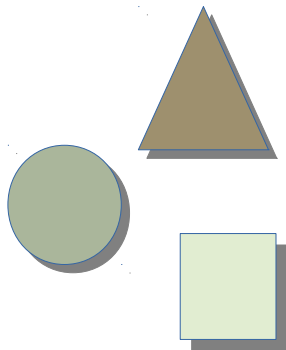


43. Textification of Bushes to Whalebones

1

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<http://st.inf.tu-dresden.de/teaching/asics>

- 1) Textification
- 2) Fishbones
- 3) Whalebones (Baleens)
- 4) Spines
- 5) Multiple Threads in Baleens





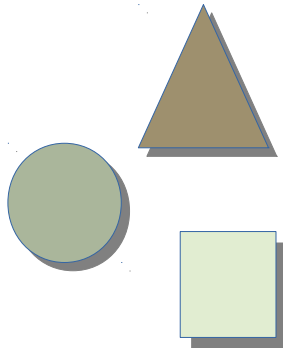
References

2

- ▶ [Kant-Aufklärung] Immanuel Kant. Was ist Aufklärung? 1799. Gutenberg.org-Ebook:30821
- ▶ [Assmuss] Eduard Assmuss. Parasiten der Honigbiene und die durch dieselben bedingten Krankheiten dieses Insects. <http://www.gutenberg.org/cache/epub/19673/pg19673.txt>
- ▶ <http://en.wikipedia.org/wiki/Baleen>

43.1. Textification and Reengineering: From Abstract to Concrete to Condensed From

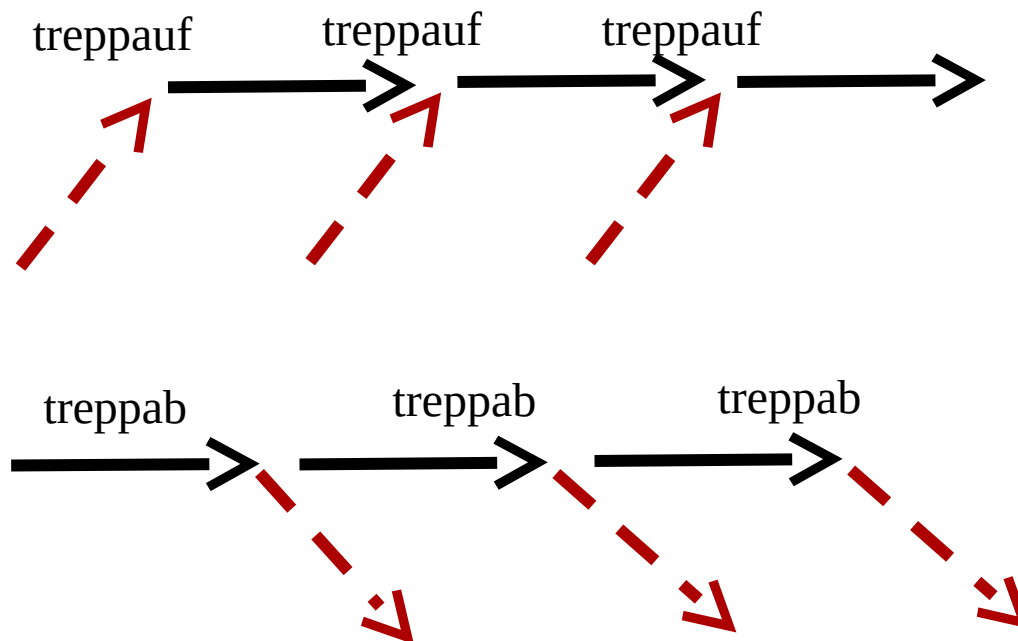
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Rpt.: Composing Chains of Parallel Sentences

4

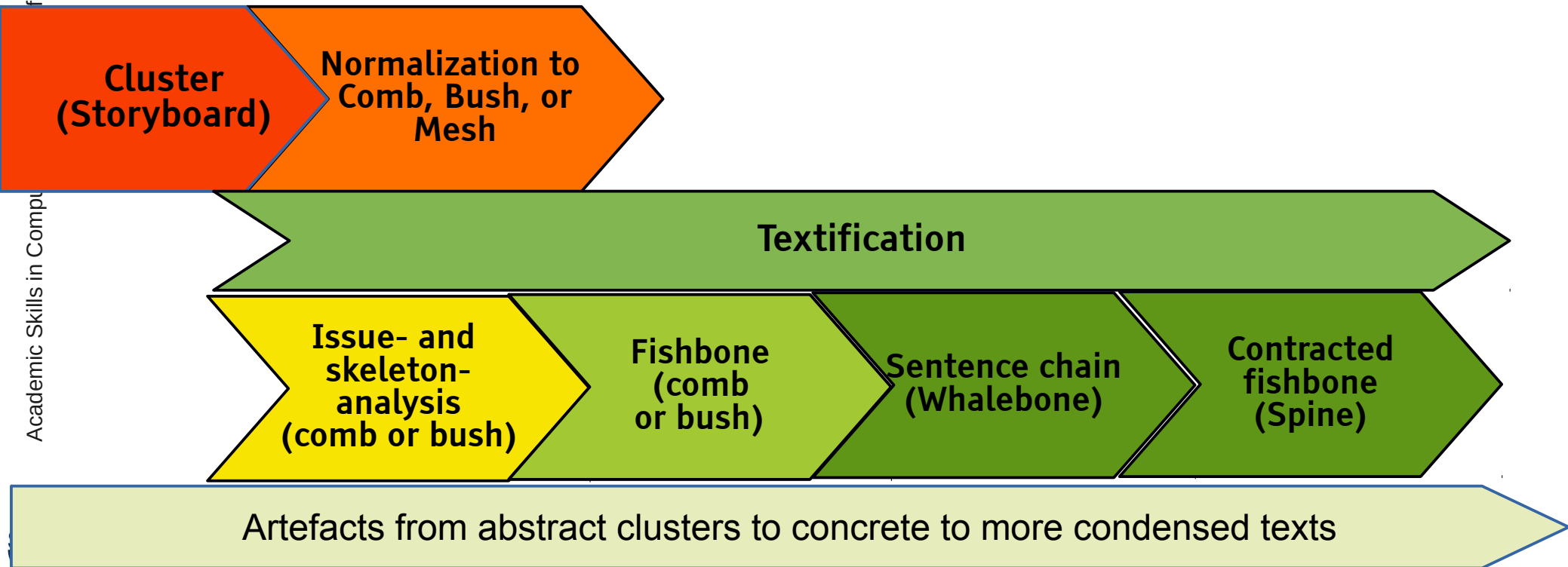
- ▶ If several sentences are subordinated in the same way, a complex sentence chain results, which exhibits parallelism (**treppauf chain, treppab chain**)
- ▶ Longer chains are called **upward- or downward-whalebones (baleen)**.



Artifacts in the Forward Text Construction Process (Textification)

5

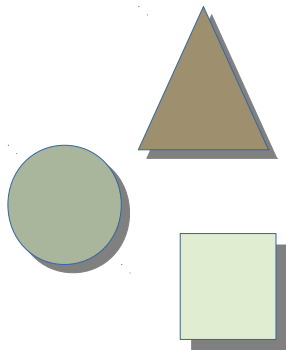
- ▶ We start with an ad-hoc cluster (storyboard), i.e., an abstract outline of the paragraph
 - We find the controllers: points, controlling ideas, and development schemes
 - We normalize it to a Comb (2-level) or Bush (3-level)
- ▶ Dressing the paragraph
 - We place the theses, points, controlling ideas and issues (point positioning)
- ▶ We create texts from the clusters: fishbones, whalebones, and spines



43.2 Textification of Bushs to Fishbones

7

- Textified Bush Clusters with Subclauses

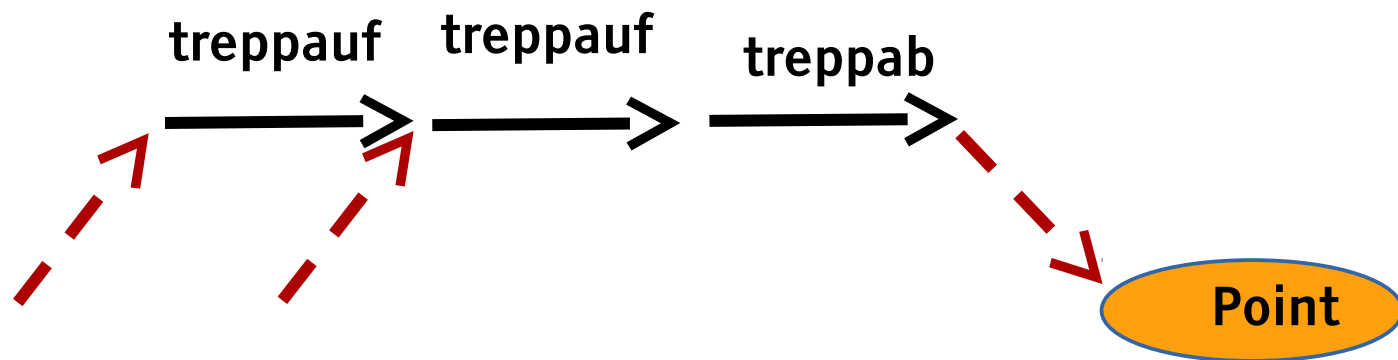


Fishbones as Subclausal Bushs (Fischgräten)

8

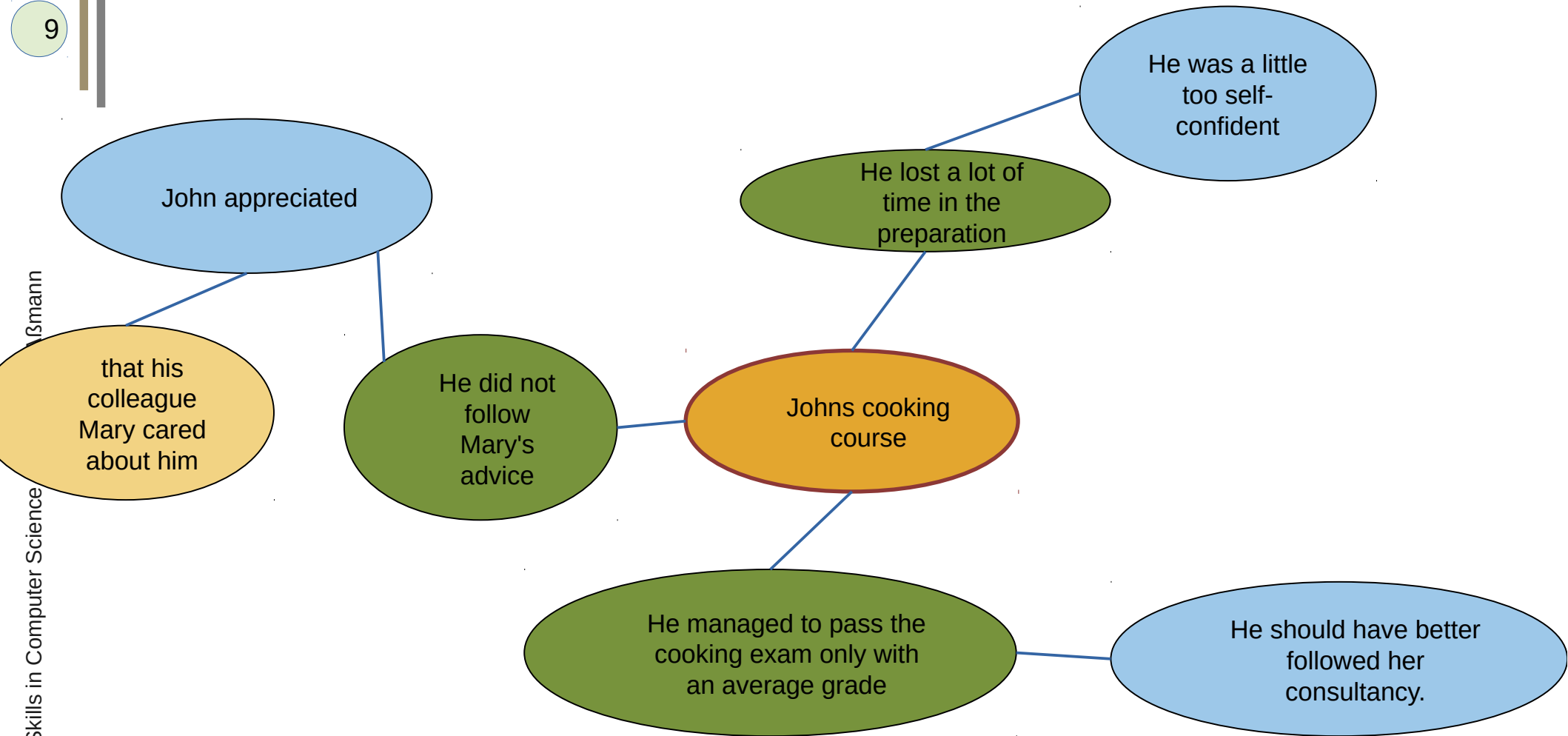
- ▶ A **fishbone (subclause bush)** is a textified 3-level cluster (tree), containing *compound sentences* in which the main clauses represent level 2 and the subclauses represent level 3.
 - The Bush's level 3 is compressed into subclauses of main clauses
 - The fishbone puts the less-important things into the subclauses, and highlights important things in the main clauses.
 - *It is an ideal foregrounding/backgrounding instrument.*
- ▶ A bush can take the form of a fishbone if it has one evidence on level 3 supporting an argument on level 2.
- ▶ A fishbone is **naked** if it lacks a point, otherwise it is **dressed**

„While John appreciated that his colleague Mary cared about him, he nevertheless did not follow her advice. Because he was a little bit too self-confident, he lost a lot of time in the preparation. In the end, he managed to pass the cooking exam only with an average grade, so that he should better have followed her consultancy.“



A Bush Cluster

9



„While John appreciated that his colleague Mary cared about him, he nevertheless did not follow her advice.

Because he was a little bit too self-confident, he lost a lot of time in the preparation.

In the end, he managed to pass the cooking exam only with an average grade, so that he should better have followed her consultancy.“

Exc: Treppauf Fishbone with one Treppab

10

- ▶ [Assmuss] Draw a cluster of this text – is it a 3-level bush?
 - ▶ Dass ich in den Abbildungen, die Larven von *Meloë cetrice* in allen ihren Stadien aufgenommen habe, welches Insect noch gar nicht an der Honigbiene beobachtet wurde, darf man mir nicht verargen; denn von *Meloë variegatus* und *M. Proscarabaeus* hätte ich doch nur so zu sagen Fragmente liefern können, da die weiteren Verwandlungsformen dieser bei den *Meloë*species noch nicht bekannt sind. Da sich aber die Primitivlarven des Genus *Meloë* so sehr untereinander gleichen, so darf man annehmen, dass auch die weiteren Verwandlungsformen, die zweite Larvenform, die Pseudochrysalide, die dritte Larvenform -- welche letztere ich jedoch, da sie der zweiten Larvenform gleich, nicht abgebildet habe -- und die Nymphe der übrigen *Meloë* mit denen der *Meloë cetrice* übereinstimmen werden.
- <po nt>Nur so konnte ich also alle Verwandlungsstadien dieses Käfergeschlechts abbilden.

43.3 Whalebones

11

<http://en.wikipedia.org/wiki/Baleen>

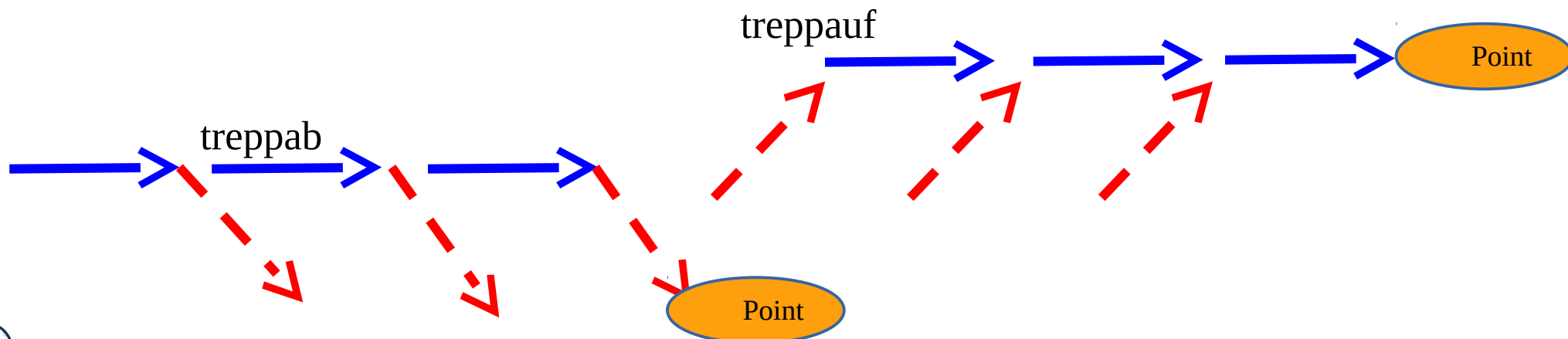


<http://upload.wikimedia.org/wikipedia/commons/1/19/Baleen.jpg>

Whalebones: Parallelism Half-Fishbone (Baleen, Halbgräte)

12

- ▶ A **sentence chain (half-fishbone, whalebone)** with **parallelism** is a specific fishbone, a 3-level Bush of compound sentences.
 - The organisation can be either treppauf or treppab.
- ▶ The half-fishbone arranges all clauses in a parallel form:
 - Subclauses contain the same idea, but in parallel, rephrased form
 - Main clauses contain the same idea, but in parallel, rephrased form
 - The sentences appear in repeated, parallel form, repeating the subclause/clause-structure
- ▶ **Treppab stepdown-whalebone:** (Treppab-Kette, **upper whalebone**)
 - main clause -> subclause
- ▶ **Treppauf stepup-whalebone:** (Treppauf-Kette, **lower whalebone**)
 - subclause -> main clause

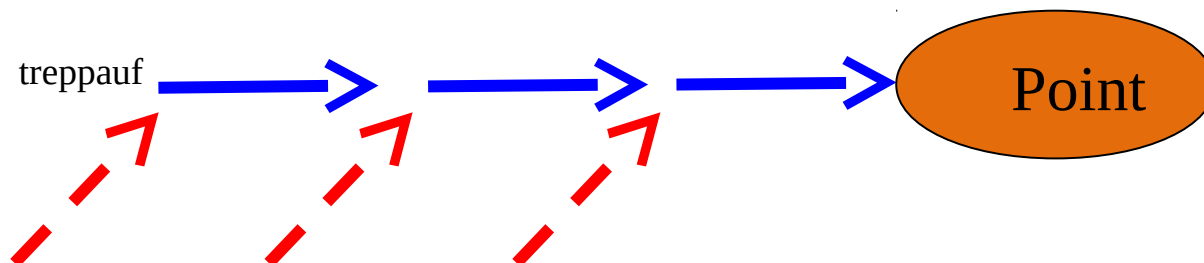


Upwards-Whalebone (Lower Baleen) and Their Relation to Micropatterns

13

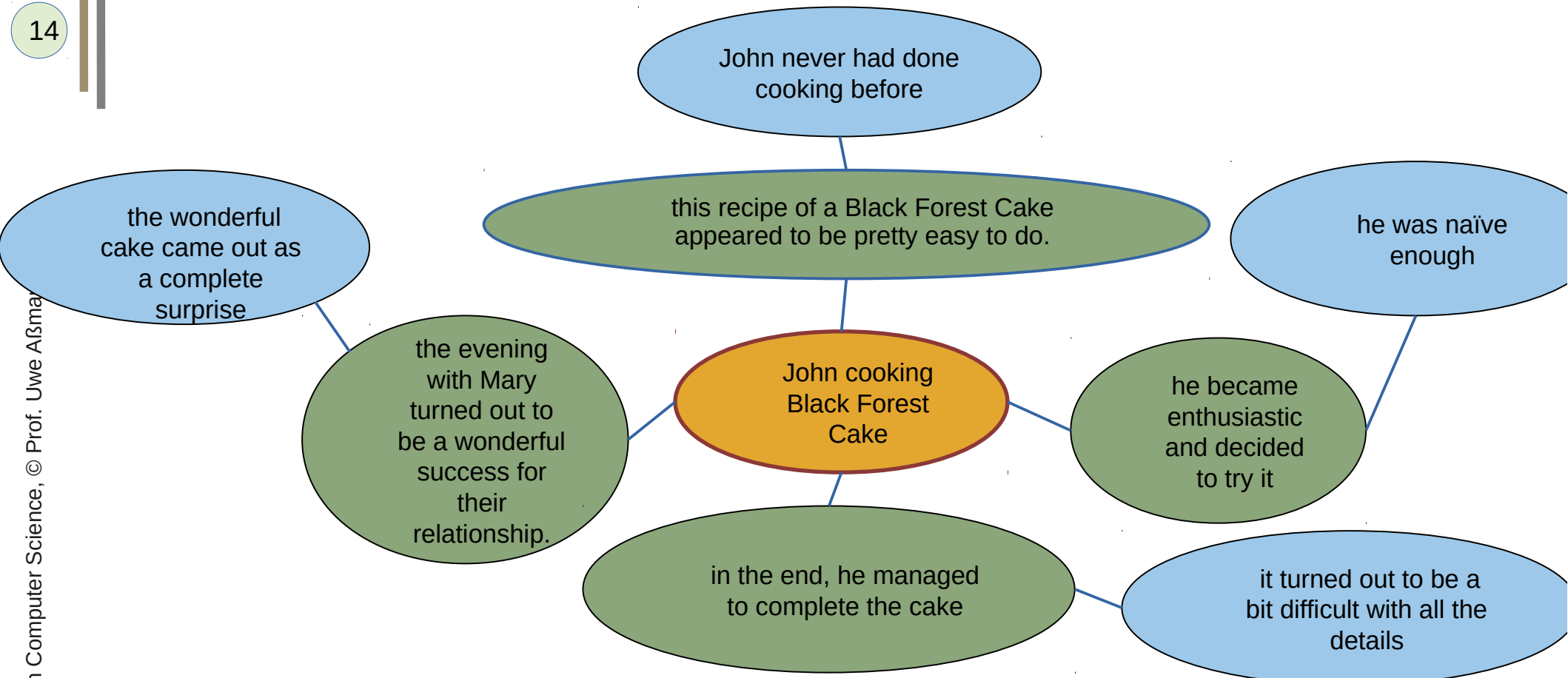
- ▶ **Follows** the
 - STRESS-LAST micropattern, because main clause comes last
 - GIVEN2NEW micropattern, because in the first clauses, the same topic is used
- ▶ **Conflicts with** TOPIC-FIRST micropattern, because main clause should carry also something about the topic

- “**Though John never had done cooking before,**
 - the recipe of a Black Forest Cake appeared to be pretty easy to do.
- **Because he was naïve enough,**
 - he became enthusiastic and decided to try it.
- **Though it turned out to be a bit difficult with all the details,**
 - in the end, he managed to complete the cake.
- **Because the wonderful cake came out as a complete surprise,**
 - the evening with Mary turned out to be a wonderful success for the relationship.”



The Corresponding Bush Cluster

14



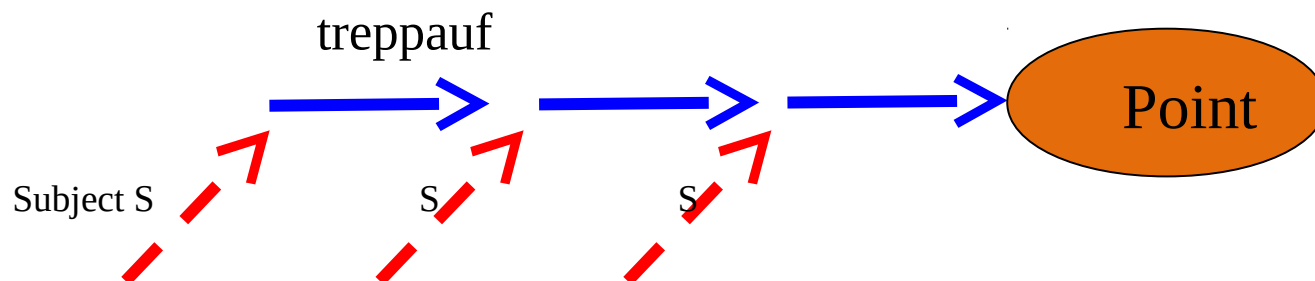
- **“Though John never had done cooking before,**
 - this recipe of a Black Forest Cake appeared to be pretty easy to do.
- **Because he was naïve enough,**
 - he became enthusiastic and decided to try it.
- **Though it turned out to be a bit difficult with all the details,**
 - in the end, he managed to complete the cake.
- **Because the wonderful cake came out as a complete surprise,**
 - the evening with Mary turned out to be a wonderful success for the relationship.”

Upwards-Whalebone with Common Subject

15

- ▶ Follows the GIVEN2NEW micropattern, because in the first clauses, a **common subject** is used

- “**Though John never had done cooking before,**
this recipe of a Black Forest Cake appeared to be pretty easy to do.
Because he was naïve enough,
he became enthusiastic and decided to try it.
Though he fought quite a while with all the details,
in the end, he managed to complete the cake.
Because his wonderful cake came out as a complete surprise,
the evening with Mary turned out to be a wonderful success for the relationship.”



Downwards-Whalebone (Upper Baleen) and Their Relation to Micropatterns

16

- ▶ Follows the
 - GIVEN2NEW micropattern, repeating the issues of the topic in the main clause
 - TOPIC-FIRST micropattern, because main clause carries topic and comes first
- ▶ **Conflicts with** the STRESS-LAST micropattern, because main clause comes first

- ▶ [CraigArmee, S. 278] „Sodann erschienen die Erfahrungen der Caprivi- und Hohenlohe-Zeit weiten Teilen der Bevölkerung als eine verblüffende Bestätigung dessen,
 - was Mallinckrodt und Richter im Jahre 1874 über den zunehmenden militärischen Absolutismus gesagt hatten.
- ▶ Die Tatsache, dass verantwortliche, das Vertrauendes Parlaments genießende Minister von den militärischen Beratern des Kaisers aus ihren Posten verjagt werden konnten, schien klipp und klar zu beweisen,
 - dass die Armee ein Staat im Staate geworden war, der für sich das Recht in Anspruch nahm, zu bestimmen, was oder was nicht im Nationalinteresse liege.

Effect2Cause-Treppab-Whalebone

17

- ▶ Whalebones provide a nice structure for Effect2Cause-Clusters, because reasons for the effects are hidden in subclauses, which appear LAST

[Ledderhose-Melanchton] <funnel introduction>Luther occupies so great, unrivalled, and apostolical a position among the Reformers, that we should not feel surprised to see his life and labors presented to the evangelical community again and again. Although we are far from encouraging an idolatrous worship of the man, we believe we are acting in the spirit of the word of God, when we encourage men to follow his faith. But we should act very ungratefully if, on account of this Prince in Israel, we should lose sight of the other distinguished men of God in the days of the Reformation. <point>And among these, Philip Melanchthon occupies the highest place.</point>

<effect2cause Treppab-Whalebone>The age in which he lived called him the Teacher of the German people, because he exerted a powerful influence upon the scientific and Christian culture of Germany. And we too may give him the same name, for his writings continue to exert a great influence, and justly claim our consideration.</whalebone>

<Echo and Zwecksatz>To show that this is indeed true, that he is still calculated to be the teacher of the German people, especially of the evangelical community, is the object of this Biography.</>

<point2>As this volume was prepared for the general reader, all learned discussions were necessarily avoided.</point2>It does not enter into critical investigations, but faithfully appropriates known facts, in order to present them to the reader in an intelligible manner. A candid examination must decide how far the author has succeeded in accomplishing this object. It is the first attempt of the kind, for the Life of Melanchthon has not been written often; and when it was written, it was not treated in a popular manner.

Stepdown-Whalebones are Extensible to Downhill Whalebones

18

- ▶ **Advantage of Extensibility:** every Stepdown-sentence can be prolongedated with further arguments on secondary level, without disturbing the flow
- ▶ A **Downhill whalebone** is a stepdown whalebone with stepdown cascade sentences.
- ▶ In particular good for Effect2Cause whalebones

- ▶ „Ich bin äußerst froh über die Gehaltserhöhung,
 - weil ich jetzt endlich einmal ein Auto kaufen und damit in den Urlaub fahren kann, um mich substantiell zu erholen.
- ▶ Auch dieses Weihnachten wird zum echten Fest,
 - weil wir nicht mehr länger auf den Braten verzichten müssen, den wir jahrelang entbehren mussten.“

Extensible Downward-Whalebone (Upper-Baleen), with Anaphora, Framing, and Cascading

19

- ▶ [Zweig-Verhaeren] Stefan Zweig uses a treppab-whalebone as the last conclusive paragraph of a chapter, to create a strong impression:

They [the poets] must, <h story fram ng> n these days</>, only express themselves <subclause cascade>when they have f rst adapted the rhythm of the r own feel ng to that of the un verse,

to the rhythm of the c t es they l ve n, to the rhythm of the mult tude from wh ch they have grown, to the rhythm of temporal as of eternal th ngs.

They must, <ground ng>l ke a ve n n the heart of the world</>, reproduce every beat of the great hammer, <subclause cascade>every exc tement, qu cken ng of pace and obstruct on of the feel ng rolled round n the whole organ sm;

they must learn from l fe the rhythm <subclause cascade>wh ch shall aga n ach eve the great harmony that was lost between the world and the work of art.

Downward-Whalebone with Common Subject in Main Sentences, Parallelism and Treppab-Cascades

20

[Russel-Freedom] Bertrand Russell. Proposed Roads To Freedom. Gutenberg.org, Etext #690. Many framing constructs

black: normal main clause; blue: main sentences; red: treppab subclauses; turquoise: framing clauses

Most main clauses have the common subject "These men"

The great majority of men and women, in ordinary times, pass through life without ever contemplating or criticising, as a whole, either their own conditions or those of the world at large. They find themselves born into a certain place in society, and they accept what each day brings forth, without any effort of thought beyond what the immediate present requires. Almost as instinctively as the beasts of the field, they seek the satisfaction of the needs of the moment, without much forethought, and without considering that by sufficient effort the whole conditions of their lives could be changed. A certain percentage, guided by personal ambition, make the effort of thought and will which is necessary to place themselves among the more fortunate members of the community; but very few among these are seriously concerned to secure for all the advantages which they seek for themselves. It is only a few rare and exceptional men who have that kind of love toward mankind at large that makes them unable to endure patiently the general mass of evil and suffering, regardless of any relation it may have to their own lives.

Cont.

21

These few, driven by sympathetic pain, will seek, first in thought and then in action, for some way of escape, some new system of society by which life may become richer, more full of joy and less full of preventable evils than it is at present. But in the past such men have, as a rule, failed to interest the very victims of the injustices which they wished to remedy. The more unfortunate sections of the population have been ignorant, apathetic from excess of toil and weariness, timorous through the imminent danger of immediate punishment by the holders of power, and morally unreliable owing to the loss of self-respect resulting from their degradation. To create among such classes any conscious, deliberate effort after general amelioration might have seemed a hopeless task, and indeed in the past it has generally proved so. But the modern world, by the increase of education and the rise in the standard of comfort among wage-earners, has produced new conditions, more favorable than ever before to the demand for radical reconstruction. It is above all the Socialists, and in a lesser degree the Anarchists (chiefly as the inspirers of Syndicalism), who have become the exponents of this demand.

Downward-Whalebone with Subject Change

22

[Russel-Freedom] the new subject is taken from the last sentence.
Microthreading.

Socialism and Anarchism, in their modern form, spring respectively from two **protagonists**, **Marx and Bakunin**, who fought a lifelong battle, culminating in a split in the first International. We shall begin our study with **these two men**—first their teaching, and then the organizations which they founded or inspired. **This will lead us to the spread of Socialism** in more recent years, and thence to the Syndicalist revolt against Socialist emphasis on the State and political action, and to certain movements outside France which have some affinity with Syndicalism— notably the I. W. W. in America and Guild Socialism in England. **From this historical survey** we shall pass to the consideration of some of the **more pressing problems of the future**, and shall try to decide in what respects the world would be happier if the aims of Socialists or Syndicalists were achieved.



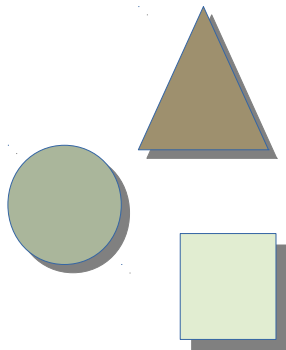
Treppab-Whalebone with Common Topic: Violin Making

- ▶ [Lahee-Violinists] Lahee has two levels and returns always to the first
- ▶ Exercise: Draw the Bush cluster!
- ▶ The **evolut on of the v ol n** s a matter wh ch can be traced back to the dark ages, but the f fteenth century may be cons dered as the per od when the **art of mak ng nstruments** of the v ol class took root n Italy.
 - It cannot be sa d, however, that the **v ol n**, w th the modelled back wh ch g ves ts d st nct ve tone, made ts appearance unt l the m ddle of the s xteenth century.
- ▶ In France, England, and Germany, there was very l ttle **v ol n mak ng** unt l the beg nn ng of the follow ng century.
 - **Andrea Amat** was born n 1520, and he was the founder of the great Cremona school of v ol n makers, of wh ch N colo Amat , the grandson of Andrea, was the most em nent.
- ▶ The art of **v ol n mak ng** reached ts zen th n Italy at the t me of **Anton o Strad var** , who l ved at Cremona.
 - **He** was born n 1644, and l ved unt l 1737, cont nu ng h s labours almost to the day of h s death, for an nstrument s n ex stence made by h m n the year n wh ch he d ed.
- ▶ It s an nterest ng fact that the art of **v ol n mak ng** n Italy developed at the t me when the pa nters of Italy d splayed the r greatest gen us, and when the f ne arts were encouraged by the most d st ngu shed patronage.

43.4. Spines: Contracted, Substantivated Whalebones



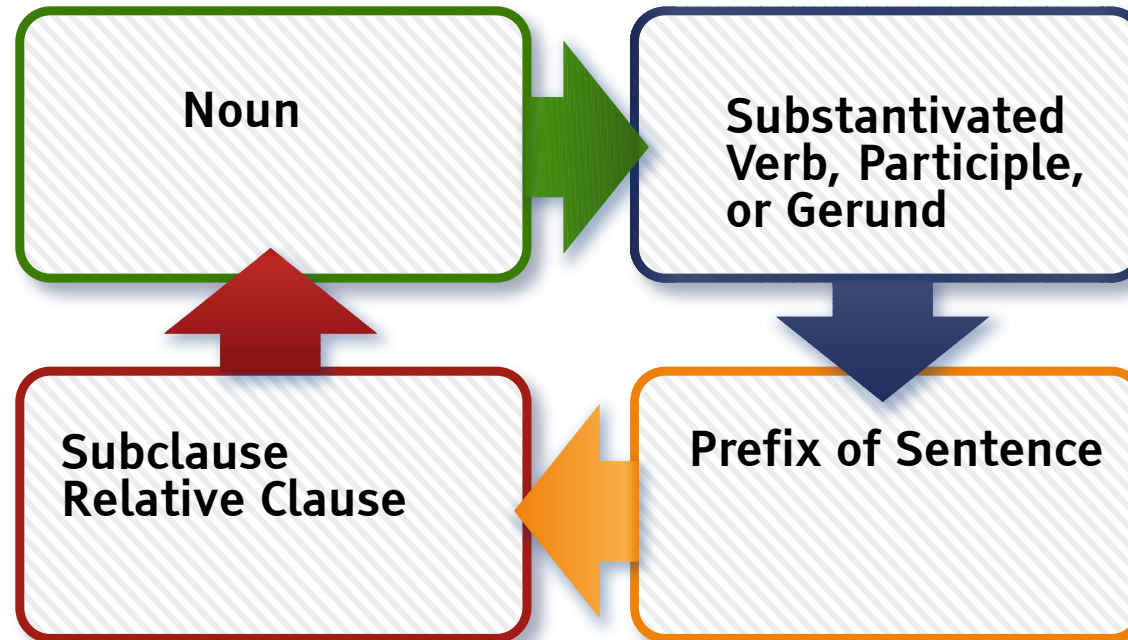
25



Refactoring of Equivalent Sentence Parts (Refaktorisierung von Satzgliedern)

26

- ▶ Some sentence parts can be refactored into others, without losing semantics
 - They have different length and condensation
- ▶ **Contraction** replaces a longer part with a shorter one
- ▶ **Expansion** does the opposite.



Spines are Produced by Whalebone Contraction

27

- ▶ The subclauses of Fishbones and Whalebones can be **contracted**:
 - **packed** in to **gerunds** or **participles**
 - **substantivated** into a noun.
- ▶ A **spine** is a fishbone/whalebone with gerundized or substantivated subclauses.
 - **Spines hides the subclauses in objects of the main clause (fishbone contraction)**
 - The paragraph is condensed, consists only of long main clauses
 - Spines can help to hide/background the fourth level of a Xmas tree
 - Be careful: Beamtensprache

„Ich bin äußerst froh über die Gehaltserhöhung,

weil ich jetzt endlich einmal ein Auto kaufen und damit den Urlaub fahren kann, um mich substantiell zu erholen.

Auch dieses Weihnachtswird zum echten Fest, weil wir nicht mehr länger auf den Braten verzichten müssen, den wir jahrelang entbehren mussten.“



„Die durch die Gehaltserhöhung entstehende Möglichkeit, ein Auto zu kaufen und damit den Urlaub zu fahren macht mich äußerst froh.“

Der Genuss des Weihnachtswirds, den wir jahrelang entbehren mussten, wird dieses Weihnachtswird zum echten Fest machen.“

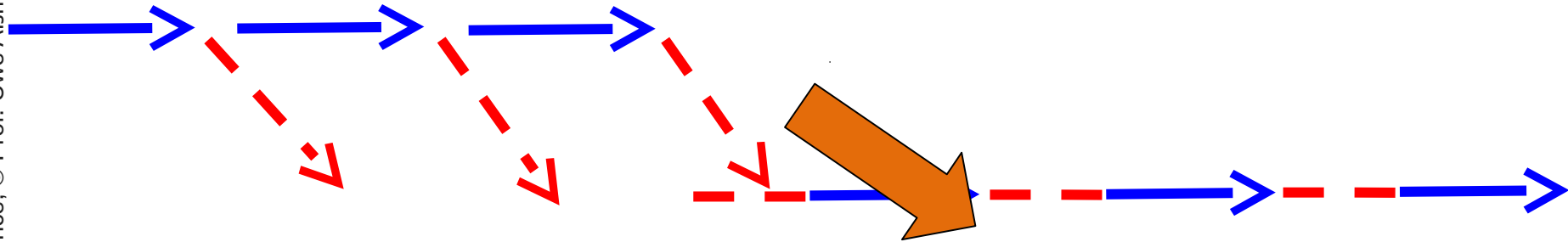
Whalebone Contraction to Spine

28

- ▶ Contraction emphasizes noun-based writing; expansion emphasizes verb-based writing
- ▶ Subclauses become objects of sentences in the spine

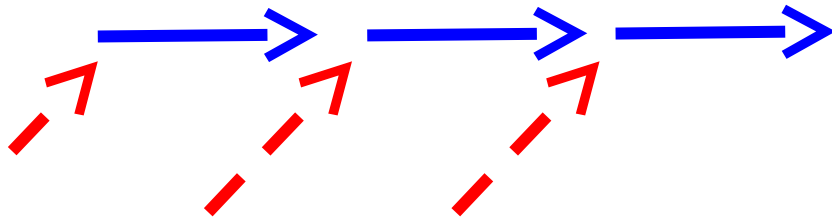
Academic Skills in Computer Science, © Prof. Uwe Alßmann

Downward whalebone



Spine

Upward whalebone

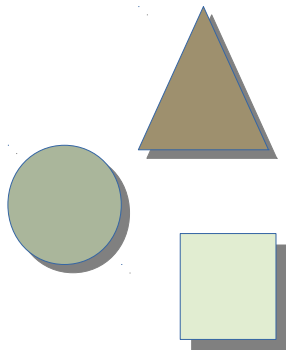


43.5 Multi-Threaded Whalebones



29

Baleen paragraphs with several thematic strings



Rpt.: Multi-threaded Paragraphs

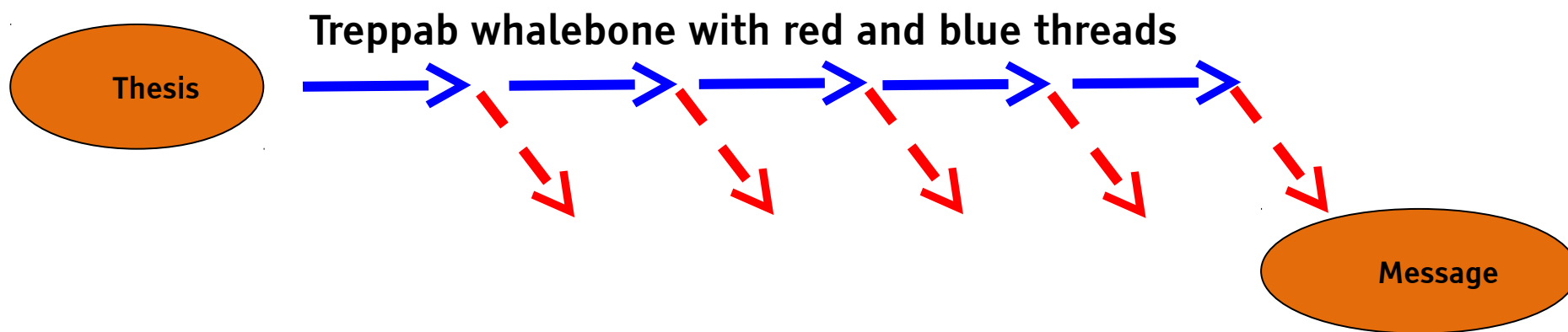
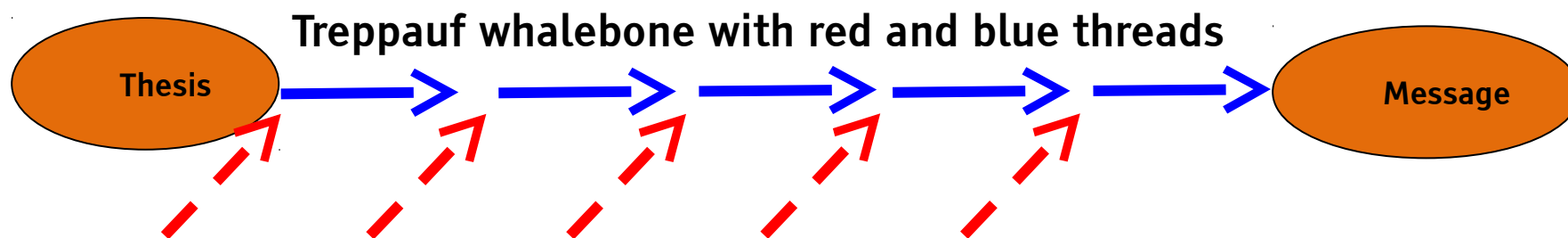
30

- ▶ [WiCo] If a paragraph has only one topic, it is called **single-threaded (with one thematic thread or string)**.
- ▶ Otherwise it is **multi-threaded (multiple thematic threads or strings)**
- ▶ A multi-threaded point already takes up all thematic threads.
- ▶ Ex.: Treppab-cascade with three threads in the main and the subclauses:
 - Because Germany was **decentralized and split by borders over centuries**, **many different styles of food and cooking have developed**, **which all have their particular fascinating flavors**.
- ▶ From this thesis, several thematic strings could be discussed in the discussion:
 - Support 1: In the North, **Prussia conquered step by step more and more counties** so that the **Berlin style could distribute quite widely**. **Berliner Buletten are well known in many regions in North Germany, served in many different styles**.
 - Support 2: **Bavaria and Saxony formed their own kingdoms, both with good relations to Austria, which originated already from the middle ages and the 30-years war**. **Thus, the Austrian-Cech heavy food (“Germknödel”, “Schweinshaxe”, “Gulasch” can still today be found in all South-West cities**. **And the sauces of these dishes are delicious – heavy, dark, fat, flavoured**. (Vienna people love their Gulash if it has been cooked for more than 24 hours.)

Parallelism in Whalebones (Baleens)

31

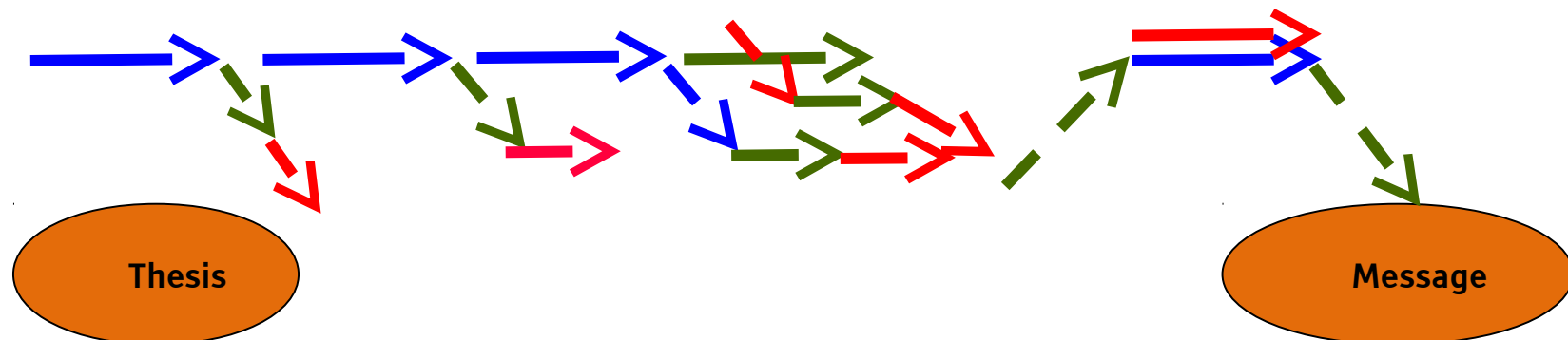
- ▶ Multiple threads can be introduced easily if the thesis sentence is a periodic or loose sentence (treppab or treppauf cascade), which each subclause introduces the topic of a thread.
- ▶ If all threads are followed throughout the discussion and the message, a parallelism between the threads can be maintained.



Example: A Multi-Threaded Whalebone Started by an Overhill Sentence

32

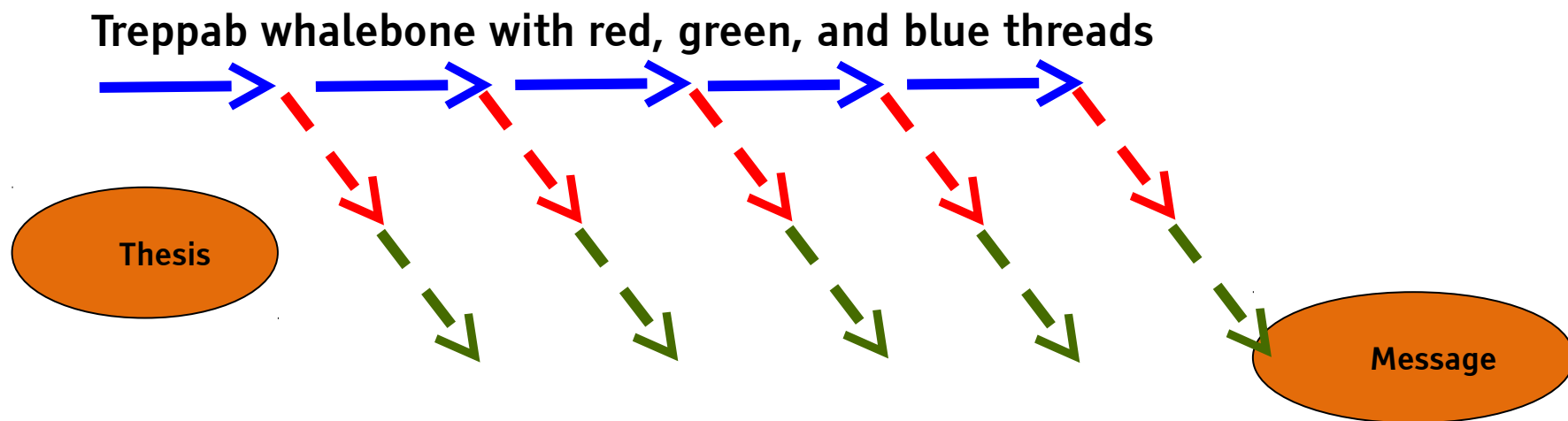
- ▶ A multi-threaded point already takes up the other threads. Here a treppab-cascade point introducing three threads in the main and the subclauses.
- ▶ Then paragraph is a whalebone, because only primary supports exist.
- ▶ Support 1 and 2 are treppab-cascades; Support 3 is embedded and treppab.
- ▶ The conclusion sentence is a trepp-über.
 - Because Germany was decentralized and split by borders over centuries, many different styles of food and cooking have developed, which all have their particular fascinating flavors.
 - Support 1: In the North, Prussia conquered step by step more and more counties so that the Berlin style could distribute quite widely. Berliner Buletten are well known in many regions in North Germany, served in many different styles.
 - Support 2: Bavaria and Saxony formed their own kingdoms, both with good relations to Austria, which originated already from the middle ages and the 30-years war. Thus, the Austrian-Cech heavy food (“Germknödel”, “Schweinshaxe”, “Gulasch” can still today be found in all South-West cities. And the sauces of these dishes are delicious – heavy, dark, fat, flavoured. (Vienna people love their Gulash if it has been cooked for more than 24 hours.)
 - Support 3: Baden, on the other end of the country and neighbored to France, took up a lot of influence from Alsassien cooking. “Flammkueche”, “Baeckofe” and “Geschnetzeltes” are wonderful dishes that can be compared in their originality in Europe only to “Pizza”, “Irish Stew”, and “Gulasch”.
 - Conclusion: While these are only some prominent examples, many other fantastic dishes exist in remote corners of the country, so that Germany is indeed a cooking universe on its own.



Treppab-Cascades in Whalebones

33

- ▶ Treppab cascades allow for multiple subclauses. Each of them can wear a different thematic thread.
- ▶ Treppab-Whalebones are extensible for thematic threads.



Multi-Threading in Spines

34

- ▶ If all sentences of a paragraph are contracted to spines, only single words and phrases refer to the multiple thematic strings.
- ▶ Exercise: Contract the German cooking example to a spine. Mark the substantiated words in the three colors of the thematic threads. Don't loose the links.

Why Do We Need Whalebones and their Textification?

35

- ▶ Whalebones give a beautiful parallel structure for paragraphs
 - They serve for **coherence** and **foregrounding**
- ▶ The micropatterns GIVEN2NEW, STRESS-LAST, TOPIC-FIRST can all be respected, serving for coherence
- ▶ Contractions to spines are interesting, because they change the syntactic structure, though they keep the logical structure



The End

Fishbone with Treppauf and Treppab

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- ▶ [Kant-Aufklärung]
- ▶ Faulheit und Feigheit sind die Ursachen, warum ein so großer Teil der Menschen, nachdem sie die Natur längst von fremder Leitung freigesprochen (naturaliter maiorennnes), dennoch gerne zeitlebens unmündig bleiben; und warum es anderen so leicht wird, sich zu deren Vormündern aufzuwerfen. Es ist so bequem, unmündig zu sein. Habe ich ein Buch, das für mich Verstand hat, einen Seelsorger, der für mich Gewissen hat, einen Arzt, der für mich die Diät beurteilt usw., so brauche ich mich ja nicht selbst zu bemühen. Ich habe nicht nötig zu denken, wenn ich nur bezahlen kann; andere werden das verdrießliche Geschäft schon für mich übernehmen. Daß der bei weitem größte Teil der Menschen (darunter das ganze schöne Geschlecht) den Schritt zur Mündigkeit, außer dem daß er beschwerlich ist, auch für sehr gefährlich halte, dafür sorgen schon jene Vormünder, die die Oberaufsicht über sie gütigst auf sich genommen haben. Nachdem sie ihr Hausvieh zuerst dumm gemacht haben und sorgfältig verhüteten, daß diese ruhigen Geschöpfe ja keinen Schritt außer dem Gängelwagen, darin sie sie einsperreten, wagen durften, so zeigen sie ihnen nachher die Gefahr, die ihnen drohet, wenn sie es versuchen, allein zu gehen. Nun ist diese Gefahr zwar eben so groß nicht, denn sie würden durch einigemal Fallen wohl endlich gehen lernen; allein ein Beispiel von der Art macht doch schüchtern und schreckt gemeiniglich von allen ferneren Versuchen ab.