6SSEL045 – Language Origins
Writing an Abstract or Summary or Conclusion

Contents

Three Types of Text?

What is it that links abstracts, summaries and conclusions together? The answer is that they all of them are usually an integral section of a main text; while abstracts and summaries can also be texts by themselves, a conclusion cannot exist without the text it makes conclusions about. This gives us five different types of text, and five different writing methods to produce them.

- **Abstracts** can exist alone if they are promissory notes for a text to come; for instance, when submitting a paper to an academic conference. However, they mostly occur at the beginning of a longer text as a taster and abbreviation of that text.

- **Summaries** can exist alone as short reviews of a text. In business, this is their primary purpose: to allow the busy to delegate detailed reading to the less busy. In this role they are usually summaries by people other than the author(s). Summaries can also occur at the beginning or end of longer texts, written by the author(s), to pre-empt the need for someone else to summarise. In this role they can seem to be very like abstracts; but, as the journal PNAS shows, they are different (see Appendix 4).

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- **Conclusions** cannot really exist separate from a text, and they have a particular role in the text they are written for. They are not summaries, they are definitely not abstracts, and they are not endings; they are the inferences and outcomes which have emerged from the discussion in the text. Writing a good conclusion is a vital section of any text; it is the final view that readers have of that text.

This means that the three types of text are very different; they all require different ways of writing, one cannot stand in for another, and a single main text may include all three. However, each of these three types of text cannot contain each other: an abstract has no summary or conclusion; a summary needs no abstract or conclusion; and a conclusion does not include an abstract or summary.

What is an Abstract?

There are two types of abstract, the discursive abstract and the structured abstract. The discursive abstract can be either an integral section of a main text or a stand-alone text by itself. The structured abstract is a fairly new format and, while it is sometimes used as an integral section of a main text, I have never seen it used for a stand-alone text.

Discursive Abstract

A discursive abstract is the standard type of abstract you will encounter in the social sciences. This is a paragraph to introduce a paper or article or dissertation (the target) which summarises the contents of the target. A good guide to the size limit of a discursive abstract is as follows:

- Up to 10,000 words in the target text: 2% of the target's word count.
- 10,000-20,000 words in the target text: 1.5% of the target's word count.
- Over 20,000 words in the target text: 1% of the target's word count.

However, there are often word-count or formatting limits imposed on a discursive abstract by publishers or marking institutions: find out what they are for the particular publisher or institution and stick to them.

A discursive abstract should be wholly about the target text (or, if it is a promise for a text yet to come, it should be honest and realistic in what it promises for the target text). It should not be concerned with other arguments or discussions in the field, only with the arguments set out in the target text. The question to ask at the end of a discursive abstract is: does my reader know the key things I discuss in the target text?

Structured Abstract

This is a relatively new type of abstract in the social sciences (although it has a longer pedigree in the physical sciences), and it only really works with research texts. The structured abstract is usually divided into four parts:

- **Objectives:** What the research is trying to show.
- **Methodology:** How the research was done.
- **Results:** What the research actually showed (sometimes labelled "Discussion").
- **Conclusions:** What the results mean for the field of study (sometimes labelled "Outcomes").

All of these parts should be no more than four sentences long.

A structured abstract can be less than four parts (methodology is sometimes left out if there is no direct research); or it can be more than four parts (e.g. the Discussion and Results can be divided into separate parts). Structured abstracts are usually a requirement of the publisher rather than the writer, but some writers use them by preference.

What is a Summary?

A summary provides a shortcut for the reader to decide whether to investigate a text or topic further. They therefore serve two roles: as a pre-reading summary, to entice the reader; and as a review summary, to leave the reader sufficiently informed that they do not need to read further. The best summaries do both of these tasks, but they may be specifically written to fulfil only one of them.

Summaries may be written by the author(s) of the target text, but they are often written by a third party, putting an extra level of interpretation between the authors and the readers. This extra viewpoint can be very useful for the reader, presenting another approach to the topic; or it can be obfuscatory or even misleading, misrepresenting the text to the reader. Obviously, you should aim for the first and not the second approach.

Summaries are also unusual in that they can be written about a topic rather than a text (see Appendix 5).

Pre-Reading Summary

These are usually written by the authors (sometimes editorial staff) to encourage reading of the main text. You frequently see, in many non-academic magazines, a short strapline below a headline as an enticement; these are rare in academic papers, although not unknown. In Academia, a pre-reading summary is usually a short paragraph which is a non-technical version of the abstract and conclusion combined. It needs to provide the shortest route between the two. It used to be that a summary, if it appeared at all, was produced by a third party; but recently some journals have added these pre-reading summaries to their authorial requirements.

Review Summary

This is usually written to replace the task of reading the target text. It is almost always written by a third party to appraise or criticise the target text, and it is only written as a stand-alone text. The review summary must include the key points of the target text, and it should be fair to the target text. A review text can be critical, but it should not mislead the reader about the nature of the text: the writer of the summary should consider themself to be in a three-way social contract of honesty with the reader and the target text author.

Topic Summary

This is a summary of several different texts all discussing the same topic. The purpose is to present a balanced view between the different approaches to the topic, and to bring together texts which address different aspects of the topic. It is almost always written by a third party, and it is only written as a stand-alone text. It can be critical of particular approaches, or provide evidence to support a particular stance, or it can adopt a neutral stance, just reporting any controversies about the topic. In all cases, fairness and faithfulness to the sources is vital.

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What is a Conclusion?

A conclusion is not just a signing-off, it is a chance for the writer to unite the research question, research, discussion, results, and outcomes into a simple, cohesive structure. It does not restate the main text, nor does it argue from the main text; it should, however, highlight the key information the reader needs to understand the main text properly.

Discursive conclusion

This is the usual type of conclusion to an academic text, but that does not mean it is formulated from simple principles that are easy to follow; discursive conclusions can be quite idosyncratic. Because of this, the discursive conclusion is easily derailed, either by uncritical restatement of the contents of the main text, or by introducing new information which has not been addressed in the main text. A discursive conclusion is perhaps the most difficult feature of an academic text to do properly – which is why many academic texts do not even attempt a conclusion. This avoids the pitfalls, but it leaves the text incomplete and the reader unsatisfied. This web page offers more useful information on how to write a good discursive conclusion: https://writingcenter.fas.harvard.edu/pages/ending-essay-conclusions

Bulleted conclusion

The bulleted conclusion is a new type of conclusion which attempts to solve several problems created by the discursive conclusion. Its advantages are:

- It makes the conclusion shorter.
- It identifies key points in the main text and addresses them individually.
- It is easier for the reader to follow and understand.
- It is less prone to uncritical restatement, because the lack of criticism makes the statements look bare.
- It is less easy to introduce of new information, because the need for explanation makes the bullet point too big.

In a bulleted conclusion, each list item should be short and to-the-point, only one or two sentences. Where the prime consideration in a discursive conclusion is the topic, in a bulleted conclusion it is the reader.

Despite the advantages of a bulleted conclusion, many academics do not like them, so it is better to discover the marker's position about them before submitting one. Outside of academia, bulleted conclusions are the norm.

Types of Abstracts, Summaries and Conclusions

<table>
<tr><th></th><th>Abstract</th><th>Summary</th><th>Conclusion</th></tr>
<tr><td rowspan="2">Integral?</td><td>Discursive
Appendix 1</td><td rowspan="2">Pre-reading
Appendix 4</td><td>Discursive
Appendix 8</td></tr>
<tr><td>Structured
Appendix 2</td><td>Bulleted
Appendix 9</td></tr>
<tr><td rowspan="3">Stand-alone?</td><td rowspan="3">Discursive
Appendix 3</td><td>Pre-reading
Appendix 5</td><td rowspan="3"></td></tr>
<tr><td>Review
Appendix 6</td></tr>
<tr><td>Topic
Appendix 7</td></tr>
</table>

This is what you are doing for 6SSEL045 assignment 1

Should I … ?

	Abstract	Summary	Conclusion
Use references?	If the abstract is an integral section of a main text, and the text is itself about another key text or texts, then you may reference those texts. If the abstract stands alone you may reference other texts, but be frugal: one reference per 50 words is the upper limit.	If the summary is an integral section of a main text then include only key references. If the summary stands alone then you may need further references: one reference per 50 words is the upper limit.	Yes, but only reference texts already mentioned. You should avoid introducing new content into a conclusion.
Introduce new or countervailing evidence?	Not usually. This is (or will be) done in the main text, where it can be argued out properly. If the abstract stands alone you may have to mention countervailing arguments, but do not set them out.	give new or countervailing evidence if the main text(s) take an identifiable position, and then only about the position taken. If the summary stands alone it may be more important to mention different evidence about the position taken in the main text, but do not speculate.	The main text should contain all the evidence, properly argued. You can comment upon the arguments in the conclusion, but do not introduce new evidence.
Include quotes?	Usually, do not use quotes in an abstract. You can use one short quote if it is particularly relevant, otherwise do not use them.	Use only short, in-text quotes (less than 40 words); use them sparingly (no more than three); and only use them if they are particularly relevant.	You can finish with a short, particularly relevant quote, otherwise do not use them.
Discuss the topic?	No. Describe the topic in simple terms, but the discussion should be in the main text. This applies to both integral and stand-alone abstracts.	Yes, but do not get embroiled in the arguments pursued in the main text(s); just summarise the outcomes of the discussion. This applies to both integral and stand-alone summaries.	Yes, but in summary form: do not discuss the arguments, only the outcomes of the arguments.
Discuss data collection methods?	Not in a discursive abstract, although you may need to mention key findings. This applies whether the abstract is an integral section of a main text or stand alone. In a structured abstract you discuss the data collection briefly under Methodology.	You should discuss methods if the data collection affects the research (e.g. it is flawed or creates biases in the data), but then only in terms of the problem. Otherwise do not mention data collection.	No, the methods (and the problems they create) should be set out fully in the main text. You can mention the problems in terms of the validity of the research.
Set out the research question?	Yes, this is the core of the abstract, whether it is an integral section of a main text or stand alone. However, you also need to discuss the research question more fully in the main text.	If a research question is a significant part of the main text(s), then mention it, and any problems it creates; if the research question is obscure, say so.	Yes, this should be the core of the conclusion: how did the outcomes of the research meet, or fail to meet, the expectations of the research question.
Take a position?	Not usually. The abstract should be as factual as possible, not speculative. If the abstract is stand-alone, you may want to mention the position taken as a fact; do not discuss it.	Yes, if you are reacting to the text(s) summarised. However, do not argue the position, just state it as a known bias. This is particularly important if the summary is standalone.	Yes, the main text provides the argument, the conclusion gives the outcome and consequences.

Appendix 1 – Integral Discursive Abstract

Behavioral Ecology (2017), 00(00), 1–11. doi:10.1093/beheco/arx011

Original Article

Food abundance, prey morphology, and diet specialization influence individual sea otter tool use

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Sea otters are well-known tool users, employing objects such as rocks or shells to break open invertebrate prey. We used a series of generalized linear mixed effect models to examine observational data on prey capture and tool use from 211 tagged individuals from 5 geographically defined study areas throughout the sea otter's range in California. Our best supported model was able to explain 75% of the variation in the frequency of tool use by individual sea otters with only ecological and demographic variables. In one study area, where sea otter food resources were abundant, all individuals had similar diets focusing on preferred prey items and used tools at low to moderate frequencies (4–38% of prey captures). In the remaining areas, where sea otters were food-limited, individuals specialized on different subsets of the available prey and had a wider range of average tool-use frequency (0–98% of prey captures). The prevalence of difficult-to-access prey in individual diets was a major predictor of tool use and increased the likelihood of using tools on prey that were not difficult to access as well. Age, sex, and feeding habitat also contributed to the probability of tool use but to a smaller extent. We developed a conceptual model illustrating how food abundance, the prevalence of difficult-to-access prey, and individual diet specialization interacted to determine the likelihood that individual sea otters would use tools and considered the model's relevance to other tool-using species.

Key words: **dietary specialization, *Enhydra lutris*, food abundance, foraging behavior, sea otter, tool use.**

Appendix 2 – Integral Structured Abstract

Linguistic analysis of the autobiographical memories of individuals with major depressive disorder

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Abstract

Background

Major depressive disorder (MDD) is characterized by biases in memory, attention, and cognition. The present study utilized the Linguistic Inquiry and Word Count (LIWC) to examine the content of specific autobiographical memories (AMs) recalled by individuals with MDD during an autobiographical memory task.

Methods

We examined various features of the text (including use of affective, cognitive, and self-referential terms), as well as their associations with clinical and cognitive features of MDD (depression severity, autobiographical memory specificity, amygdala activity), in 45 unmedicated adults with MDD compared to 61 healthy controls.

Results

When recalling positive memories MDD individuals used the word "I" less, fewer positive words, more words indicating present focus (present tense verbs), and fewer words overall to describe memories compared to controls. When recalling negative memories, MDD individuals used "I" more, more words indicating present focus, and more words overall to describe memories relative to controls. Depression severity was correlated with word count, the use of "I", and words indicating present focus in negative memories and inversely correlated with word count and the use of "I" in positive memories. Autobiographical memory specificity was correlated with word count, the use of "I", and words indicating present focus for positive memories and inversely correlated with the use of "I" and words indicating present focus for negative memories.

Limitations

Due to the nature of AM recall, we could not control for the number of memories which participants recalled in each mnemonic category.

Appendix 3 – Stand-alone Discursive Abstract

1.4 Agency and Affects in and out of Storyworlds - CLC013

Chaired by Jim Davies (Carleton University)

Marco Bernini (Durham University)
Towards a theory of elanification: Three modest proposals on agency combustion, temporal layering and narrative generators

In its widespread usage, the term personification is normally treated as a synonym of anthropomorphism. This is a quite vague definition, encompassing each case in which we are to a certain degree imbuing non-human objects and beings with human-like mental states or forms. By contrast, this paper will suggest that personification should be profitably considered as a distinct process that might be activated by anthropomorphic projections or recognitions, yet that is not exhausted by, or limited to, them. In this respect, the target of personification can either be anthropomorphised objects or beings, as well as people and fictional human characters. In addition, the paper argues that personification is a temporal process, an aspect so far largely ignored, whereby we progressively ascribe specific traits and phenomenological properties to an individual being – either real or fictional. When we read a novel, for instance, we are not presented with all the characteristics, both physical and mental, of a character. We slowly gain knowledge, make inferences, and gather information from a variety of sources in order to shape what Alan Palmer has called a 'continuous-consciousness frame' (2005) for a character. In short, I would suggest that anthropomorphism is a temporally shorter process having as a target non-human agents, whereas personification is a longer process having as a target both anthropomorphised non-human agents as well as human beings. More importantly, though, my proposal would be to consider both anthropomorphism and personification as belonging to a broader family of processes sharing a common feature: the imbuing, or perceiving, of a richer life energy into the world. Borrowing the concept of 'elan vital' from Henri Bergson (literally the 'vital force,' or 'life force', or 'vital impulse' which, for him, was the substance of consciousness and nature) I would call this wider umbrella of processes 'elanification'. With this new term, I want to address the capacity and drive of human beings to attribute to inorganic objects, organic natural elements, non-human animals, fictional and human beings richer levels of cognition and vitality. In particular, I will address how this temporal process impacts the sense of agency and the generation of narrative possibilities.

MARCO BERNINI is an Assistant Professor in Cognitive Literary Studies in the Department of English Studies and a core member of the interdisciplinary project on auditory-verbal hallucinations 'Hearing the Voice' at Durham University. He is also a member of a project on 'Narrative and Complex Systems' at the University of York (Interdisciplinary Centre for Narrative Studies) and of the 'History of Distributed Cognition' project (University of Edinburgh). His research focuses on narrative theory (in particular cognitive

Appendix 4 – Integral Pre-reading Summary

Integral Pre-reading Summary

Testing the Empathizing–Systemizing theory of sex differences and the Extreme Male Brain theory of autism in half a million people

David M. Greenberg, Varun Warrier, Carrie Allison, and Simon Baron-Cohen

PNAS November 27, 2018 115 (48) 12152-12157; published ahead of print November 12, 2018
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Edited by Leda Cosmides, University of California, Santa Barbara, CA, and accepted by Editorial Board Member Michael S. Gazzaniga September 27, 2018 (received for review June 27, 2018)

Significance

In the largest study to date of autistic traits, we test 10 predictions from the Empathizing–Systemizing (E-S) theory of sex differences and the Extreme Male Brain (EMB) theory of autism. We confirmed that typical females on average are more empathic, typical males on average are more systems-oriented, and autistic people on average show a "masculinized" profile. The strengths of the study are the inclusion of a replication sample and the use of big data. These two theories can be considered to have strong support. We demonstrate that D-scores (difference between E and S) account for 19 times the variance in autistic traits than do other demographic variables, including sex, underscoring the importance of brain types in autism.

Integral Discursive Abstract

Abstract

The Empathizing–Systemizing (E-S) theory of typical sex differences suggests that individuals may be classified based on empathy and systemizing. An extension of the E-S theory, the Extreme Male Brain (EMB) theory suggests that autistic people on average have a shift towards a more masculinized brain along the E-S dimensions. Both theories have been investigated in small sample sizes, limiting their generalizability. Here we leverage two large datasets (discovery n = 671,606, including 36,648 autistic individuals primarily; and validation n = 14,354, including 226 autistic individuals) to investigate 10 predictions of the E-S and the EMB theories. In the discovery dataset, typical females on average showed higher scores on short forms of the Empathy Quotient (EQ) and Sensory Perception Quotient (SPQ), and typical males on average showed higher scores on short forms of the Autism Spectrum Quotient (AQ) and Systemizing Quotient (SQ). Typical sex differences in these measures were attenuated in autistic individuals. Analysis of "brain types" revealed that typical females on average were more likely to be Type E (EQ > SQ) or Extreme Type E and that typical males on average were more likely to be Type S (SQ > EQ) or Extreme Type S. In both datasets, autistic individuals, regardless of their reported sex, on average were "masculinized." Finally, we demonstrate that D-scores (difference between EQ and SQ) account for 19 times more of the variance in autistic traits (43%) than do other demographic variables including sex. Our results provide robust evidence in support of both the E-S and EMB theories.

Appendix 5 – Stand-alone Pre-reading Summary

Marc D. Hauser, Noam Chomsky & W. Tecumseh Fitch (2002). The Faculty of Language: What Is It, Who Has It, and How Did It Evolve? In *Science* 298 1569-1579.

When it was published, this paper was seen as a major rewriting of the story of language origins by Generativists, and a serious threat to the alternative cognitive evolution approach. However, after three years it was becoming obvious that the paper did not address key questions about the origin of language, and the solution it offered was neither sufficient nor particularly informative. Now, it is seen as a rather quaint relic of an earlier, less informed period in the study of language origins.

The paper looks at the "faculties" that are required for language to become possible, and it divides those faculties into two groups. The first group includes everything that seems to exist in some form in other species. These are:

- External faculties – ecological, physical, cultural and social;
- Organism-internal faculties – memory, digestion, respiration and circulation;
- Faculties of Language Broad (FLB) – conceptual-intentional, sensory-motor and "other".

The second group includes the faculties that only humans have:

- Faculties of Language (Narrow) (FLN) – recursion.

The paper argues that an evolutionary story can be told about all of these faculties, except FLN recursion:

> "The available comparative data on animal communication systems suggest that the faculty of language as a whole relies on some uniquely human capacities that have evolved recently in the approximately 6 million years since our divergence from a chimpanzee-like common ancestor. Hypothesis 3, in its strongest form, suggests that only FLN falls into this category." (p1573)

Some of the language used to describe FLN is telling. In the quote above, FLN could be a faculty of very early humans, including the Australopithecines; this represents a major compromise for Chomsky, and he has since recanted on such an early date. Another quote says that:

> "FLN takes a finite set of elements and yields a potentially infinite array of discrete expressions." (p1571).

This represents an important mitigation of Chomsky's usual quote, taken from Wilhelm von Humboldt, that "Language is infinite use of finite means". Where Chomsky's quote sees language itself as infinite, the FLN quote sees language as finite, but its usage as potentially infinite: language is just another cognitive mechanism with a wide range of possibilities. Once again, Chomsky has since recanted on this view.

The paper was called into doubt in 2011, when Hauser was found guilty of research misconduct and resigned from Harvard. Many of his research papers were reviewed, including those quoted in the 2002 paper. In addition, work on child and animal communication has continued to show that the capacity to learn is greater than Chomsky has claimed.

Appendix 6 – Stand-alone Review Summary

Don't panic!

The Science of the Hitchhiker's Guide to the Galaxy
by Michael Hanlon
Macmillan Science: 2005. 256 pp.
£16.99, $24.95

Joanne Baker

Your brief: to explain the science of Life, the Universe and Everything. It's quite a challenge. But Michael Hanlon pulls it off with wit, energy and style.

Timed to coincide with the release of the film adaptation of Douglas Adams' famous book series *The Hitchhiker's Guide to the Galaxy*, Hanlon's guide to the *Guide* takes the general reader on a grand tour of the outer reaches of modern scientific reality. Alien life, quantum physics and the history of the Universe are just as mind-boggling and weird now as they were to Adams in the 1970s, when he imagined Arthur Dent's escapades. Hanlon even manages to explain the unexplainable, such as the eye-popping shock of the total-perspective vortex.

Hanlon obviously enjoyed writing this book. It's not often that science writers get to rant about the non-existence of God, to explain the sudden appearance of a whale from a quantum fluctuation, or to ponder the genetic modification of animals to produce guilt-free meat. Adopting Adams' witty, punchy style, Hanlon's guide is a fun and vivid read. The science twinkles a little more than usual in such a zany setting.

Although he tackles a wide range of cutting-edge topics with depth and authority, Hanlon has chosen the most obvious Hitchhiker destinations for his own scientific tour. The Restaurant at the End of the Universe prompts a discussion of the fate of the Universe; the babel fish yields a chapter on translation software; and time travel, parallel universes and black holes are well-trodden avenues. But when Hanlon does venture off-piste, he is a reassuring and insightful travelling companion, even if he often leaves the *Guide* behind. More references to it and amusing quotes could have added to the entertainment.

Readers familiar with the original *Hitchhiker's Guide* might have enjoyed more subtle tie-ins and a little more background about Adams himself, his peculiar ideas and influences. Hanlon briefly sets the context, but leaves such dialogue to others. The book also lacks comparisons with other contemporary science fiction. Aimed fair and square at the popular-science market, Hanlon's book may not satisfy die-hard science-fiction buffs. But the ghost of Adams is lurking in the pages.

See the film and buy the books. Don your striped jacket, bathrobe or spare head, and keep a towel handy. And above all — Don't Panic. With Hanlon's quirky book you are in safe hands. ■

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Appendix 7 – Stand-alone Topic Summary

Routes to Language

Machiavellian Intelligence

Precursors:
Beyond scope of model

Likely Emergence:
Pan-Homo common ancestor
About 8 million years ago

Products:
Vigilant sharing
Tool Use

References and other reading

Richard W Byrne (1995). Machiavellian Intelligence. In *The Thinking Ape: evolutionary origins of intelligence*. Oxford University Press: Oxford, UK, ch13.

Frans B.M. de Waal (1982). *Chimpanzee politics: power and sex among primates*. Johns Hopkins University Press: Baltimore, MD, USA. (Current edition is *25th Anniversary Edition*, 2007).

David Erdal, Andrew Whiten, Christopher Boehm & Bruce Knauft (1994). On Human Egalitarianism: An evolutionary product of Machiavellian status escalation? In *Current Anthropology*, vol 39, no 2, pp175-183.

Sergey Gavrilets & Aaron Vose (2006). The dynamics of Machiavellian intelligence. In *PNAS*, vol 103, no 45, pp16823-16828.

Bruce Hood (2012). The Machiavellian baby. In *The Self Illusion: Why there is no 'you' inside your head*. Constable & Robinson Ltd: London, UK, ch2.

John Orbell, Tomonori Morikawa, Jason Hartwig, James Hanley & Nicholas Allen (2004). "Machiavellian" Intelligence as a Basis for the Evolution of Cooperative Dispositions. In *American Political Science Review*, vol 98, no 1, pp1-15.

David Livingstone Smith (2004). *Why We Lie: the evolutionary roots of deception and the unconscious mind*. St Martins Griffin: New York, USA.

Discussion

A term first adopted by de Waal in 1982, Machiavellian Intelligence (MI) represents the social cognition that primates, particularly Pan and Homo, seem to be so good at. It is characterised by Theory of Mind: the individual sees other individuals as intentional beings, but their intentionality is a problem to be solved to enhance personal survivability. The emphasis is on manipulating others for personal gain, rather than accommodating the needs of those others.

Byrne (1995, pp195-209) proposed that MI be treated as a hypothesis, because it covers a range of explanations for a range of behaviours. However, they all share in common "the assertion that interactions with conspecific social companions present an intellectual challenge to an individual simian primate and that primate 'intelligence' has adapted in response to this challenge" (p195). MI, according to this definition, has both a social and a genetic basis. Byrne sees these two strands as intertwined in the development of MI in the primate clade, with different primates using differently weighted combinations in their social interactions.

Gavrilets & Vose (2006) used the MI hypothesis to model the effect of MI on the development of intelligence and brain size. They took the view that MI is characterised by an evolving range of strategies and counter-strategies that they called memes. Their model showed the phases of memic development: a dormant phase in which new memes are rare and novel; a cognitive explosion phase in which the stock of memes was greatly increased, requiring larger brains to handle all the strategies available; and a saturation phase in which the physical limits of development prevented further increase. Their model reflects the cognitive development in humans, and suggests at last two cognitive explosion phases in the development of humans: from Australopithecus to early Homo, and from early Homo to Homo ergaster/erectus.

Orbell et al (2004) modelled the possible development of cooperative societies out of MI. They found that even small amounts of cooperation can propagate through a population if the cooperative acts are more valuable to the individuals involved than selfish acts: "cooperative transitions occur when a pair of agents with high cooperative dispositions and well-developed mindreading capacities recognize each other… [and] …both cooperate and prosper accordingly".

MI seems an unpromising origin for language-like communication; but its role in the Pan-Homo common ancestor needs to be acknowledged, and the dilemma it poses needs to be explained.

This is what you are doing for 6SSEL045 assignment 1

Appendix 8 – Integral Discursive Conclusion

4. Conclusion

The findings discussed above strongly suggest that the human perspectival drive and the socio-cognitive capacities connected to it play an important role in the emergence of perspectivation and viewpoint phenomena in language and cognition. This, we argue, is the most important aspect and function of language from an evolutionary and cognitive perspective.

Language and the perspectival construal operations of individual languages evolved as a means to conceptualize objects, states, events, and abstract entities in different ways and from different perspectives. These linguistic construal operations serve as prompts for the creation of embodied simulations. The overall capacity for linguistic perspectivation depends on general cognitive capacities. Most important among these is the human capacity for perspective-taking, -setting, and -sharing. From the point of view of Cognitive Linguistics and Evolutionary Linguistics, we thus have to further explicate how these capacities are tied to the phenomena of viewpoint and perspective in language. As we have shown above, understanding these capacities requires combining the insights to be gained from different approaches such as experimental studies, child language research, comparative studies, and investigations into the historical evolution of fully developed as well as emerging languages. Moreover, investigating the evolution of these underlying capacities can in turn help provide a better understanding of grammatical phenomena such as those discussed in this paper.

[From **Michael Pleyer & Stefan Hartmann (2014).** A Matter of Perspective: Viewpoint phenomena in the evolution of grammar. In Erica A. Cartmill, Seán Roberts, Heidi Lyn & Hannah Cornish (eds.), *The Evolution of Language: Proceedings of the 10th International Conference (EVOLANG10)*. World Scientific: Singapore, pp98-105.]

Appendix 9 – Integral Bulleted Conclusion

4. Conclusions

Thus the main points, from the discussion above, are as follows:

- Many papers in the sciences and the social sciences conclude with one or two paragraphs of text (often set in continuous prose) that present the main conclusions from the paper. This is good practice because it helps the reader summarize the main ideas that have been developed in the paper.
- These conclusions can be made easier to read by listing the main points, and using a bullet point to signal each one. This helps by separating and clarifying each conclusion and is a useful device even when the conclusions do not appear under a separate heading of 'Conclusions'.
- Similarly, when re-reading the conclusions to a paper, bullet points facilitate access, retrieval and recall.
- Finally, if a paper does not end with any conclusions (as is sometimes the case), then the authors might reconsider their text and include them at the end of the paper. The bulleted list, in our opinion, is an almost perfect way to present the conclusions!

[From **Marcin Kozak & James Hartley (2011).** Writing the conclusions: How do bullet-points help? In *Journal of Information Science* 37:2, 221-224.]