

## COMPUTATIONAL ENGLISH GUIDE

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Computational English Argument - Computational English uses techniques to disseminate texts hermeneutically (interpret them).

This is based on my site, Computational English which uses techniques to disseminate texts hermeneutically (interpret them). The first technique uses the text to construct a philosophical argument (see the site). The site is developmental, hence the scripts cannot be relied upon as perfect. The "essays" produced by the scripts only connect the points in the argument. A real essay would have to be written separately from the essays.

Computational English is like a Calculator - Computational English's algorithms are like that of a Calculator.

Will Computational English be like a calculator, as in people should understand the theory before relying on it? Advantages: will allow focus on more material, as more data can be analysed (information would have to be presented in such a way as to allow reviewing in the best way possible). User will be able to program using Conglish's (Computational English) features (write essay, fill out grammar to recognise sentences with the same meaning, compressing the program e.g. 2 identical conclusions compressed to 1 conclusion, with

reasons from both attached to it, action to take based on arriving at a conclusion e.g. return a telephone call, cook a meal, clean up or write a poem).

Intertextuality - Connect two texts.

If intertextuality is defined with a “functional unit” of forming a conclusion from two sentences, one from each text, the first technique could be a possible solution. For example, given the input from sensors “The baby has finished the meal” and the secondary text “When the baby has finished the meal, read to him/her” (and another with the baby’s name) the conclusion could be “Read to Tom”.

Finite Data will be a solution in Conglish - How to use cut off infinite data.

How will the idea of infinite data, as in the following:

Do we inhabit a three-dimensional universe floating in a four-dimensional space? What if the extra dimensions required by string theory were not curled up and unobservably small, but unfurled and vast, extending forever? Could an invisible universe only a tiny fraction of an inch apart in another dimension explain phenomena that we see today in our world? A physicist may unravel the mysteries of the universe’s hidden dimensions. One solution could be to describe an interval of data, concluding with a pointer to infinity.

Radical Difference - How two sides of a debate are radically different.

Radical Difference

Radical difference is seeing two sides of a debate clearly. One should choose a side. Once finished, the opposition between the two sides represents the radical difference. The diagram represents the two perspectives on the debate being represented as rays from the centre of the circle.

Order in Conglish - Concerns how to determine the temporality of an event given a text.

One of the limitations of the first technique is its “duck-pond” quality, that is sentences to form the basis of an interpretation are chosen based on the arguments, not vice versa. Another problem this brings up is whether there will be exceptions to the argument made if the argument is chosen based on whether other parts of the text satisfy it. This can also be dealt with by using “objections”, that is if a particular sentence negates a reason, it can cause an ontology to fail and the reason to become bad.

Another limitation is the lack of checking of order of sentences from the text. This can be dealt with by including at its most simple, indices in sentences and rules requiring inequalities between sentences. e.g. 1- The painter slipped on the ladder, 2- The ambulance arrived promptly.

Dereconstruction - Prevents destruction of a reconstructed world.

Dereconstruction, another variant of computational hermeneutics I thought of reconstructs a narrative in a representation for reasoning about and querying. The first technique can take a text, and after an interpretation has been prepared (this would be necessary to write as part of the program which would write an interpretation) would test whether the conclusion in response to a question with its reasons was supported by the text, and output the interpretation.

Kolmogorov Hermeneutics - Determine properties of a narrative in terms of its file length.

The first technique can simulate “Kolmogorov-type” writing of programs to interpret texts.

Once texts have been interpreted (using hierarchies of arguments with the text as the child nodes and the main conclusion as the root) interpretations of other texts can be merged with it enabling it to be applied to different texts in the future. For example, synonyms can be added for words in a sentence to create possible new interpretations. Also, sentences with new grammars (synogrammars) can be added in disjunction to sentences.

Derivability - The first technique can handle two directions between term or sentence and definition. This allows meaning to be worked out from context.

### 1. Interpolation

The program can interpolate from definition to sentence (2 to 1), i.e. work out the sentence from a given set of definitions.

1. Samantha ate the biscuits (initially unknown)

2a. The biscuits were on the table before Samantha came into the room

b. They weren't there after she left \*

c. It was after school, and time for a snack. \*

\* assumed to be in same section as 2a, i.e. also referring to Samantha eating the biscuits.

In the first technique, order is usually from 1 to 2, but there may be variables that have either any or values from a list.

### 2. Extrapolation. Finding the definition from a sentence

The program can also extrapolate from sentence to definition (1 to 2), i.e. given similar sentences can work out the definition.

There are three cases so far, and may be more in the future.

a. Synonyms

Given:

1. The purse was lost at lunchtime
2. (initially unknown)
  - a. The purse was left in on a seat.
  - b. No one returned it.

the program can calculate:

1. The wallet was lost at lunchtime
2. (initially unknown)
  - a. The wallet was left in on a seat.
  - b. No one returned it.
- b. Synogrammars (sentences with the same meaning)

Given:

1. We received the books we ordered.
2. (initially unknown)
  - a. We filled in the order form for the books
  - b. We sent it in with the money.

the program can calculate:

1. The books we ordered arrived.
2. (initially unknown)
  - a. We filled in the order form for the books
  - b. We sent it in with the money.
  - c. Same base word

Given:

1. We constructed the argument

2. (initially unknown)

a. Constructing is writing.

b. We wrote the argument.

the program can calculate:

1. We deconstructed the argument

2. (initially unknown)

a. Constructing is writing.

b. De-something is taking apart.

c. We took apart the argument.

The Science of Crossing Over - The first technique is limited in terms of a content-filled framework for analysing texts cognitively. The “cognitive science” perspective in Computational English should deal with critical questions arising from events and interchanges between characters, and changes within individual characters. Information from such analysis may be for example abductive conclusions about what a character has done, or deductive conclusions about what a character is or will be doing. Naturally, this may apply to real-life situations. There are air-traffic control systems which analyse dialogue for example. Character interrelationships are one of the important points examine critically as they give the “human side” of the events in the play.

An example is: “Peter saw a crocodile”, “Andrew drew it”, therefore “Andrew drew the crocodile”.

A New Logic Reflecting Language or Natural Logic - The symbols for all, there exists,  $\rightarrow$ ,  $\leftrightarrow$ ,  $\wedge$ ,  $\vee$  and  $\sim$  (not) need to be updated to account for language’s semantic properties. For example, there exist 3 (the symbol there exists! means there exists 1). The symbol  $\sim avb$  could represent a although b because “a although” implies  $\sim a$  and “although b” implies b, hence  $\sim avb$ .

Philosophical Computational English (PCE)

There may be advantages to choosing to study Computational English in Philosophy rather than computer science. There has been much work done on the analytic (computational) and continental (hermeneutic) areas and finding the interface would be ideal in Philosophy. Critically examining literature from the cognitive science perspective may yield representations such as oppositions, hierarchies and Derridean bugs which may be introduced into the system to test for weaknesses and find new areas of interest. Also, processual issues may be examined, such as form’s interrelationship with content,

Nietzschean-type systems created for analysing and analysis and a framework for analysis may be developed.

Computational Philosophical English would differ from PCE in that it would be studied in the computer science department. It would look through a philosophical lens at English followed by a computational lens. For example, it may look at complexity or computational analysis issues around questions in Philosophy and Literature, which may still be relevant in PCE although a single trajectory (from determining the system to be programmed to analysis of the computer program) would be pursued in it.

Philosophical Computational other areas may be brought up on some of the other blogs.

## Lenses

The relation between content and the lenses used to see it among different areas of study is likely to be of interest in the future. Psychological research into cultural phenomena, for example the type Shakespeare is based on may function to query real life scenarios similar to those in plays, used to critically examine the plot of plays using mathematical modelling and prediction, and graph findings using psychologically attuned representations such as timelines, character interrelationships or language analysis.

## Analysing characteristics of arguments

After reading a page on Agnès van Rees, the Director of the project Characteristics of Argumentative Discourse found using the Yahoo! search criteria of “narratology, contention and characteristics”, I became interested in resolution of differences of opinion in everyday discussion.

This gave me the following ideas:

Developmental Conglish, i.e. how if necessary raw evidence needs to be refined and shaped into an argument

Whether two sides of a debate are arguing on the same point.

Deciding which side of a given debate is right.

Do the premises in the argument satisfy all co-premises?

Do the premises work in all cases?

## Conglish Reflection

Conglish allows thought processes to be analysed. It is an analytic perspective for expressing ideas, i.e. looks at the relationships between functional units.

## Conglish Issues

English - themes, language, characterisation, contention, etc.

Philosophical - Reasons and their relations, logic

Psychological - thought processes and ailments, interfaces with artificial intelligence and biochemistry

Linguistic - syntactical (grammars) and semantic (vocabulary)

Computational - efficiency, neatness, fitting purpose, mathematical accuracy

Narratology Diagram

The diagram in the previous entry allows the interesting nature to be made explicit.

How can the program cope with real variation?

Anna: But doesn't it rely on all texts following a particular format - How can the program cope with real variation? it assumes these texts are based in logic or reason. Are they?

Some features allow greater variation in Computational English, while the program is limited to rational principles. In theory it could detect contradictions and recognise abstract, metaphorical or other forms. Synonyms and synogrammars (grammars with the same meaning) substituted for words and phrases allow for a different form. Clauses in sentences can be substituted, allowing more variation. If two sentences are used where one would normally be used, the program can integrate them into a single sentence. There are rules for selecting sentences as evidence, like order and causality. I am writing a paper on variation in Computational English. I can let you know when it is available.

Subject Mix

After reading a narratology page giving the following structure of subjects:

author - reader

narrator - addressee(s)

character - character(s)

I spoke with a friend and she said the subjects the subjects addressed could be mixed up. For example, the narrator could address the reader, or the author could address a character.

Perspectives

The first technique can be used to give a perspective on a text. For example, given the reason "X is younger than Y" the perspective gives the conclusion "X was likely to have been looked after by Y".

### Ratios

One can tell the difference between two time intervals with a lower ratio more easily, e.g. 15 and 20 minutes rather than 20 and 25 minutes.

### Grouping ideas together

- Ratios
- wall to house on two sides
- window to wall and wall to house
- Grouping parts of literature together
- way of thinking, if two men meet, should one help (if the other one will help cure his mother or if they will pay him money) or kill the other one (if he will usurp the throne or try to kill him first)

### Exploring opposites in Hamlet

Closer or further away from Claudius than Gertrude

### Drawing connections

In a binary opposition, one will be stronger. This is because one starts at it (it is the origin). The contention is exploring the relationship/directionality/methodology between two fundamental objects which have a relation.

### Symbols

Before experimentation with narratives, the functional parts (characters, motives and the constitutive objects' interrelations and settings) should be defined.