Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

A MARVEL-ous Homecoming: Creating conlangs for Captain Marvel

Joseph Rhyne

Cornell University

jtr92@cornell.edu

October 10, 2019

Constructed Languages
ooooooo

Captain Marvel and Torfan
oooooooooooooooooooooooo

Conlangs and Linguistics
oooooooo

References
o

Overview

Objectives

- Give some background on conlangs
- Review my experiences creating conlangs for Marvel Studios
- Explore how conlangs can be integrated into linguistics

Constructed Languages

Constructed Languages

- Constructed languages (sometimes called planned or artificial languages) are languages that have been purposefully and intentionally created by individual humans
- Large variety of goals for different types of conlangs:
  - **Auxiliary Language**: Ease communication between disparate groups of people, e.g. *Esperanto* (Zamenhof 1887)
  - **Fictional Language**: Give depth and realism to some fictional setting, e.g. *Dothraki* (Peterson 20014)
  - **Engineered Language**: Used for experimentation on linguistic and cognitive effects of language, e.g. *Lojban* (Logical Language Group 1987)
- Conlangs can be created from scratch (a priori) or use parts of existing languages (a posteriori)

Constructed Languages
○○●○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Conlangs: History

- Humans actively modifying/regulating language use has been around probably for as long as language itself
  - Many references in ancient texts of rulers coining neologisms
  - Understanding of "grammar" but not used to create new languages
  - Used more to regulate, cf. language academies and language planning
- First "real" conlang: Latin-based *Lingua Ignota* created by the German abbess Hildegard of Bingen in the 12th c. (Higley 2007)
- In the Enlightenment, attempts to "correct" the defects of natural languages (e.g. polysemy and irregular morphology), as in John Wilkin's (1668) Philosophical Language

Constructed Languages
○○○○●○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Conlangs: History

- Some of the philosophical languages were meant for communication, but did not catch on
  - Did make some advancements in fields like semantics and served as a conceptual precursor to more recent developments like the thesaurus (Roget 1884)
- In the late 19th century, auxiliary languages became the main kind of conlang
  - Languages like Esperanto and Volapük created to aid communication across speakers of different natural languages
  - Designed to be easily learnable
  - Existential goal of facilitating peace and understanding across the world
  - Most took aspects of natural languages

Constructed Languages
○○○○●○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Conlangs: History

- Esperanto has been the most successful conlang, though it falls short of its lofty goals
  - Was allowed to change naturally
  - Several Million speakers today (Lewis et al. 2015)
  - Even some native speakers (Versteegh 2001, Corsetti 1996)
- Another shift in conlangs after Tolkien's fictional languages of Middle-Earth
  - Tolkien was a philologist and historical linguist
  - Used this knowledge to create full and naturalistic languages with rich historical derivations
  - His novels were created because of his conlangs (Tolkien 1981: 219)

Constructed Languages
○○○○○●○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Conslangs Today

- Tolkien's novel inclusion of conlangs in his fiction started a movement
- Klingon by Marc Okrand (1997), Na'vi by Paul Frommer, Dothraki and Valyrian by David J. Peterson and hundreds of other languages in science fiction and fantasy
- Conlangs are now an expected quantity:
  - If a work of fiction has people (human or otherwise) not from earth, there is a conlang for them
  - Gibberish does not cut it anymore, e.g. Leia/Boussh's "language" Ubese in *Return of the Jedi*
- Fans have unprecedented access to learning and analyzing languages in their favorite media
- This passion combined with the internet has led to the exponential growth of the conlanging community
- Millions of amateur conlangers creating, sharing, and speaking millions of conlangs on internet forums
- Even a Language Creation Society

Constructed Languages
○○○○○○○●

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Personal History

- I was one such amateur conlanger
  - I was an expert in conlanging before I was even a novice linguist
- Conlangs set me on my path to become a linguist
  - Read *Lord of the Rings* at an early age and got my first taste of conlangs
  - Began to create my own
  - Wanted to learn Latin and other ancient languages in middle school
  - Came to UK where I discovered the field of linguistics!
- No idea that conlangs would come back into my professional life

Constructed Languages
0000000

Captain Marvel and Torfan
●000000000000000000000

Conlangs and Linguistics
00000000

References
O

Captain Marvel and Torfan

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○●○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Captain Marvel

Constructed Languages
ooooooo

Captain Marvel and Torfan
ooeooooooooooooooooooo

Conlangs and Linguistics
ooooooooo

References
o

Captain Marvel: Getting the Job

- Once-in-a-lifetime opportunity, though hopefully not the last!
- Proud to contribute (even in a small way) to the first Marvel movie to focus a female hero!
- My advisor Michael Weiss was contacted by a producer from Marvel in June 2018 asking if he could create a conlang for a few scenes
  - Michael was busy at the time and could not do it in the time needed
  - He put the producer in touch with me and another grad student
  - Completed the language in less than a week

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○●○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Working for Hollywood

- Contracts and NDAs
  - Could not talk about it until the movie came out
- Company accounts
  - Secure ways of disseminating information
- Deadlines
  - Very short turnaround: Filming scenes that used the language in 1 week
- Ownership of the language
  - Became Marvel's property so they could do whatever they wanted with it
- Scope of the language
  - Only used in one extended scene

Torfan: Process of Creation

Need some basic info to start creating:

- Who is speaking the language?
  - Are the human or human-like?
  - What is their culture like?
- How is the language being used?
  - What is the scene?
  - What are the speakers saying?
- Do the filmmakers/writers have anything they want included?

Kree concept art

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○●○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Inspiration: Torfa Concept Art

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○●○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Inspiration: Torfan Concept Art

Inspiration: Previs and Scripts

14   **EXT. UNDERWATER**   14

STARFORCE launches out of their pods like torpedoes, shooting
straight toward us. Ramp to SLO-MO as Vers passes us.

15   **EXT. TORFAN RUINS - MISTY LANDSCAPE**   15

Foggy desert covered in ancient ruins. From out of the fog,
shadows move... take form as:

STARFORCE creep forward, on alert. As they clock their
surrounding environs, each touches an icon on their FOREARM
CONSOLE. Their uniforms CHANGE COLOR, camouflaging them for
their mission. They spread out, dropping behind cover for a
stop, look and listen.

We FOLLOW Vers as she crouches behind a dilapidated column,
scanning through her helmet visor to clock-

VERS'S HUD P.O.V. as her image-intensifier cuts through the
fog, REVEALING: beyond the ruins a steep ravine, a perilous
bridge over an indeterminate drop... and a bombed-out TEMPLE.

Yon-Rogg brings up his radar on his forearm console.

Designing for Others

- Different from past experiences in conlanging:
    - Creating one to be used by other people
    - Had to be approved by studio execs
    - Had to be finished very quickly

Constructed Languages
ooooooo

Captain Marvel and Torfan
ooooooooooo●ooooooooooo

Conlangs and Linguistics
oooooooo

References
o

Designing with Others

My co-creator Ryan Hearn

- Created with my colleague Ryan Hearn
- Working over a distance
- Delegated aspects of the language:
  - Ryan handled more of the morphology and syntax
  - I handled the sound system and most of the lexicon
  - For some of Ryan's perspective, you can listen to a podcast we did for the Cornell Language Resources Center at https://lrc.cornell.edu/podcast

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○●○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Torfan: Phonology

- Wanted an inventory that sounded different from English, but was still easy to pronounce
- Consonant inventory inspired heavily by Ge'ez
- A few basic phonological rules:
  - aɪ/e alternations
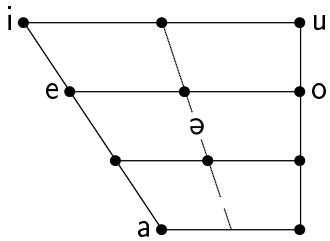 - Final stress in verbs and nouns
  - Nasal assimilation

Constructed Languages
oooooooo

Captain Marvel and Torfan
ooooooooooooo●ooooooooo

Conlangs and Linguistics
ooooooooo

References
o

Torfan: Consonants

		Labial	Alveolar	Post-Alv./Pal.	Velar	Pharyngeal
Stop	*Voiceless*	p	t		k	
	Voiced	b	d		g	
	Ejective	p'	t'		k'	
Nasal		m	n		ŋ	
Affricate			ts'			
Fricative	*Voiceless*	f	s	ʃ		ħ
	Voiced	v	z	ʒ		
Trill			r			
Approximants			l	j	w	

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○●○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Ge'ez Inspiration

		Labial	Alveolar	Palatal	Velar/Uvular	Labiovelar	Pharyngeal	Glottal
Stop	*Voiceless*	p	t		k	kʷ		ʔ
	Voiced	b	d		g	gʷ		
	Ejective	p'	t'		k'	kʷ'		
Nasal		m	n					
Affricate			ts'					
Fricative	*Voiceless*	f	s, ɬ		χ			h
	Voiced		z				ʕ	
Trill			r					
Approximants			l	j		w		

Constructed Languages
0000000

Captain Marvel and Torfan
0000000000000●00000000

Conlangs and Linguistics
00000000

References
0

Torfan: Vowels

Diphthongs: aɪ, aʊ

Constructed Languages
ooooooo

Captain Marvel and Torfan
oooooooooooooooo●ooooooo

Conlangs and Linguistics
oooooooo

References
o

Torfan: Syntax & Morphology

- SOV word order
  - Most common typologically, but different from English
  - pro-drop
- Straightforward agglutinative language
  - Very similar to Turkish and Japenese in its structure
  - Wanted it to be modular and easy to use

Constructed Languages
0000000

Captain Marvel and Torfan
0000000000000000●000000

Conlangs and Linguistics
00000000

References
0

Torfan: Verbal Morphology

1. Inclusive/Exclusive: *sa/da-*
2. Causative: *-for*
3. Passive: *-mir*
4. Moods:
   - Supplicative: *-kin*
   - Optatitve: *-kis*
   - Imperative: *-bal*
5. Negation: *-vai/ve*
6. 3 Tenses:
   - Past: *-ta*
   - Present: *-tai/te*
   - Future: *-ti*
7. Subordination:
   - "If...": *-ma*
   - "When...": *-lau*
   - Indirect Statement: *-xa*
8. Question: *-si*

Constructed Languages
ooooooo

Captain Marvel and Torfan
oooooooooooooooooo●ooooo

Conlangs and Linguistics
oooooooo

References
o

Torfan: Nominal Morphology

- Plural: *-tan*
- Cases:
    - Nominative: *-∅*
    - Accusative: *-ka*
    - Dative: *-men*
        - Also denotes motion towards something
    - Genitive: *-p'a*
        - Also denotes motion away from something
    - Ablative: *-di*
    - Locative: *-lo*

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○●○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Torfan: Lexicon

- Vocab: About 300 words
  - Mostly Nouns and Verbs, some basic adjectives, pronouns, and others
- Most words from Swadesh list, but included many that were more appropriate for the scene
  - *ənts'ak* "enemy"
  - *t'orva* "home"
  - *ʃkrulə* "Skrull"
  - *vaimir* "die"
  - *wen* "go"
  - *kis* "kis"

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○●○○○

Conlangs and Linguistics
○○○○○○○○

References
○

Torfan: Example Dialogue

(1) dəmp'a-ka   kusartam-p'a da-weŋkavi-bal
     planet-ACC 1st-GEN   excl.-get.off-IMP

     "Get off our planet!"

(2) ħisar da-t'erm-te-vai
     here excl.-belong-pres.-NEG

     "You don't belong here!"

(3) isar-p'a   da-weŋka-bal... zau
     this.place-GEN excl.-leave-IMP enough

     da-yam-ve-ta-si
     excl.-done-NEG-PAST-Quest.

     "Leave this place...haven't you done enough?"

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○●○○

Conlangs and Linguistics
○○○○○○○○

References
○

Torfan: Example Dialogue (Shortened)

(4) dəmp'a   kust'ar   da-weŋkavi
     planet-ACC 1st-GEN   excl.-get.off-IMP

     "Get off our planet!"

(5) ħisar da-t'erm
     here excl.-belong-pres.-NEG

     "You don't belong here!"

(6) isar   da-weŋka...   zau
     this.place-GEN excl.-leave-IMP enough
     da-yam-ve-ts'i
     excl.-done-NEG-PAST-Quest.

     "Leave this place...haven't you done enough?"

Torfan: Example Dialogue

Constructed Languages
ooooooo

Captain Marvel and Torfan
oooooooooooooooooooooo●

Conlangs and Linguistics
oooooooo

References
o

Experience

- Really Positive, and it's surreal to have your name in a movie's credits
- Constraints might have aided the creation:
  - The limited time meant that we could not add as many idiosyncrasies and complexities that most languages have
  - Kept the language simple and easy to use
- Would do it again
- Don't want to be a career conlanger
  - I still love creating languages
  - But I enjoy teaching and conducting research more

Conlangs and Linguistics

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○●○○○○○○

References
○

Conlangs Beyond the (Hollywood) Stars

- Conlangs have become more popular in media, but their uses go beyond just entertainment and adding depth to fictional worlds
- They can be a useful tool for linguists!
  - Community engagement
  - Good for teaching linguistics
  - Research paradigms

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○●○○○○○

References
○

Linguistic Outreach and Promotion

- Conlangs are one of the reasons I became interested in linguistics
- There is a huge opportunity for the field to reach out to people that are interested in conlangs
- Connected to media that they care about
- Can use that as an opportunity to inform the public about linguistics and linguistic issues

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○●○○○○

References
○

Conlangs in the Classroom

- Conlangs are a great resource for classroom settings (Sanders 2016)
- Courses that focus on conlangs:
  - Very popular right now
  - Can serve as an intro to linguistics
  - I am in the middle of teaching my second course on Conlangs
  - Can be used as a lens through which students can view linguistics problems
    - Creation of problem sets and student activities
    - "Teaching Proto-Indo-European as a Constructed Language" (Byrd & Byrd forthcoming)

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○●○○○

References
○

Conlangs in linguistic research

- Much work has been done on various phenomena at the margins of language:
  - Poetry, e.g. Halle & Keyser's (1971) analysis of English stress, and too many others to cite
  - Ludlings and language games, e.g. Ito, Kitagawa & Mester's (1996) analysis of Japanese prosody
  - Humor, e.g. Sutton-Spence & Napoli's analysis of linguistic properties of sign language
- Conlangs, while utilizing many of the subfields that we work on, are linguistically marginal
- But they can still serve a purpose in linguistic research programs

Conlangs in Linguistic Research

- There are multiple avenues of linguistic research open across many subfields that can study and use conlangs
- Many of these overlap:
  - Language Acquisition: Look at Native conlang speakers (Versteegh 2001, Corsetti 1996) or how SLA differs for conlangs vs. natural languages
  - Psycho- and Experimental Linguistics: Examine learnability of certain linguistic phenomena using artificial grammar learning paradigm (e.g. Christiansen 2000; Culbertson & Smolensky 2011; Navarro et al. 2018; Raviv & Arnon 2018)

Conlangs in Linguistic Research
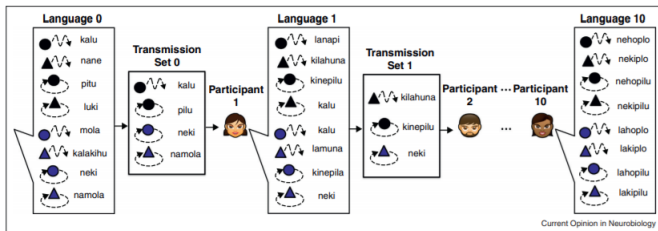
- Computational and Historical Linguistics:
  - Experiment on the learnability of certain reconstructions through either the reconstructed grammars or artificial grammars
  - Examine pathways of change and the emergence of linguistic patterns, like compositionality (Navarro et al. 2018; Raviv & Arnon 2018)
  - Combine with Iterative Learning paradigm and agent-based simulations (Kirby, Griffiths, & Smith 2014)

Constructed Languages
ooooooo

Captain Marvel and Torfan
oooooooooooooooooooooo

Conlangs and Linguistics
oooooooo●

References
o

Conlangs are cool!

Takeaways

- Conlangs have a long and rich history that is intertwined with natural language
- Conlangs are prominent in media today
- Conlangs are a great potential source for linguistic research and outreach

References I

Bergen, Benjamin K. 2001. Nativization processes in L1 Esperanto. Journal of Child Language 28.575–95. DOI: 10.1017/S0305000901004779.

Byrd, Brenna Reinhart and Andrew M. Byrd. "Teaching Proto-Indo-European as a Constructed Language", Jeffrey Penske, Amy Fountain, and Nathan Sanders (eds.), Language Invention in Linguistics Pedagogy , Oxford: OUP (forthcoming).

Christiansen, Morten. 2000. Using artificial language learning to study language evolution: Exploring the emergence of word order universals. Presented at the Third Conference on the Evolution of Language. Paris, France.

Corsetti, Renato. 1996. A mother tongue spoken mainly by fathers. Language Problems and Language Planning 20.263–73. DOI: 10.1075/lplp.20.3.05cor.

Culbertson, J., and Paul Smolensky. 2011. Testing Greenberg's Universal 18 using an artificial language learning paradigm. In Proceedings of NELS 40.

Halle, Morris, and Samuel Jay Keyser. 1971. English stress: Its form, its growth, and its role in verse. New York: Harper & Row.

Higley, Sarah L. 2007. Hildegard of Bingen's unknown language: An edition, translation, and discussion. New York: Palgrave MacMillan.

Ito, Junko, Yoshihisa Kitagawa, and Armin Mester. 1996. Prosodic faithfulness and correspondence: Evidence from a Japanese argot. Journal of East Asian Linguistics 5.217–94. DOI: 10.1007/BF00132604.

Okrand, Marc. 1997. Klingon for the galactic traveler. New York: Pocket Books.

Peterson, David J. 2014. Living language Dothraki: A conversational language course based on the hit original HBO series Game of Thrones. New York: Living Language.

Roget, Peter Mark. 1884 [1852]. Thesaurus of English words and phrases classified and arranged so as to facilitate the expression of ideas and assist in literary composition. New edn. London: Longman, Green, & Co.

Sutton-Spence, Rachel and Donna Jo Napoli. 2009. Humour in sign languages: The linguistic underpinnings. Dublin: Trinity College Dublin.

Tolkien, J. R. R. 1981. The letters of J. R. R. Tolkien, ed. by Humphrey Carpenter and Christopher Tolkien. Boston: Houghton Mifflin.

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
○

References II

Versteegh, Kees. 1993. Esperanto as a first language: Language acquisition with a restricted input. Linguistics 31.539–55. DOI: 10.1515/ling.1993.31.3.539.

Wilkins, John. 1668. Essay towards a real character and a philosophical language. London: Royal Society of London

Constructed Languages
○○○○○○○

Captain Marvel and Torfan
○○○○○○○○○○○○○○○○○○○○○○○○

Conlangs and Linguistics
○○○○○○○○

References
●

Thank you!

The Skrull Language

Bonus: Skrull Language

- A month after we finished work on Tofan, Marvel asked us to make another language: **Skrull**
- Similar time-frame of about a week
- Skrull throughout the comics are villains, but they were good in the movie
  - More reptilian
  - Can shape-shift
- Did not actually make it into the movie, but could show up in future movies
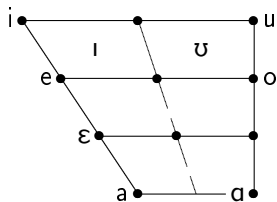
Skrull Language

- Isolating language
- About 150 words
- Included more non-English sounds
- Vowel system and stress heavily influenced by Latin

Skrull: Consonants

		Labial	Alveolar	Post-Alveolar	Palatal	Velar	Uvular/Glottal
Stop	*Voiceless*	p	t		c	k	
	Voiced	b	d			g	
Nasal		m	n				
Fricative	*Voiceless*		s	ʃ		x	h
	Voiced		z	ʒ		ɣ	
Trill							ʀ
Approximants			l		j	w	

Skrull: Vowels

Skrull: Syntax

- SVO word order
- Isolating language
- Verbal Syntax:
  - Auxiliary+NEG+Main.Verb+Adverb/Particle
- Nominal Syntax:
  - Quantifier/Numeral » Classifier » Head.Noun » Adjs. » Demonstratives » Possessive/Associative.Noun

Skrull: Example Sentences

(7) kaʒtuc aʀ yook

"Everything will be okay."

(8) ʃkʀul ak waʀ cal nooʃkaʒa

"The Skrull will have their revenge."

(9) Naskaʒ keʃ ʃkʀuu kaʒ tuc gaataʀs

"We have conquered the entire galaxy."