**Motivation**

When simplifying text, lexical or syntactic transformations may be insufficient: there may be additional background information that readers need to deeply understand content in the original text.

**Corpus Collection**

| Original | Simplified |
|----------|------------|
| Results, she said, “could help the team better understand ancient Egyptian health” and, correspondingly, modern-day health. For instance, some mummies still have arteries. An artery is a tube that moves blood through the body. The artery could show if the person had been healthy or not. | “We can’t just put a gallon of milk on a shelf and hope someone buys it,” she said. Milk companies are trying to get children to drink more milk. They are guessing that funny containers might help. |

**Contextual Specificity**

In studying elaborative simplification in the Newsela corpus, we discover that elaborations vary in contextual specificity — i.e., how specific elaborations are to the surrounding context.

- **Low**
  - Marshall and his partners will do DNA tests. DNA holds the code for every cell in your body.

- **Medium**
  - The Rainbow Loom helps kids make colorful rubber band bracelets. It was invented by a man named Cheong-Choon Ng.

- **High**
  - “We can’t just put a gallon of milk on a shelf and hope someone buys it,” she said. Milk companies are trying to get children to drink more milk. They are guessing that funny containers might help.

**Elaborative Simplification**

We introduce *elaborative simplification*, the insertion of content during the simplification process, meant to aid document understanding.

**Elaboration Generation**

| Task | Greedy Decoding | Top-k Sampling | BLEU Score |
|------|-----------------|----------------|------------|
| Baseline: | | | |
| Contextual Specificity Guided Sampling: | | | |
| Sample a sentence w/ selected sequence & & | | | |
| Document Per Context | | | |
| original text | | | |
| Contextual Specificity Guided Sampling: | | | |
| Sample a sentence w/ selected sequence & & | | | |
| Document Per Context | | | |
| original text | | | |
| Contextual Specificity Guided Sampling: | | | |
| Sample a sentence w/ selected sequence & & | | | |
| Document Per Context | | | |
| original text | | | |

**Evaluation & Example Results**

| BLEU | Human Evaluation | % selected | |
|------|-----------------|------------|---|
| Greedy | Topic | Contextual |
| 29.1 | 14.7 | 7.56 |
| 30.4 | 7.56 | 5.54 |
| 32.4 | 7.18 | 7.56 |
| 35.3 | 7.18 | 19.7 |
| 39.1 | 7.18 | 22.4 |
| 44.9 | 7.18 | 25.1 |
| 49.5 | 7.18 | 28.1 |
| 53.2 | 7.18 | 31.1 |

**Example Result**

It was invented by a man named Cheong-Choon Ng.

- **Simplified Text**
  - “... DNA is the building block of life.”

- **Generated Elaboration**
  - “DNA is the building block of life. It is not easy to relax, or to feel positive. DNA holds the code for every cell in your body.”

- **Contextual Specificity**
  - “DNA is...”

- **Elaboration**
  - “DNA is the building block of life. DNA is the code for every cell in your body. It is not easy to relax, or to feel positive.”

**Elaborations**

- **Definitions**
  - Sometimes, scientists can tell if a person had been healthy or not.
- **Contextual Specificity**
  - For instance, some mummies still have arteries.

**Motivation**

The Newsela corpus is a simplification dataset consisting of sets of news articles manually simplified by professional editors.

**Elaboration Generation**

Given some document context, generate an elaboration.

**Evaluation & Example Results**

| BLEU | Human Evaluation | % selected | |
|------|-----------------|------------|---|
| Greedy | Topic | Contextual |
| 29.1 | 14.7 | 7.56 |
| 30.4 | 7.18 | 5.54 |
| 32.4 | 7.18 | 7.56 |
| 35.3 | 7.18 | 19.7 |
| 39.1 | 7.18 | 22.4 |
| 44.9 | 7.18 | 25.1 |
| 49.5 | 7.18 | 28.1 |
| 53.2 | 7.18 | 31.1 |

**Example Result**

It was invented by a man named Cheong-Choon Ng.

- **Simplified Text**
  - “... DNA is the building block of life.”

- **Generated Elaboration**
  - “DNA is the building block of life. DNA is the code for every cell in your body. It is not easy to relax, or to feel positive.”

**Contextual Specificity**

- “DNA is...”

**Elaboration**

- **Definitions**
  - Sometimes, scientists can tell if a person had been healthy or not.
- **Contextual Specificity**
  - For instance, some mummies still have arteries.