb. 2013
emp	acronym	100	20.15	2 authors, earliest 1988	Apr. 1991	May 2007–Feb. 2013
cyberware	clipping, compounding	68	13.70	Not found	Sept. 1989	Oct. 2006–Mar. 2013
cypx	clipping, compounding, respelling	64	12.90	Not found	Not found	Oct. 2011–Feb. 2013
wetware	clipping, compounding	63	12.70	5 authors, earliest 1985	Sept. 1997	Mar. 2006–Feb. 2013
transhuman	compounding	50	10.07	1 author, earliest 2005	Mar. 1991	Jan. 2007–Apr. 2013
rez	clipping	47	9.47	3 authors, earliest 1984	Mar. 1992	Apr. 2006–Feb. 2013
cyberdeck	clipping, compounding	31	6.25	Not found ('deck' is common in this sense across authors)	Dec. 1989	Mar. 2007–Mar. 2013
transmet	clipping, compounding	28	5.64	Not found (usu. refers to Transmetropolitan, a popular comic book with cyberpunk themes)	Oct. 1998	Jan. 2007–Mar. 2013
cyberia	clipping, compounding (blending)	26	5.24	Not found (title of a 1994 nonfiction book and unrelated video game, among other usages)	Jun. 1991	Apr. 2006–Feb. 2013
razorgirls	compounding	25	5.04	1 author, earliest 1984	Apr. 1991	Jan. 2007–Jun. 2012
darknets	clipping, compounding	24	4.84	Not found	Not found	Jan. 2007–Feb. 2013
cyberprep	clipping, compounding	24	4.84	Not found	Sept. 1987	Aug. 2006–Jun. 2010
neurofunk	clipping, compounding	18	3.63	Not found	Not found	Jul. 2008–Mar. 2013
ghostnet	clipping, compounding	13	2.62	Not found	Not found	Mar. 2009–Jan. 2010
utopiates	clipping, compounding (blending)	12	2.42	Not found (name of a recent comic book, but usage is attested earlier)	Not found	Aug. 2012–Oct. 2012
psyborg	clipping, compounding, respelling	12	2.42	Not found	Not found	Mar. 2010–Apr. 2013
cryo	clipping	12	2.42	Not found	Sept. 1989	Feb. 2007–Oct. 2012

Table 2: Results of categorization/filtering

type of neologism	both annotators		at least one annotator	
	number of forms identified with label	percent of forms with label	number of forms identified with label	percent of forms with label
compounding	70	50.00%	254	30.86%
clipping	38	27.14%	168	20.41%
respelling	30	21.43%	76	9.23%
acronym/initialism	32	22.86%	296[4]	35.97%
foreign neologism	8	5.71%	81	9.84%
any or multiple labels	140	100%	823	100%

It quickly became evident that, for many of the items in our corpus, the compounding and clipping labels coincided–for the list of forms agreed upon by annotators, 20 forms were categorized as both clippings and compoundings (over half of all forms involving clipping, and over a quarter of all forms involving compounding). For the list of forms identified by at least one of the annotators, 70 forms were categorized as both (about 40% of clippings and over a quarter of compounds). This spurred a discussion of whether *blending* might be the more appropriate term for some of these items, e.g. *utopiates* (< *utopia*+*opiates*).

In addition, the frequent combination of morphologically quasi-bound components like *cyber-* and *-ware* with free morphemes might more appropriately be called *derivation*. Further complicating the analysis of such elements more generally is the problem, discussed by Arnold Zwicky, of *libfixation*, "the 'liberation' of parts of words [like '-flation' and '-naut'] to yield word-forming elements that are semantically like the elements of compounds but are affix-like in that they are typically bound" (Zwicky 2010). This problem is additionally discussed by Hock & Joseph (1996/2009), who note with regard to an initial monomorphemic form *marathon* that "once forms like bik(e)athon and *telethon [...]* have arisen, it is possible to reanalyze them as containing a suffix -(a)thon. Four-part analogy, then, can extend this suffix to new forms, such as *rentathon* or *saleathon*" (see also Bauer 2004, who refers to "splinters"). In the case of cyberpunk-related forms like *wetware*, the *-ware* in this case is not the (increasingly archaic) free

---

4 The high rate of acronyms/initialisms in this column reflects one of the two annotators who included a large number of established/enregistered Internet-culture acronyms, e.g. *lol, wtf, stfu* in counts.

morpheme referring to tangible trade goods. Just as *software* was created by analogy to the earlier *hardware* (in the sense of 'tools'), *wetware* and *meat-ware*, further discussed in the corpus context below, are formed by analogy to (specifically computer) *hardware* and *software*, and as compounding of other forms with -*ware* becomes more frequent, something more akin to an affix takes shape.

Because of these difficulties, we do not distinguish between derivation and compounding in this analysis, and consider blending prototypically a process where there is graphemic and/or phonemic overlap in the final form (e.g. *liger* from 'lion' + 'tiger', *motel* from 'motor' + 'hotel'), and/or the semantics suggest a blend of the components (as in *liger, spork*, and *brunch*[5]), while continuing to treat such forms as both clippings and instances of compounding.

We examine below the different types of morphological formations observed in the neologisms in our dataset: compounding; respellings, acronyms and other orthography-centric processes; clipping; and finally forms which involve both clipping and compounding. Processes which might be labeled as "derivation" are included under compounds; all of these are cases involving putative prefixes which are either libfixes (e.g. *cyber-*) or else prefixes of somewhat limited productivity (e.g. *mega-*).

We do not claim that every one of these terms originated in the CMC environment of the cyberpunk forums/newsgroup, or even in the cyberpunk literature or subculture (although a number of them certainly did). What we do claim, however, is that these are in relatively frequent use in the texts produced by one or more of these instantiations of the online cyberpunk community, and therefore particularly characteristic of the language of cyberpunk discussion.

5.2 Compounding

In (1–3) below, we include examples of fairly straightforward compounding. When possible, we select in-context examples from different dates and corpora to demonstrate continuity of use. If we were additionally able to identify the term's origin or popularization in a specific work of literature, we indicate this as well.

---

5 The examples in this paragraph are common examples, as relatively few of the forms we considered in our analysis would qualify as blending under this definition.

(1) *meatspace* (< *meat* + *space*, by analogy w/ *cyberspace*)
      novel corpus: 3 authors, earliest 2001
      forum corpus: 194 hits, 39.09 per million words

   a. [usenet, 1998] If it has happened in "meatspace", absolutely nothing
      would be different.

   b. [forums, 2011] Currently, as soon as meatspace allows, I plan on [...]

   c. [forums, 2011] I had prepared [username]'s "Occupy Meatspace" poster
      but never managed to [...]

(2) *razorgirl* (< *razor* + *girl*, originating in *Neuromancer*)
      novel corpus: 1 author, earliest 1984
      forum corpus: 25 hits, 5.04 per million words

   a. [usenet, 1993] Subject: RazorGirls [user posts story about Japanese
      businessmen hiring female bodyguards]

   b. [forums, 2007] Of course who couldn't love (or is it lust) razorgirls and
      I think the archetype that Gibson established...

(3) *datajack* (< *data* + *jack*, popularized in *Shadowrun* role-playing game)
      novel corpus: not found
      forum corpus: 19 hits, 3.83 per million words

   a. [usenet, 1991] This is accessible by traditional terminals ('turtles') or by
      plugging a 'Deck' into a datajack implanted in one's [...]

   b. [forums, 2008] Doesn't sound very feasible, you'd need a DNI to affect
      them that much. That means trodes or access to any datajack they may
      have.

Other examples of compounding include *rivethead* and *cellflux*. In their form,
such examples are relatively unremarkable, though the choice of compounding
elements is of interest, especially in the case of *meat-*, used in opposition to
cyber-, carrying negative connotations of impermanence of the crass physical
realm and the ordure of bodily existence. It is in addition worth noting that
these, and other terms, are sometimes put in scare quotes, as with *"meatspace"*
in (1a). This, along with hyphenation of compounds (*trode-net* in 12a) or the use
of apostrophes to indicate elided material in the case of clippings, would con-
stitute what Squires (2014) calls *metalinguistic highlighting*, indicating that atten-
tion is being called to the term's unfamiliarity – or conversely, that the term's

indexical nature is being highlighted. This, then, further underlines the social importance of these terms in the forum community, and in the subculture more broadly.

5.3 Respelling, acronyms, and other orthography-centric changes

We find examples of respellings like (4), a form adopted from hacker culture:

(4) *warez* (respelling from spurious pluralization of *software*)
>   novel corpus: 2 authors, earliest 1992
>   forum corpus: 22 hits, 4.43 per million words

   a. [usenet, 1997] [. . .] little kids who think they are cyberpunks because they know how to use a warez.

   b. [forums, various dates] 'malwarez', 'spywarez', 'how much warez', 'the exact piece of warez youre looking for'

Respellings of <z> for <s> and <k> for <c> (or <ch>) are relatively common in English, though their association with nonconformity, resistance, and subversion is appropriate to the sensibilities of cyberpunk – similar forms were noted by Androutsopoulos (2000) in an analysis of German punk fanzines, and the use of orthographic <z> is also common in the German hip hop community (Garley forthcoming). In both of these contexts, as in the cyberpunk subculture, stylization and dissociation from written norms is accomplished through the use of alternative orthography. Another respelling represented in our data is *lo-tek*, which fits in with well-known mainstream respellings like *hi-fi*. Additional respellings found especially in the later forum data include *w00t*, *sux*, and *skool* (primarily in the set phrase *old/new/nu skool*), along with *lulz* and *pwn*, but we believe these sorts of respellings to be fairly common across genres, and reflective more of a generalized 'Internet culture' set of respellings (see the chapters by Heyd and Hinrichs, this volume, for further treatment of generalized 'internet culture'). Acronyms and initialisms are also found in our data, as in *ICE* 'intrusion countermeasure electronics,' from *Neuromancer*, *AR* 'augmented reality,' and *EMP* 'electromagnetic pulse.'

As these are very straightforward examples in terms of word formation process, we omit further discussion here, focusing instead on a more interesting respelling with some aspects of an acronym appearing in our data. This form, *cypx*, is not found in the novel or Usenet corpora, and was first used (and possibly

coined) in 2011 by forum user 'Z.' In this example, we have used single capital letters as pseudonyms for forum usernames because orientation to and ratification of the new linguistic feature can be seen in detail in the forum corpus. The excerpts in (5) do not occur in the same thread, but all (except the first usage) comment metalinguistically on the form.

(5)   *cypx* (alternate form of *cyberpunk(s)*)
            novel corpus: not found
            forum corpus: 64 hits, 12.90 per million words

   a.   [Z, Nov 2011] re: CYPX boots

   b.   [C, Feb 2012] The assumption is fine by me, I'd rather live without the term 'cp' (besides 'cypx looks much better...hehe...) than risk attracting attention over the nasty kind of 'cp'...

   c.   [K, Feb 2012] I also prefer cypx; it's not much longer than cy, and looks better than cp. The x is a nice touch.

   d.   [C, Oct 2012] Neither really feels that cypx (<= Z, I really like that expression)

   Here, the form *cypx* is standing in as a clipping/respelling of 'cyberpunk'; the clipping of *cyber-* to *cy-* represents a fairly common syllabic clipping process, but the replacement of <unk> with <x> in <-px> is part of a much rarer respelling process, presumably one in which the <x> stands as a sort of 'wildcard' for variable orthographic material, rather than its usual value of [z] or [ks].
   It is further possible that the final <x> is influenced by tech-culture forms like *Linux, Unix*, and perhaps even *Xerox*, all of which, however, use <x> for [ks]. The name of the markup/formatting language *LaTeX* popular in tech-culture also contains a final <X>/<χ>, which is officially pronounced [k] (or, more rarely, [x]).
   This respelling process is found in, e.g., telecommunications in *Tx/Rx*, abbreviations for 'transmit' and 'receive,' or 'Dxing,' listening to shortwave radio over extreme distances; as well as in medical use, where a wide range of abbreviations like *Rx* 'prescription,' *Px* 'prognosis,' *Tx* 'treatment,' and *Hx* 'history' are used in healthcare environments (between healthcare professionals, rather than with patients).
   After the initial uses of the form in (5), the form becomes more common across threads and users, appearing in the forums in the inflected comparative form *cypxer* ('more cyberpunk'), the derived form *cypx'ness/cypx-ness*, in the phrase '*CYPX helping CYPX,*' i.e. representing the plural noun 'cyberpunks,' and

used similarly in the phrase 'for you cypx I make the exception.' In the latter two cases, where *cypx* is read as 'cyberpunks,' the <x> could have orthographic-phonemic correspondence to the final <-ks>. In terms of its social significance, however, we posit that the true motivation for the use of <x> in this case is like that for <x> in the German punk fanzines analyzed by Androutsopoulos (2000: 14):

> The crucial motivation for these spelling variants is not phonetic representation, but their indexical or symbolic value as cues of subcultural positioning. In other words, they act as an instruction to interpret the discourse as 'subculturally engaged' or 'hip.'

Likewise, the use and spread of *cypx* to represent both adjective/singular noun and plural forms in our present forum data is likely to have been successful precisely because the form suggests subcultural engagement. Because this becomes the autonym for the community, its relevance and success are further reinforced (cf. Gatson and Zweerink's (2004) community of 'Bronzers' in the *Buffy the Vampire Slayer* fan forum). Thus, the process of clipping and respelling in this way is a central practice in constructing and maintaining the identity of the cyberpunk subculture.

5.4 Clipping

Clipped elements, like (6)–(8), are of course not infrequent in many registers of English, e.g. *ad, ref, sub, ad, pub, flu* etc., though many clipped items carry a sense of the modern with them (*phone, bot, fax, memo, pop, gas, fridge*, etc.) and frequently the use of clipped forms implies general familiarity with the referent. Thus the use of *trode* rather than *electrode* suggests a setting in which electrodes are more of a common, everyday sort of item than they are at present.

(6)   *trodes* (< *electrodes*, originating in *Neuromancer*)
         novel corpus: 2 authors, earliest 1984
         forum corpus: 14 hits, 2.82 per million words

   a.   [usenet, 1989] But I don't see any way that you could be stuck should someone at your physical location remove your 'trodes and thereby snap you back into your body.

   b.   [forums, 2012] Another brain-wave scanner, but this one looks really nice.. 4 trodes..

(7) *stim* (< *stimulant* or *stimulation*, *Neuromancer* as *simstim*, later in trilogy as *stim*)

       novel corpus: 1 author, earliest 1984

       forum corpus: 15 hits, 3.02 per million words

    a.   [usenet, 1990] Remember, the translation device in a cyberdeck is a scaled-down stim unit

    b.   [forums, 2010] When I do drink coffee, I look for the instant stuff [...] But, I'm trying to avoid stims these days

(8) *augs* (< *augmentations*)

       novel corpus: not found

       forum corpus: 27 hits, 5.44 per million words

    a.   [forums, 2011] Even more interesting would to "piggyback" augs to our normal senses.

    b.   [forums, 2012] computer hacking would be completely useless against a band of marauding steampunk pirates. but hey, at least we have neon hair dye and "augs" which make us look fugly.

Augs as a form is not found in the Usenet data or the novel corpus – it may originate in discussions of the popular cyberpunk videogame series *Deus Ex* (published in 2000), which had a particular game mechanic featuring augmentations (biotechnological implants). Again, in (8b) scare quotes metalinguistically highlight this feature, pointing to its status as not entirely integrated in the discourse.

5.5 Clipped compounds and derived forms

Clipped compounds are not that rare in English (e.g. *sitcom, cablegram, photo op*), and this type seems to be extremely well represented in our data. A clear example of this type is given in (9), which in fact involves clipping of both compounding elements:

(9) *trodenet* (< *electrode + network*, originating in *Mona Lisa Overdrive* as *trode-net*)

       novel corpus: 1 author, earliest 1988

       forum corpus: 18 hits, 3.63 per million

a. [usenet, 1990] When it gets to the stage where I need to bathe my trode-net in pigs blood and incant over it every full moon, then I'll begin to wonder.

b. [forums, 2009] Trodenet's just a slang term we like to use around here for neural interface.

Other instances may represent derivation processes, if the clipped element in question has been reanalyzed as a bit of productive morphology. This may be the case for *-ware* as in (10) and (11), which appears to represent a libfix (as discussed earlier, a word part 'liberated' for limited use as an affix-like morpheme) drawn from *hardware/software*.

(10)   *wetware* (< *wet* + *-ware*)
       novel corpus: 5 authors, earliest 1985
       forum corpus: 63 hits, 12.70 per million

a. [usenet, 1996] Listen, you've got this ultra-spiffy piece of wetware sitting between your ears that's hardwired to deal with 3D spaces

b. [forums, 2010] even normal wiring would perform better than your wetware, providing it can mimic the overwhelming complexity of your neurons.

c. [forums, 2008] I've heard about teledildonics since. . . 1995? At least? I'm not surprised it hasn't caught on. . . you're dealing with 'wetware.'

(11)   *meatware* (< *meat* + *-ware* by clipping/compounding or libfixation)
       novel corpus: not found
       forum corpus: 12 hits, 2.42 per million

a. [usenet, 1994] Neural nets operate in the same fashion whether they are made of meatware (brain) or hardware.

b. [forums, 2007] I personally am anxious to upgrade my meatware. the sooner I could replace my body with a stronger steel chassis the better [. . .]

c. [forums, 2008] Zombie cyborgs. Cyborgs infected with a data virus that leaves the cybernetics moving long after the meatware is rotting.

As mentioned in Section 5.2, the use of *meat-* in cyberpunk coinages is infor-mative from a sociolinguistic point of view. Between cyberspace and meatspace,

the former is cast as preferable to the latter; the former is the space of possibil-
ities, the latter is the realm in which individuals are confined in "meat." The
visualization of the body as "meatware" is reminiscent of one of the Old English
poetic kennings for "body": *bānhūs* ("bone-house"), a picture of the body as a
potentially constraining and necessarily impermanent structure. The language
of cyberpunk shows a tendency to privilege the cyber-manifestations of indi-
viduals over their bodily-incarnations.

Likewise, *cyber-* itself, in examples such as (12), appears to have become a
libfix, though originally its appearance would have been produced by blending
cybernetic.

(12) *cyberprep* (< *cyber-* + *prep* [from *preparatory school* (*student*)], by analogy
with *cyberpunk*)

      novel corpus: not found
      forum corpus: 24 hits, 4.84 per million

  a. [usenet, 1987] The cyberprep movement (such as it is, ha ha) takes as
      its motto: "Whatever you do, remember, be polite".

  b. [forums, 2010] Very bland and un-gritty. More cyberprep.

In terms of subculture-building, the form *cyberprep* is additionally interesting in
that it defines certain types of (presumably cyberpunk-adjacent) literature or
cultural practice as an outgroup, walling off certain types of practice (those not
suitably gritty or rude) as non-cyberpunk. Even further, while this form does not
appear in the novel corpus, which contains the most widely-accepted canon of
cyberpunk literature, it appears twenty-three years apart in online discussions,
used in exactly the same way. This suggests that neologisms like this, which by
dint of their existence serve to define the boundaries of the cyberpunk sub-
culture, are coined within the community and preserved and used over time to
maintain these community boundaries.

By contrast with 'cyber-' libfixation, other examples seem to more clearly
involve a derivational process like prefixation, as in (13) (which does, however,
also involve clipping of the second element):

(13) *megacorp* (< *mega* + *corporation*)

      novel corpus: not found
      forum corpus: 80 hits, 16.12 per million

  a. [usenet, 1991] It would be tough to have "the lone outsider against the
      megacorp" without the megacorp.

b. [forums, 2013] In a way, Seoul had more of that dynamic technological development vibe that Tokyo has lot [sic]. With the huge Megacorps truly looming all over the place.

Many other instances of clipped compounds or derived forms (esp. involving libfixes) were found in our data, including *ghostnet*, *darknets*, *microsofts*, *neuro-funk*, *mil-spec*, *cypunk*, *teledildonics*, *simsense*, *biohacking*, *cyberdeck*, *cyberware*, *cybercide*, *transhuman*, and *nanosolar*.

Due to the large variety and number of these forms specifically (see Tables 1 and 2), we propose that clipping with compounding/derivation/libfixation is the word formation strategy most characteristic of language use in the cyberpunk community, followed by compounding alone and clipping alone; we discuss this further in the final section.

6 Discussion and conclusions

Our data show that one of the most characteristically cyberpunk word formation processes is clipping-compounding. We speculate that at least one motivating factor for this preference is the association of clipping-compounding with both futuristic/scientific naming practices on the one hand, see examples in (14), and naming practices associated with totalitarian/militaristic governments on the other, as in (15), as well as fictional portrayals of totalitarian governments, specifically in the Newspeak of George Orwell's *1984*, as in (16), and in the Nadsat language of Burgess's *A Clockwork Orange* in (17).[6]

(14) a. *hi-fi* "high fidelity (sound equipment)" (1950)

b. *sci-fi* "science fiction" (1955)

c. *cyborg* "cybernetic organism" (1960)

d. *modem* "modulator-demodulator" (1958)

e. *FORTRAN* "formula translating system" (1957)

f. *INTELSAT* "**Int**ernational **Tel**ecommunications **Sat**ellite Organization" (1964)

---

6 See Jackson (2011) for a general overview of the invented vocabularies of Orwell's *1984* and Burgess's *A Clockwork Orange*.

(15) a. *comintern* "communist international" (USSR, 1919)

  b. *kapstrana* < **kap**italističeskaja + **strana** "capitalistic country" (USSR)

  c. *filfak* < **fil**ologičeskij + **fak**ultet "philology faculty" (USSR)

  d. *zavsektorom* < **zav**edujuščij + **sektorom** "sector director" (USSR)

  e. *gorvoenkom* < **gor**odskoj + **voen**nyj + **kom**itet "city war committee" (USSR)

  f. *MinCulPop* < *Ministero della Cultura Popolare* "Ministry of Popular Culture" (Italy, 1937) [Arcodia & Montermini 2012: 104]

  g. *DEFCON* "defense readiness condition" (USA, 1959)

  h. *mil-spec* "military specification" [manufacturing/performance standard] (USA, 1950 or earlier)

  i. *comsymp* "communist sympathiser" (USA/UK?, 1960)

  j. *Stasi* (*Staatssicherheit*, 'state security', German Democratic Republic era)

  k. *Vopo* (*Volkspolizei*, 'people's police', German Democratic Republic era)

  l. *Gestapo* (Geheime Staatspolizei, 'secret state police', Nazi Germany)

(16) a. *Minitrue* "Ministry of Truth"

  b. *Miniluv* "Ministry of Love"

  c. *Recdep* "Records Department"

  d. *Ficdep* "Fiction Department"

  e. *Pornosec* "Pornography Sub-Section (of Fiction Department)"

  f. *Ingsoc* "English Socialism"[7]

(17) *staja* "state jail" (Burgess, *A Clockwork Orange*)

  The Russian clipping-compounding examples (also known as stump compounding, see Molinsky 1973, Billings 1998, Benigni & Masini 2009) appear to be instances of a semi-intentionally created morphological process. Molinsky (1973: 15) claims that these are an innovation in Russian that began to appear as a consequence of the 1917 revolution "i[n] an attempt to 'sovietize' the language." Though the appearance of *MinCulPop* in Italian suggests that perhaps

---

7 Note also the tendency towards respellings in these forms, e.g. *Miniluv* (vs *Minilove*), *Ingsoc* (vs *Engsoc*) etc. All of the examples in (xiii) are from Orwell's *1984*, with the exception of (g).

something about clipped-compounds appeals to totalitarian administrations, whether communist or fascist. Additional examples are found in both Nazi Germany and the German Democratic Republic, although 'syllabic acronyms' are (in the German case) not exclusively associated with totalitarian regimes. For example, 'KriPo' *Kriminalpolizei*, 'Criminal Police,' is still used today, and many German business names like Aldi ('Albrecht Discount') have been formed using this process.

We suggest that clipping and compounding may be used in many cases to imply efficiency (in the case of clipping) and precision, progress, or modernity (in the case of compounding). The intersection of these features would certainly appeal to totalitarian regimes, as well as authors seeking to emulate or evoke the language of such regimes. This is, it should be noted, only one motivation among a number of potential others for the use of and preference for such forms in the cyberpunk subculture.

Of course, clipping-compounds exist in English which have no particular connections with technology or oppression/totalitarianism, such as *sitcom* (< *situation comedy*), but a sufficient number of English clipping-compounds, as discussed above, seem to have connections with either technology and/or totalitarianism/dystopia that these connotations may reasonably be assumed to be present and at work in influencing the production and spread of cyberpunk-related neologisms which are formed by clipping and compounding.

While there are cyberpunk neologisms of various morphological types, clipping-compounds appear to be the most characteristic. Respellings are also popular – presumably motivated in part from notions of resistance to norms, but are harder to distinguish from forms found in more general youth- and internet-cultural discussions. There are, however, indications that there may exist a small number of cyberpunk-specific respellings, *cypx* being a particularly notable example. The use of <x> as a multipurpose replacement spelling appears elsewhere only in the jargon of certain specialized domains, the most relevant of these being telecommunications (*Tx/Rx* for 'transmit/receive'), though it perhaps has additional distant connections to technological neologisms ending in *x*, such as *Minix, Unix, Linux*. It is also possible that the <x> in *cypx* is derived from a phonetic respelling of the plural *cyberpunks*, but the progression of its use as a replacement for the singular/adjectival form to a replacement of the plural provides evidence against this.

One aspect of cyberpunk as a subculture which sets it apart from other domains of neologism formation is that *Neuromancer* and its two sequels in particular seem to have served as a cyberpunk primary text, re-seeding the community lexicon over a period of 30 years. Cyberpunk writ large is a subculture revolving around a literary genre, rather than a community in the traditional

sense – the interlocutors discussed in this analysis are separated not only by geography but by time, making claims of some sort of monolithic and singular linguistic group of 'cyberpunks' impossible. However, shared practices over time, like the diachronic usage of *cyberprep*, hint at continuity. Furthermore, individual sites of communication, like the cyberpunk forum here, do constitute a community wherein the processes of neologism adoption and mediated diffusion can be seen (cf. Spitulnik's 1997 treatment of recycled and recontextualized pieces of radio discourse). In particular, those words which are likely to have originated in the community (e.g. *cyberprep*, and *cypx*) deal with group identity and group membership, further underlining both the centrality of linguistic practice to community-building and the motivation of subcultural engagement in the formation of neologisms. Additional cyberpunk literature and materials like role-playing game *Shadowrun* and videogame *Deus Ex* have internalized these processes to some degree and have continued to influence cyberpunk language as additional primary texts. Cyberpunk remains popular in its own right as a type of media setting – an upcoming PC/console video game from a major publisher, *Cyberpunk 2077*, updates a 90s-era pen and paper roleplaying game.

Future research could compare linguistic innovations in cyberpunk culture with those found in other genres of science fiction, fantasy, or speculative fiction. For example, the 'Nadsat' language used in Anthony Burgess' *A Clockwork Orange* uses a number of imagined borrowings and compounds (although it contains few clipped compounds). Additionally, a social network analysis on a community like that of the cyberpunk forums could capture the particulars of mediated diffusion in a more granular fashion.

Numerous questions remain, including distinguishing between neologisms adopted by the online cyberpunk community from primary cyberpunk literature and neologisms created within the community; Table 1 in Section 5.1 includes five examples of forms that appear on both USENET and the Cyberpunk forums, roughly two decades apart, but which do not appear in any the primary literature we surveyed. This suggests that it is likely that these represent forms that have been coined rather than adopted by the online cyberpunk community and that either these represent internally-coined forms which have survived within the community for over two decades or that these represent forms which have been re-coined by members of the community at different points in time, but presumably reflecting similar internal morphological grammars for forming cyberpunk neologisms. It is interesting to note that three of these forms involve a *cyber-* prefix, and so perhaps reflect a stronger tendency for the online cyberpunk community to form neologisms using this prefix than is exhibited by the creators of cyberpunk literature. Apropos of the frequency of use of this prefix

within the online cyberpunk community, an xkcd comic from September 2015 questions the contemporary currency of the prefix *cyber-*:

Figure 1: Comic from http://xkcd.com/1573/

The comic suggests that *cyber-* is an outdated prefix; however, discussion of the comic online, including Liberman (2015), suggests that the situation is more nuanced than implied by the comic, and that *cyber-* as a prefix remains current within various subgroups. To what extent the linguistic practices of the online cyberpunk community, such as the use of the prefix *cyber-*, affect the usage of such forms outside of the community is unclear.

It is clear, however, that the engagement of fans with a subculture like cyberpunk in the realm of computer-mediated communication involves the management of identity and group membership through linguistic innovations and reproductions of same; and that this process of linguistic innovation does not exist in a vacuum, but is rather informed by a multiplex system of influences.

7 Acknowledgements

We would like to thank the attendees of ICLCE5, who heard an early version of this work, and two anonymous reviewers for their comments and suggestions. We would also like to thank our extremely patient editor, Lauren Squires, for all of her help and suggestions, which have gone a long way toward making this a better chapter. Of course, the responsibility for any remaining errors and infelicities remains ours alone.

8 References

Arcodia, Giorgio Francesco & Fabio Montermini. 2012. Are reduced compounds compounds? Morphological and prosodic properties of reduced compounds in Russian and Mandarin Chinese. In Vincent Renner, François Maniez & Pierre J.L. Arnaud (eds.), *Cross-disciplinary perspectives on lexical blending*, 93–113. Berlin: Walter de Gruyter.

Androutsopoulos, Jannis. 2000. Non-standard spellings in media texts: the case of German fanzines. *Journal of Sociolinguistics* 4(4). 514–533.

Atkinson, Kevin. 2014. Spell Checking Oriented Word Lists (SCOWL). http://wordlist.aspell.net/ (24 March, 2014.)

Bauer, Laurie. 2004. *A glossary of morphology*. Edinburgh: Edinburgh University Press.

Bauer, Laurie & Antoinette Renouf. 2001. A corpus-based study of compounding in English. *Journal of English Linguistics* 29. 101–123.

Benigni, Valentina & Francesca Masini. 2009. Compounds in Russian. *Lingue e Linguaggio* 8(2). 171–193.

Bethke, Bruce. 1997. Foreword. *Cyberpunk – A Short Story by Bruce Bethke*. http://www.infinity-plus.co.uk/stories/cpunk.htm (accessed 28 September, 2014).

Billings, Loren. 1998. Morphology and syntax: Delimiting stump compounds in Russian. In Geert Booij, Angela Ralli & Sergio Scalise (eds.), *Proceedings of the First Mediterranean Conference of Morphology* (Mytilene, Greece, Sept. 19–21 1997.) 99–111. Patras: University of Patras.

Collective Cyberpunk Community. 2013. Collective Cyberpunk Community * Index. http://cyber-punkforums.com (accessed 30 September, 2013).

Cyberpunk Review. 2013. Cyberpunk Review :: View Forum – Virtual Meatspace. http://cyber-punkreview.com/forums/viewforum.php?f=1 (accessed 20 February, 2013).

Evans, Claire L. 2012. What happened to cyberpunk? VICE Motherboard. http://motherboard.vice.com/blog/what-happened-to-cyberpunk-2 (15 November, 2014).

Frank, Erich Schneider, Tim Oerting, & Andy Hawks. 1998. alt.cyberpunk Frequently Asked Questions. http://project.cyberpunk.ru/idb/alt.cyberpunk_faq.html#1 (accessed 30 September, 2013).

Garley, Matt. In Press. Peaze Up! Adaptation, innovation, and variation in German hip-hop discourse. In Cecelia Cutler & Unn Røyneland (eds.), *Multilingual youth practices in computer-mediated communication*. Cambridge: Cambridge University Press.

Gatson, Sarah N. 2011. Self-naming practices on the internet: Identity, authenticity, and community. *Cultural Studies <-> Critical Methodologies* 11(3). 224–235.

Gatson, Sarah N. & Amanda Zweerink. 2004. Ethnography online: 'Natives' practising and inscribing community. *Qualitative Research* 4(2). 179–200.

Hock, Hans Henrich & Brian D. Joseph. 1995/2009 [1st/2nd ed.]. *Language history, language change, and language relationship: An introduction to historical and comparative linguistics*. Berlin: Mouton de Gruyter.

Jackson, Howard. 2011. Invented vocabularies: The cases of Newspeak and Nadsat. In Michael Adams (ed.), *From Elvish to Klingon: Exploring invented languages*, 49–73. Oxford: Oxford University Press.

Liberman, Mark. 2015. Raw "cyber" information. *Language Log*. http://languagelog.ldc.upenn.edu/nll/?p=21224 (accessed 21 September, 2015).

Milroy, James, & Lesley Milroy. 1985. Linguistic change, social network, and speaker innovation. *Journal of Linguistics* 21. 339–384.

Molinsky, Steven J. 1973. *Patterns of ellipsis in Russian compound noun formations*. The Hague/Paris: Mouton.

reddit inc. 2013. "Cyberpunk – High tech, low life!" http://www.reddit.com/r/cyberpunk. (1 March, 2013.)

Spitulnik, Debra. 1997. The social circulation of media discourse and the mediation of communities. *Journal of Linguistic Anthropology* 6. 161–187.

Squires, Lauren. 2014. From TV personality to fans and beyond: Indexical bleaching and the diffusion of a media innovation. *Journal of Linguistic Anthropology* 24(1). 42–62.

T, Cyborg, & Mad Maniac. 2004a. Cyberpunk as a subculture. *The Cyberpunk Project*. http://project.cyberpunk.ru/idb/subculture.html (accessed 28 September, 2014).

T, Cyborg, & Mad Maniac. 2004b. Cyberpunk Dictionary *The Cyberpunk Project*. http://project.cyberpunk.ru/idb/dictionary.html (accessed 25 February, 2013).

U.S. Strategic Command. 2015. Factsheet – U.S. Cyber Command. https://www.stratcom.mil/factsheets/2/Cyber_Command/ (accessed 25 March, 2015).

Zwicky, Arnold. 2010. Libfixes. http://arnoldzwicky.org/2010/01/23/libfixes/ (accessed 1 March, 2013).

Appendix: List of primary sources collected for the novel corpus

Fiction

Bacigalupi, Paolo. 2005. The Calorie Man. *The Magazine of Fantasy & Science Fiction*. October/November 2005.

Bear, Elizabeth. 2005. Two Dreams on a Train. *Strange Horizons* 2005.

Beukes, Lauren. 2008. *Moxyland*. Nottingham, England: Angry Robot.

Bethke, Bruce. 1980. *cyberpunk!* http://www.infinityplus.co.uk/stories/cpunk.htm

Cadigan, Pat. 1991. *Synners*. New York: Bantam Books.

Cadigan, Pat. 1997. Little Latin Larry. In Stephen McClelland (ed.), *Future Histories*. London: Horizon House Publications.

Di Filippo, Paul. 2003. What's Up, Tiger Lily. *The Silver Gryphon* 2003.

Doctorow, Cory. 2006. When Sysadmins Ruled the Earth. http://craphound.com/overclocked/ Cory_Doctorow_-_Overclocked_-_When_Sysadmins_Ruled_the_Earth.html

Egan, Greg. 1997. Yeyuka. *Meanjin* 56(1).

Gibson, William. 1982. Burning Chrome. *Omni*, July 1982 issue.

Gibson, William. 1984. *Neuromancer*. New York: Ace.

Gibson, William. 1985. *Schismatrix*. New York: Arbor House.

Gibson, William. 1986. *Count Zero*. New York: Arbor House.

Gibson, William. 1988. *Mona Lisa Overdrive*. New York: Bantam Books.

Gibson, William. 1991. Academy Leader. In Michael Benedikt (ed.), *Cyberspace*. 26–29. Cambridge, MA: MIT Press.

Gibson, William. 1996. *Idoru*. New York: Viking.

Gibson, William. 1996. Thirteen Views of a Cardboard City. *New Worlds* 1996.

Jeter, K.W. 1984. *Dr. Adder*. New York: Bluejay Books.

Jones, Gwyneth. 1996. Red Sonja and Lessingham in Dreamland. In Ellen Datlow (ed.) *Off Limits*. New York: St. Martin's.

Kadrey, Richard. 1988. *Metrophage*. New York: Harper Voyager.

Lethem, Jonathan. 1996. How We Got in Town and Out Again. *Isaac Asimov's Science Fiction Magazine* 1996.

Maddox, Tom. 1986. Snake Eyes. *Omni*, April 1986 issue.

Maddox, Tom. 1991. *Halo*. New York: TOR.

Marusek, David. 1999. *The Wedding Album*. http://poliscifi.pbworks.com/f/Marusek_The+ Wedding+Album.pdf

Rosenblum, Mary. 2005. Search Engine. *Analog Science Fiction and Fact* 2005.

Rowe, Christopher. 2004. The Voluntary State. *Sci Fiction*.

Rucker, Rudy. 1982. *Software*. New York: Ace Books.

Rucker, Rudy. 1988. *Wetware*. New York: Avon Books.

Rucker, Rudy. 1997. *Freeware*. New York: Avon Books.

Rucker, Rudy. 2000. *Realware*. New York: EOS.

Shirley, John. 1980. *City Come A-Walkin'*. New York: Dell.

Stephenson, Neal. 1992. *Snow Crash*. New York: Bantam Books.

Sterling, Bruce. 1988. *Islands in the Net*. New York: Arbor House.

Sterling, Bruce. 1994. *Heavy Weather*. New York: Spectra.

Sterling, Bruce. 1996. The Littlest Jackal. In Bruce Sterling (ed.), *A Good Old-Fashioned Future*. New York: Bantam.

Sterling, Bruce. 1996. Bicycle Repairman. In Bruce Sterling (ed.), *A Good Old-Fashioned Future*. New York: Bantam.

Stross, Charles. 2001. Lobsters. *Isaac Asimov's Science Fiction Magazine* 2001.

Stross, Charles. 2005. *Accelerando*. London: Orbit.

Swanwick, Michael. 2001. The Dog Said Bow-Wow. *Isaac Asimov's Science Fiction Magazine* 2001.

Swanwick, Michael & William Gibson. 1985. Dogfight. *Omni*, July 1985 issue.

Williams, Walter Jon. 1999. *Daddy's World*. Riverdale, NY: Baen Books.

Non-fiction

Kessel, John and James Patrick Kelly. 2007. Hacking Cyberpunk. In: James Patrick Kelly & John Kessel (eds.), *Rewired: the Post-Cyberpunk Anthology*. San Francisco, CA: Tachyon.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40