



RÉVÉLATEUR D'INGÉNIEURS
DEPUIS 1961

Humorous Wordplay Generation in French

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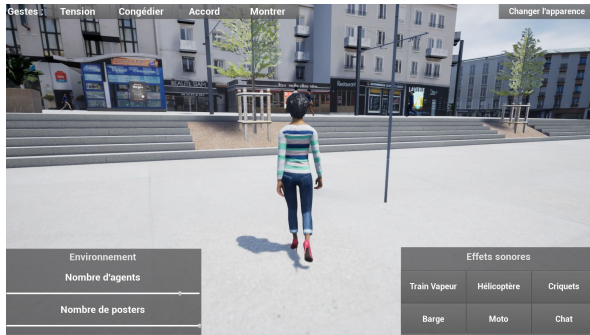


<https://labsticc.fr/fr/equipes/commedia>

Research context

Engaging, compelling interactive applications

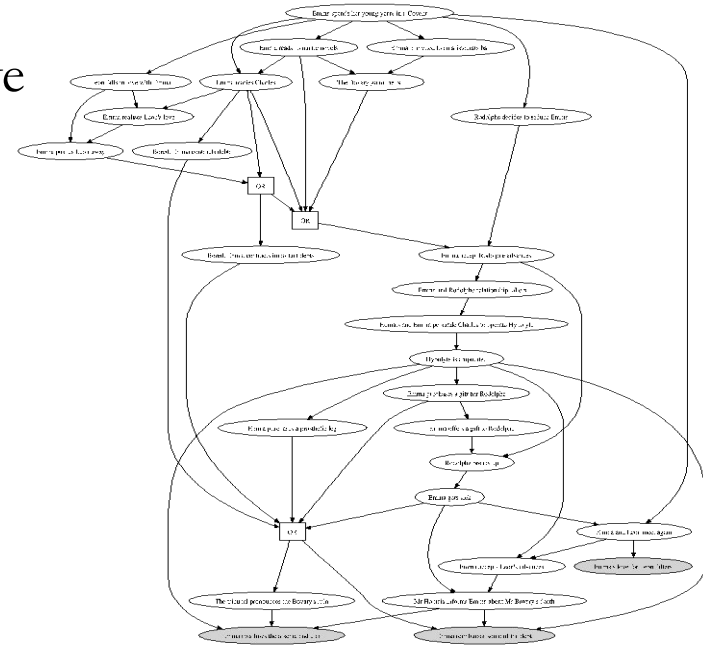
- Embodiment, Narrative transportation, Virtual Agents Believability, Emotions induction, Presence and Co-presence transportation
- How to maintain engagement? How to objectively measure or experimentally evidence?



Immersive, interactive scenarised applications with Virtual Actors

Storytelling in a Nutshell

- A causal partial order between narrative action
 - Told in a way that elicits **emotions** (emotional contagion, but also structural effects such as suspense)
 - Projecting a point of view (eg. « Normal People »)
- => Potential for using humour in the way stories are delivered



Persuasion? Reactance?

- Interactive storytelling systems and Virtual Agents can provide a backbone for persuasive systems.
 - Coaching for reaching personal aims
 - Helping with reactance issues or motivation in a teaching and learning context
- Certain forms of Humour have been known to defuse reactance
 - Helps establish rapport (self-deprecative humour from the AI)
 - Helps trust?
- Integrating affiliative humour mechanisms in interactive systems?
 - detecting humour
 - producing humorous behaviours and speech features

Challenges for generating humour (in French)

- To date large language models deal better with English than any other language
- Humour has cultural aspects
- Until recently, corpus for puns and jokes in English (SemEval-2017, Miller et al.)

A side effect from Joker@CLEF2022: A corpus of wordplay in French!

We conducted several short scaled experiments.

Method description



<https://labsticc.fr/fr/equipes/commedia>

Previous work

“Let Everything Turn Well in Your Wife”: Generation of Adult Humor Using Lexical Constraints (Valitutti et al.)

- Paronyms
- Taboo words data set
- Context (part of speech,..)

« Pun generation with surprise » (He et al. 2019)

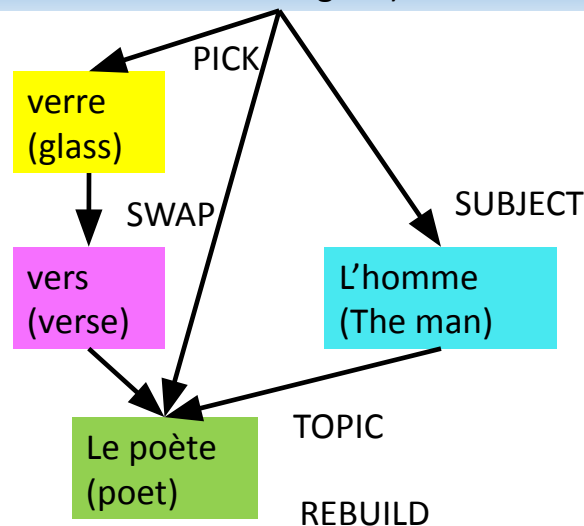
- Paronyms
- Changing the context to create surprise

Wordnet + data set + seq2seq

Proposed Pipeline for pun generation

1. **PICK**: choose the word on which to apply wordplay
Lexique 3 (New & Pailler) + location in the sentence
2. **SWAP**: find a paronym
Lexique 3 + fasttext: constraints (!=lemmatisation, same PoS, frequency) and semantic distance
3. **SUBJECT**: a central word in the sentence reflecting its topic
Jurassic LLM with prompts
4. **TOPIC**: suggests new topic based on paronym
Jurassic prompts
5. **REBUILD**: creates the new sentence
Jurassic prompts

L'homme est tombé, il a cassé un verre
(The man fell and broke a glass)



Le poète est tombé, il a cassé un verre/vers
(The poet fell and broke a glass/verse)

Examples of prompts for pun generation

- SUBJECT

Phrase: l'homme est tombé, il a cassé un verre
Sujet: homme

- TOPIC

phrase: L'homme est tombé, il a cassé un verre.
mot à remplacer: verre
homonyme: vers
nouveau contexte de l'homonyme remplaçant: Le poète

- REBUILD

Phrase: L'homme est tombé, il a cassé un verre.
Sujet: l'homme
Nouveau sujet: le poète
Nouvelle phrase: Le poète est tombé, il a cassé un verre.

Wellerism generation

Wellerisms are wordplay making use of catchphrases, phrases or expressions recognizes by their repeated utterance

- Question-Answers

- Que dit l'étudiant à la calculatrice? Tu comptes beaucoup pour moi. (*What does the student say to the calculator? You mean the world to me (lit. You count a lot for me).*)

- « Old <profession> never die, they <...> »

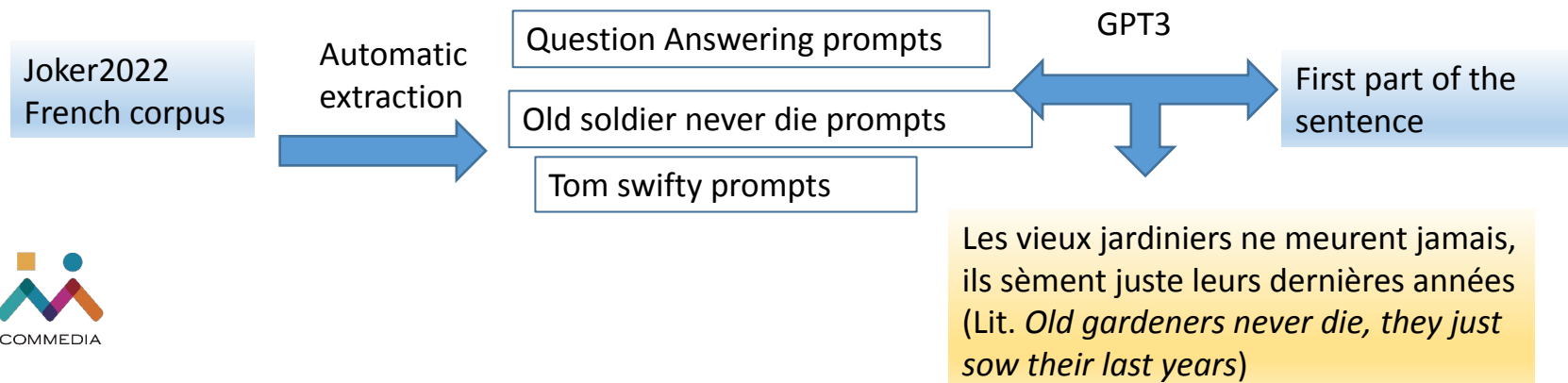
- Les vieux electriciens de meurent pas, ils 100 volts (s'en vont). (lit. *Old electricians never die, they go away*)

- Tom Swifty:

- J'ai commencé à lire Voltaire, dit Tom d'un ton candide (*I started to read Voltaire said Tom candidly*)

Method for wellerisms generation

- Prompt-tuning on a large pre-trained language model (eg. GPT-3) for each type of wellerism
- Bipartite structure: we provide the first and ask the model to provide the second one
- Workflow:



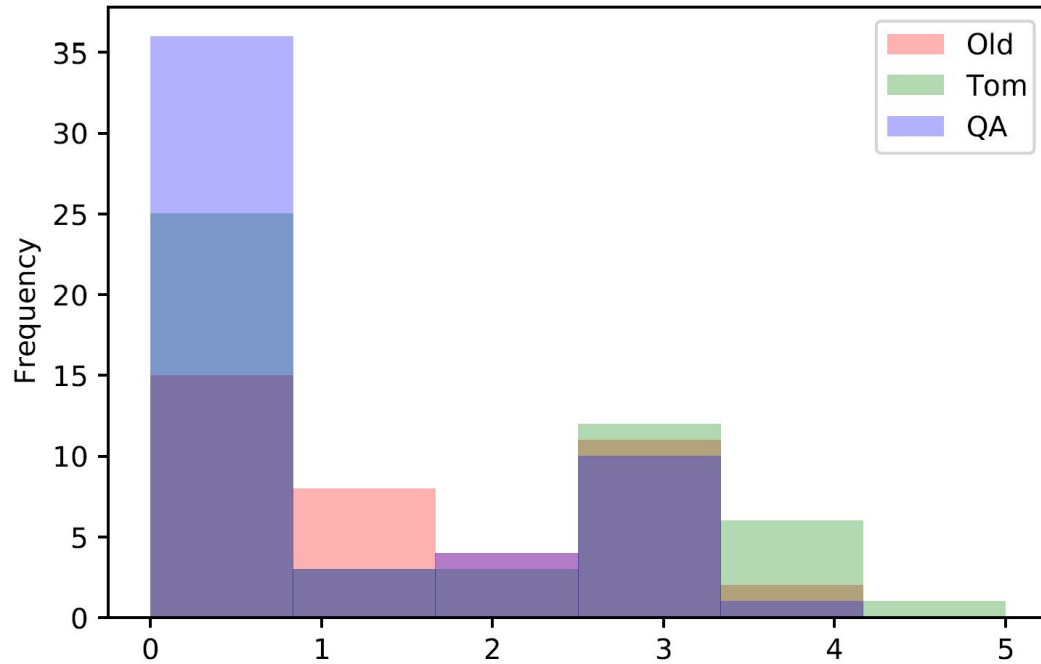
Evaluation

- Elements for evaluation (limited, one Translation master student)

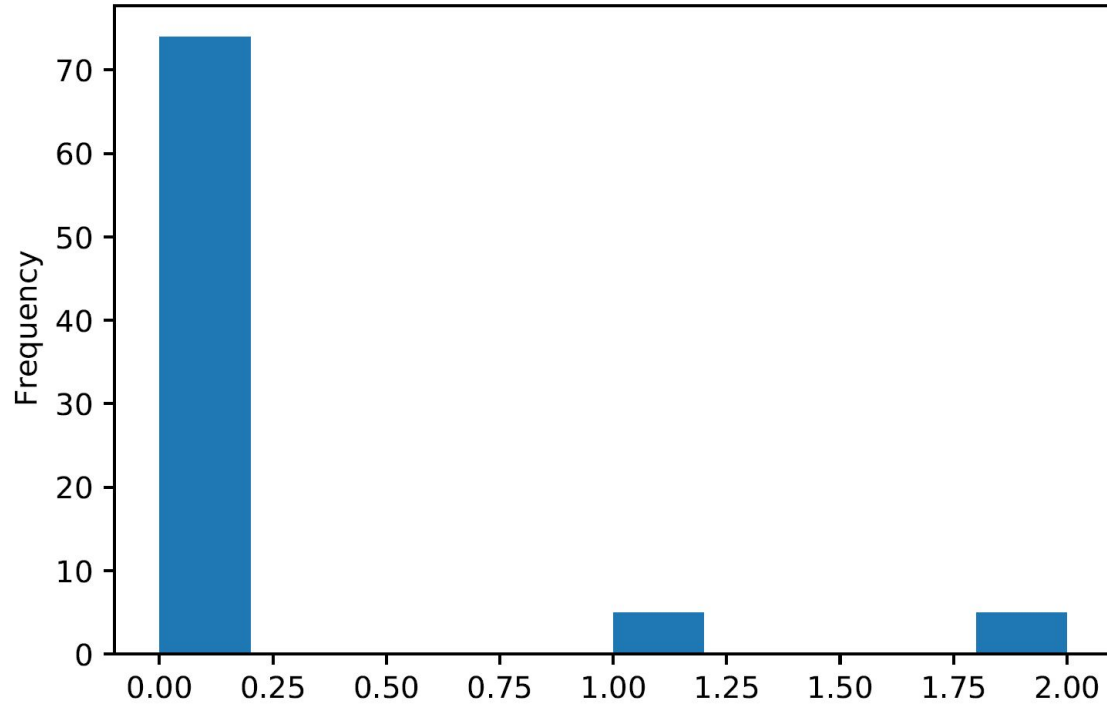
Category	Wordplay	Non-sens	Truncated	Syntax problem	Lexical problem
Question-Answer	8 (15%)	9	2	2	5
Tom swifty	15 (30%)	0	0	11	8
Old soldiers never die	26 (65%)	6	0	1	3
5-step	7(8%)	49	0	2	9

Funnyness? Much more successful for wellerisms using GPT 3 than for the 5-step method for more generic punning

Funnyness...



Funyness



Conclusion and Further thoughts

- GPT-3 Not doing too bad on wellerisms
- 5-steps pipeline: curation required for each step
- The right recognition criteria for paronymie?