



Student understanding of causation in History in relation to specific subject matter – causes behind the scramble for Africa

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ABSTRACT: The purpose of this paper is to contribute with knowledge for what students might need to learn to master casual reasoning regarding specific subject matter (the scramble for Africa). The History-didactical framework originates from the Historical Thinking tradition. Data has been derived from a Learning Study and consists of a total number of 138 pre- and post-assessments. Results showed the following aspects to be critical for the participating students' ability to reason on causation in relation to the scramble: 1. Discern that the scramble had causes. 2. Discern that claims for what caused the scramble need support from evidence. 3. Discern that the scramble had both long-term and short-term causes. 4. Discern the chronological structure relating to the scramble not to confuse causes and consequences. 5. Discern that the scramble had composite causes of differing importance. 6. Discern that the scramble was caused by interaction between societal structures and the actions from historical actors. A value in these findings is that they can contribute with empirically tested knowledge for what students might need to learn when causation is investigated in relation to specific subject matter. Another value is that the critical aspects found are extracted through a combined analysis of the character of the ability, curricular demands and the analysis of students' conceptions before and after research-lessons. Thereby they can hopefully support planning and implementation of teaching.

KEYWORDS: second-order concepts; causation; student conceptions; critical aspects

Introduction

A qualitative History-education has to transmit a solid foundation of historical knowledge to students, but our demands must extend beyond that. Sadly international, as well as Swedish, research shows that teaching all too seldom conveys the methodology of the subject or its interpretive nature. Instead, History is often treated as a fixed narrative of a nation's past that students are expected to memorize and reproduce on examinations (Barton & Lestvik, 2001; Rosenlund, 2016; VanSledright, 2010). This approach creates various problems. One originates in the very nature of the subject; due to its interpretive character it is hard to decide what actually is the "best" or most "truthful" narrative. Another problem is that memorizing large portions of historical knowledge without understanding the methodology of the subject could lead to cramming and a lack of meaning. Finally, and maybe most seriously, students are thereby denied the subject's rich potential to advance their interpretive and critical capabilities (Seixas, 2000; VanSledright, 2010).

The problems outlined above makes a strong case that to empower students, teaching should be structured around second-order concepts¹. This in turn raises an important educational

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question: what specifically do students need to learn to master such concepts? The purpose of this paper is to shed light on some aspects of that question by presenting findings for what upper secondary students might need to learn to reason on causation in History regarding specific subject matter - the scramble for Africa?

History-didactical framework

The overarching aim within the Swedish History Curriculum is to develop students' Historical Consciousness. Teaching should advance their knowledge of the past, ability to use historical methods and create an understanding for how History can be used (Swedish National Agency for Education, 2011). In the ambition to familiarize students with the methodology of History, the curriculum connects to the disciplinary oriented Historical Thinking tradition (Eliasson, 2014). Lee and Shemilt (2009) argues that progression in students' capability to construct historical explanations should be viewed as an advancement of their Historical Consciousness. The reason being that it will increase their possibility to analyze and act in present society and give them a readiness for future developments. That historical explanations are a vital part of History education also finds support in Swedish Curricula document where it is stated that teaching should address explanatory models that help explain causes behind change (Swedish National Agency for Education, 2011). Causation, one of the second-order concepts within the Historical Thinking tradition, is a useful disciplinary tool to show students the methodology and interpretive nature of History, but what characterizes this capability according to literature?

Causation could be defined as proceeding events that themselves significantly increase the probability that other events will occur (McCullagh, 2004). For historians it is problematic to reason about causation according to principles found in the natural-sciences. They instead argue from a viewpoint of probability, look for combined factors, and use a limited time-span for their explanations (Evans, 1997). Sometimes historians argue for intentional explanations, and these serve to explain human actions based on the intentions of significant actors. They have their limitations in that they cannot say much about hidden agendas. Nor can they explain consequences from individual actions, because intentions and actions can have unforeseen consequences. Another category is structural explanations that emanate from societal and economic systems. Events are then explained by their role within a specific system. Nor can structural explanations on their own be considered as complete, since they do not take into account ideological beliefs and individual actions (McCullagh, 2004). Historians often use a combination of causes to explain past events and changes where individual actions and societal structures interact and affect each other. Various explanatory models could thereby support each other and give different perspectives on past events (Evans, 1997; McCullagh, 2004). From a History-didactical perspective Seixas and Morton (2013) have defined what they consider to be developed thinking on causation among students. They argue that it is essential that teaching shows that historical change is caused by multiple factors that differ in importance and that these can be of both a long-term and short-term character. They also emphasize that causes and consequences should not be viewed as a chronological chain, where actions of an individual by necessity leads to a certain outcome. Students should instead be able to discern the complex interaction between actors and structures causing change.

Student understanding of causation – Earlier research

Earlier research on causation predominantly has a British origin. Just as for other second-order concepts this has largely presented results concerning student understanding from a content free perspective and, contrary to this paper, not focused on the capability in relation to specific historical content. Originating back to the School Councils History Project (SCHP) and

Concepts of History and Teaching Approaches (CHATA), researchers have been able to identify students' conceptions of History. One outcome from this rich and pioneering research is the development of empirically based progression-models that illustrate qualitative differences in students' understanding for second-order concepts (Ashby, Lee, & Shemilt, 2006; Lee & Shemilt, 2011; Shemilt, 1983; 1987). Even though causation was not an explicit focus, Shemilt (1983) early on managed to show that students in the least developed category of understanding did not see any need to explain change and/or events. In the next category changes/events were explained, but from a mechanical standpoint, and the behavior of historical actors was not situated in context.

Within CHATA, the other major research project in Britain, conclusions drawn about students' conceptions of historical accounts corresponds closely to the SCHP results. This was the case even though the group of pupils who participated in the project were younger (Lee & Ashby, 2000; Lee & Shemilt, 2004). More recent research (Lee, 2006; Lee & Shemilt, 2009) has led to the development of a progression-model for historical explanations similar to the one from the SCHP project. Just as for narratives, students in category 1 do not see any need to explain historical events and processes of change and often consider explanations as either true or false. Within category 2 the outcome of historical events is seen as identical to the intentions and actions undertaken by individuals. Students often consider powerful individuals as responsible for change and view the same type of causes useful for all kinds of explanations, regardless of time and context. In the less developed categories, some consider History as being a chain. Even though they realize that events and change are caused by multiple causes and could happen due to unforeseen events that preceded them, they still see History as already decided and steadily on its way to the present. Therefore different events by necessity have to be linked together (Lee & Shemilt, 2009).

In relation to the perceived importance of individuals as agents behind change, it is possible to draw parallels with Halldén's research (1997; 1998). He has shown that students tend to personalize social institutions that in reality are rooted in societal structures. He also found that they tend to explain historical change as the sum of all individual actions and do not use societal structures in their explanations. The importance of explicitly addressing actors as well as structural conditions when teaching historical accounts is also emphasized by Lilliestam (2013). Carretero et al (1994) investigated how History graduates and novices of different age-groups viewed intentional and structural explanations. Participants were given cards consisting of different causes for the 'Discovery of the Americas' and were asked to rank these according to significance. Results showed that History graduates made use of structural explanations to a much higher extent compared to novices who tended to use intentional explanations. Problems dealing with multiple causes have been shown by Voss et al (1994) who allowed 32 undergraduate and graduate students to write an essay on the causes for the downfall of the USSR. Among the results were that many participants did not use long-term causes, lacked relevant historical content and did not see that multiple causes in combination led to a certain outcome. Finally, on a more general level, Stoel, Van Drie and Van Boxtel (2016) stress the importance of explicit teaching-strategies concerning second-order concepts, in an environment characterized by inquiry tasks, to advance students capacity for casual-reasoning. Their research also highlights the necessity to address students' epistemological beliefs.

Contrary to much previous research this paper focuses on causation in relation to specific subject matter. Research has been undertaken through a composite analysis originating from the nature of the subject, curricular demands, and analysis of students' conceptions before and after research-lessons. Based on these differences in approach, the ambition is to add new knowledge regarding what students might need to learn to master casual reasoning in relation to specific subject matter (Specifically, the scramble for Africa).

Causation in relation to the subject matter – the Scramble for Africa

In this section, the ambition is to demonstrate how causes for the scramble can be understood from a disciplinary perspective. Usually when historians try to explain this development they emphasize economic causes in combination with political and ideological ones. It can be argued that the era labelled as "New Imperialism", and whose nature maybe most clearly is illustrated by the scramble for Africa, was triggered by the British intervention in Egyptian politics. Egypt had longstanding economic and military ties with Great Britain and had received huge loans to finance investments in infrastructure. Simultaneously, Egypt depended on her agricultural export to Europe, and expensive loans combined with European tariffs pushed the country into a financial crisis and the eventual risk of state bankruptcy. To protect her interests, especially the strategically important Suez channel, Britain intervened and acquired formal political control over Egypt. These events can be considered a tipping-point; military force had been used to enforce trade agreements before, but in this case a Western power now secured formal political control over another country (Fergusson, 2003).

"New Imperialism" came to define international relations during the last decades of the 19th century up to the First World War. It was enforced with military means built on industrial strength in which European domination was exercised by the formation of colonial administrations. Conditions were favorable since Europe experienced a rapid industrialization and a strong increase in population. The latter, combined with the modernization of European agriculture, caused unemployment. Hence, governments saw emigration as a partial solution to domestic social problems (Darwin, 2008; Fergusson, 2003).

Industrialization fueled a need for cheap raw materials; simultaneously European companies were in need of larger deployment markets. The easiest way to fulfill these needs were considered to be through the possession of colonies. Some of these incentives had existed before the era of "New Imperialism": one new component however, was the extent of investments made in the colonies. These investments required protection through laws and political institutions. Since the colonies had a shortage of capital, investors could receive high profits on invested capital (Fergusson, 2003; Hobsbawm, 1997). The British economist John A. Hobson argued that private investors prompted the imperialist agenda and that these policies were disadvantageous for European countries. This was because the costs were state-funded, while the profits went to private capitalists and never reached the majority of the population. Hobson claimed that the cyclical shortages of demand in capitalist countries instead should be solved through social reforms and progressive taxation. Lenin's analysis was more radical: he argued that the explanation lay in a dysfunctional capitalistic system, where a continuous decrease in profit from invested capital drove capitalistic states into a desperate search for new investment markets (Munkler, 2007).

According to Herfried Munkler (2007), many historians tend to overestimate the importance of economic causes at the expense of others. Peripheral weakening was of great importance, and political factors such as the pursuit of balance of power and prestige are also important causes behind the development. It is hard to state definitely whether rivalry between European powers was a consequence of, or an impelling cause for the scramble, probably both. Just a few years after the British intervention in Egypt, European states, on Bismarck's initiative, met at the Berlin Conference 1884-1885. There they agreed on spheres of interest and set the rules for the division of Africa. One decisive principle was that territorial claims required full control of the area in question. Aggressive nationalism is another element that could explain colonial rivalry. To raise domestic political support, European governments encouraged nationalistic

sentiments. This in turn reinforced popular distrust against neighboring countries and was also used to legitimize the conquest of colonies (Darwin, 2008; Fergusson, 2003). Nationalism was also reinforced through the teachings of Social Darwinism. According to the latter, since Western societies were at the top of the development ladder, people in the colonies would benefit from colonization and develop along Western lines. Colonies were thus considered as the “white man’s burden” and Europeans had the duty to spread civilization to those who were not white. Racial arguments that Europeans were superior and consequently had the moral right to conquer non-Europeans countries were also advocated (Darwin, 2008; Fergusson, 2003; Magnusson, 2002).

Looking at the expected demands regarding this explanation, student performance obviously has to be judged in relation to the academic requirements that could be expected at upper secondary level. Implementing this subject matter, the ambition should be to allow students to practice a disciplinary approach to causation; however, the intent should not be to educate mini-historians (Lee, 2011).

Theoretical Framing, Data and Analysis

Theoretical assumptions concerning perspectives on student learning stem from Variation theory, a theory that views learning as ways of experiencing. It assumes that learning requires a simultaneous discernment of certain necessary aspects regarding phenomena’s we encounter in our environment which in turn is made possible by experiencing variation (Marton, 2015). In an educational context such phenomena’s are labelled as objects of learning (O.L) and they consist of a subject capability and related subject matter, (in this case causation in relation to the Scramble for Africa). Every object of learning contains a set of aspects that needs to be discerned for learning to progress in relation to the capability and subject matter. Some of these aspects are critical for students’ ability to master the object of learning in the desired manner. Within a group of students some may have discerned these aspects and some have not. Hence, teachers need to be receptive for how students understand an object of learning and try to identify aspects that are critical for their understanding. According to the theory, teachers should design learning activities based on patterns of variation that allow students to discern these aspects (Marton, 2015). The identification of critical aspects cannot be derived at solely from what teachers consider to be the essential characteristics of a capability and related subject matter. Neither can they single handedly be concluded through an analysis of the misconceptions that students could show in relation to the same capability and subject matter. Critical aspects should be regarded as relational, and they are possible to identify through a combined analysis of the nature of the capability, related subject matter, curricula definitions, teacher’s professional experiences and the conceptions that a specific group of students under investigation could show (Pang & Ki, 2016).

Data for this article originates from a Learning Study, an iterative and collaborative research method for analysis and enhancement of teaching and learning. In a Learning Study researchers and teachers, based on interviews, pre and post assessments, disciplinary and pedagogical knowledge, jointly try to identify critical aspects for what students need to learn in relation to an object of learning (Marton, 2015). The original study investigated students’ capability to reason on causation, interpret and use sources (Nersäter, 2014). However, in this paper only findings that relate to causation are addressed. Research was undertaken in a Swedish upper secondary school and include three classes with 16-year-old students. All studied History 1b, a mandatory course for all university preparatory programs. Data consists of a total of 138 pre and post assessment essays in which students were asked to discuss the causes for the scramble of Africa. They were presented with two maps depicting colonial possessions on the continent in the year of 1878 and the year of 1914 respectively, and asked to discuss the causes behind

the rapid colonization-process. Both assessments also contained two different historical sources that related to the colonization. In this article, possible effects on student learning by explicit teaching-strategies based on identified critical aspects are not in focus. Therefore pre and post assessments are treated as one pool of data. Results instead focus on what characterizes qualitatively different ways of casual reasoning in relation to a specific subject matter.

Analysis of student answers has been carried out in several steps. First during the actual implementation of the study. A second and deeper analysis was performed writing the research report (Nersäter, 2014). The Learning Study which contributed with data for this report was modelled as a document based component consisting of context-material and accompanying sources framed on the scramble for Africa. The research interest focused student understanding of historical explanations and how efficient teaching practices might be designed in this regard. For this paper, a reanalysis of all data from pre and post assessments has been undertaken. Similarities and differences concerning student conceptions are in the focus for the analysis. Categorization of student statements has emerged inductively based on the pool of data from pre and post assessments. In the analysis of student statements considerations has also been taken to desirable subject-specific qualities justified by the nature of the discipline and curricular demands. To adapt to demands of transparency rich excerpts of data are presented together with accompanying analysis. The ambition is to clarify on what basis categories have been constructed, conclusions drawn and thereby show how critical aspects eventually were identified.

Results – Categories

Analysis of data resulted in four qualitatively different categories. Below follows a compilation of typical excerpts with accompanying argumentation for the conclusions drawn concerning each category:

Category A

Conceptions in this category are characterized by a lack of consistency regarding the historical context and the argumentation is not always coherent. It is also typical that students consider change/events taking place with no clear reason. The historical process moves ahead and it does not seem that changes/events need any explanation. If causation at all is addressed it is connected to vague discussions about power. In the excerpt below the student argues that all Africans at the time of colonization were already slaves. It seems that this student therefore thinks that it was natural that Africans should work for the Europeans.

I think it was because all black people were slaves and they just got there and said you are going to work for us and they said OK.

In regard to chronology this sometimes leads to students mistaking causes and consequences, which is exemplified in the following statements, showing conceptions where European demand for rubber caused industrialization, and wars caused colonization:

When they discovered rubber it started to transform towards an industrial society and Africa began to split up.

These changes took place at the time of WWII and they, these countries, were very strong during the war and as a consequence Africa became colonized.

Since students holding these conceptions often confuse chronology, they tend to confuse different epochs. The Age of Discovery is mixed-up with Modern Age Imperialism; and WWI is sometimes seen as a cause for colonization. In one statement, technology developed during

the 1950s is viewed as a cause for colonization, and the US and USSR are considered to be the countries responsible for colonizing Africa. To summarize, the evidence-base in this category of conceptions is often faulty and the line of argumentation not coherent in relation to context, chronology and causation.

Category B

Here conceptions correspond with the historical context and even though the line of argumentation can be a bit vague, one or some relevant causes are addressed. The reasons behind colonization are sometimes understood as European states wanting to expand geographically and increase their power:

I guess it was some sort of power urge for land. It's not surprising that a bigger and more developed country wants to conquer a smaller one that's rich on natural resources.

Usually students discuss one or two causes. The most common ones are of a materialistic character. Causation is often reduced to a European drive for natural resources as seen below:

About 1870- 1880's large deposits of natural resources were found in Africa, diamonds, iron ore, gold, exotic timber and much more. All this created a great boom for a colonization of Africa.

In some cases European industrialization is seen as both a condition, and a cause. These students address European technical superiority and their search for natural resources:

Due to the industrial revolution society and companies became more advanced [...] they soon noticed that Africa possessed diamonds and different minerals [...] The Europeans also had better artillery, weapons, rifles than the African population.

Just as with category A, many answers rely heavily on the evidence that could be found in the sources that accompanied the task. A common denominator in this category of conceptions is however that the line of argumentation is coherent and that answers have an explanatory value.

Category C

Here ways of reasoning are characterized by composite causes that correspond with the historical context. Often background conditions are intertwined with a discussion of causes and consequences as shown in the excerpt below. First the student discusses causes and conditions:

After the breakthrough of the Industrial revolution there were a great demand for manufactured goods [...] to make these you obviously need natural resources [...] African populations were easy to conquer since they hadn't progressed as far as the Europeans in technological development in terms of weapons and other things.

They then continue with a description of consequences - how Africans were affected by colonization, and how this was justified by the colonizers:

But in newspapers back home the story depicted was that native populations were in need of rescue from their barbaric life.

In comparison with category B, it is more common that causes of an idealistic nature complement the materialistic interpretations. Phenomena like Nationalism, Racism, ideas of 'the white man's burden' and Christian mission are addressed as causes behind colonization:

The used the excuse that they should Christianise the savages. They didn't consider Africans as their equals rather like animals, and you could not allow animals to govern a whole continent, that was not Gods will. Hereby they could justify the enslavement and killing of thousands of people in search of the riches of Africa.

The statement refers to some of the methods used by Europeans. Methods are also addressed in other cases, sometimes from the perspective of power-politics. The agreement to divide Africa

reached at the Berlin Conference is a common example of this. Several students also describe how African tribes were tricked to hand over large areas of land to settlers:

Many chiefs were tricked to agree to colonization because they didn't understand what the Europeans leaders wrote on their papers. In exchange they often received a bible and were forced to convert to Christianity.

In several cases students discuss long-term consequences of colonization and address contemporary issues as poverty, border conflicts and other problems they view as legacies of colonization:

White people has had the power down there up until the present. It's not until 1995 that Apartheid is dismantled.

In this category of conceptions all students add own knowledge to their explanations, since they are not restricted to the evidence found in the task. Evidence is used to back up the arguments and synthesized with their own knowledge about the historical context. Their line of argumentation is coherent and the answers have a high explanatory value.

Category D

Just as for category C, students present complex arguments there causes correspond with the historical context. Causes are recognised as composite and to some extent their relative importance is discussed. Often background conditions are intertwined with a discussion of causes and consequences. Typical for this category of conceptions is that students also discuss long-term, short-term causes and/or the importance of actors and structures:

After the Industrial revolution Europeans had the edge in weaponry and thereby an easier task taking over African areas. They did it because they needed raw materials and new markets to sell manufactured goods on. Cheap labour was also a factor. Nationalism was strong and it meant prestige to possess many colonies [...] Individual capitalists also realized that the capital revenue could be higher in the colonies [...] Social Darwinism was a lie, they argued that they wanted to help and civilize the Africans but that was not the real reason.

In this statement, technical superiority based on the conditions created by the Industrial Revolution is addressed. This student also views the Industrial Revolution as a cause behind colonization. Historical actors in the shape of industrialists are seen as important because they can profit on colonization. Causes of a more idealistic character are also used to explain the scramble. There is no explicit reference to the term structure, but it is obvious that this student describes Europe as heavily influenced by ideas of Nationalism and Social Darwinism, ideas that definitely affected and helped to shape the societal structure. Also in the next excerpt, technical superiority related to the Industrial Revolution is addressed. The statement is also representative for how students evaluate which causes they consider to be most important:

The most important cause was to get hold of natural resources.

Then follows a description of the colonization process, conditions and its consequences from an African perspective. The student continues with an explanation for how colonization was justified:

The Europeans didn't consider that they did anything wrong, they made up a lot of excuses.

This is supported with references to one of the sources from the task:

They had no doubt that they would need to use force. But since they considered Africans of less human value, hardly as humans [...] lacking intelligence [...] They claimed that they did something good when they enslaved them just to take their natural resources [...] An example is the Brit, Cecil Rhodes who viewed the British as the perfect people [...] something which gave them the right to conquer Africa.

These statements are typical for conceptions in category D. From the excerpt, we can conclude that this student presents an explanation, there causes of a materialistic character are intertwined with idealistic ones. In the category, the latter ones are often used to explain how Europeans justified colonization. In their explanations historical actors are present, act within the societal structure and also influences the same. In all statements within the category there is a synthesis of own knowledge and evidence from the sources. Arguments and value-laden judgments are supported with references to the sources. Their line of argumentation is coherent and answers have a high explanatory value.

The identification and characterization of critical aspects

By analyzing student conceptions four categories were found, comparing differences and mutual relations between these allowed for the identification of critical aspects (see figure 1 below). Analysis showed that many students in category A described the scramble without attempting to explain it in terms of causes. For them colonization just happened. Such attitudes can be understood as they perceive History as moving forward by itself, and do not discern that historical changes have causes. A similar phenomenon in the same category is those conceptions that focus only on conditions and argue that the conquest took place because Europeans possessed the necessary technical abilities. These students do not seem to consider it necessary to provide any further arguments relating to causation. There were also those who did express clear opinions concerning causes, but did not support these claims with evidence (also category A). Neither did most students discern any long-term causes for the scramble; instead they focused on short-term causes surrounding the events (see category A, B). In some answers, especially within category A, there were also clear signs of chronological confusion with the effect that causes and consequences were confused. Analysis also showed that many restricted their arguments to one cause. Among those, the absolute majority advocated materialistic arguments as the cause for colonization (category A, B). That the scramble occurred due to multiple causes of both materialistic and idealistic nature were discerned by students within category C and D. However, it was only the conceptions within category D where students managed to discuss the internal importance of these causes.

Finally, in the pre-assessments almost none addressed the importance of historical actors (category A, B, C, D). Surely, explorers, politicians and media were mentioned, but how these interacted with the societal structure at the time did not become clear in their essay-answers. Based on analysis of pre and post assessments the following aspects, as presented in the diagram below, were concluded as critical for our students' capability to reason on causation in relation to the scramble for Africa:

Identified critical aspects		Corresponding categories
1	Discern that the scramble had causes	A
2	Discern that claims for what caused the scramble need support from evidence.	A
3	Discern that the scramble had both long-term and short-term causes.	A, B
4	Discern the chronological structure relating to the scramble not to confuse causes and consequences	A, (B) ²
5	Discern that the scramble had composite causes of differing importance.	A, B, C
6	Discern that the scramble was caused by interaction between societal structures and the actions from historical actors.	A, B, C

Table 1. Critical aspects and corresponding categories

Discern that the scramble had causes (C. A 1)

That some students described the colonization process but did no attempt to reason about its causes becomes plausible if one imagines a student who view causes as equivalent to a given and/or unproblematic course of events. In such a case the student might not see any need to discuss what the possible reasons behind events were, or what the processes of change had been. A related problem were the conceptions that argued that colonization took place just because European countries had the practical means to enforce it. Superior technical ability was considered reason enough and students did not provide any real explanation for the conquest. To show developed understanding for the scramble, or other events in the past, it is not enough to account for the development in itself. For a developed capability it is crucial that students can present and assess different causes for why certain events or processes of change has occurred (Lee & Shemilt, 2009).

Discern that claims for what caused the scramble need support from evidence (C. A 2)

Pre-assessments showed that some students neither used evidence from the accompanying sources or presented own contextual knowledge to back up their arguments. Arguing a case for what caused a specific event or a process of change to take place without presenting sound evidence is just opinion making and does not constitute a valid explanation. In some cases students tried to use sources to back up their claims but tended to treat them as unproblematic information and suggest interpretations that often were literal and uncritical.

Discern that the scramble had both long-term and short-term causes. (C. A 3)

In the discipline of History, events and processes of change for natural reasons exist in a temporal dimension. The existence, meaning and importance of causes shift depending on time periods and, of course, also depends on what particular phenomenon we put an interest in explaining. The scramble for Africa is an example of a historical phenomenon that at least traces its roots back to the Age of Discovery. To some extent it can be explained by the patterns of trade and a growing capitalistic system that spread in the wake of these discoveries. Few students addressed any such long-term causes for the scramble; they instead focused on the situation surrounding the actual event.

Discern the chronological structure relating to the scramble not to confuse causes and consequences (C. A 4)

In some conceptions students confused causes and consequence relating to 19th and 20th century chronology. In pre assessment essays, there were students who stated that European demand for rubber led to Europe's industrialization, that WWI caused the scramble, that the colonies were conquered during the 1950s, and that the US and the USSR were the dominant colonial powers. Clearly, a student who lacks, or confuses, historical content while attempting to reason on causation for a specific event will also run the risk of confusing causes and consequences.

Discern that the scramble had composite causes of differing importance. (C. A 5)

Results illustrated that many students restricted their reasoning to one cause, which most frequently was of a materialistic character. Students more often than not need to recognize

composite causes to explain past events and processes of change (Lee & Ashby, 2000; Lee & Shemilt, 2004; 2009; Levesque, 2009; Seixas & Morton, 2013). The scramble for Africa is no exception, and our students therefore need to discern and evaluate causes of both a materialistic and an idealistic nature. The causes for the scramble can partly be explained by economic factors. European governments and companies had a need for natural resources as well as markets for investments and export (Fergusson, 2003; Hobsbawm, 1997). But, just as for many other events and processes in the past, to understand and explain the colonization process, students also need to handle phenomena of a more idealistic character. These include mentalities, values and belief system of the particular time-period at stake (Ashby, Lee, & Shemilt, 2006; Lee & Shemilt, 2009; Portal, 1987; Shemilt, 1983; 1987).

Discern that the scramble was caused by interaction between societal structures and the actions from historical actors. (C. A 6)

When our students reasoned on causation in the pre-assessment-essays historical actors were often invisible. If actors at all were part of their argumentation nothing in the responses illustrated how these actors interacted with the societal structures of the time-period. A qualitative explanation of the scramble for Africa needs to involve both societal structures as well as the European industrialization process and its effects, and also the interests and actions of important historical actors, such as Bismarck and Rhodes.

Conclusion

For students to understand the methodology and interpretive nature of History it is crucial that teaching deals with second-order concepts in an efficient manner. To do so we have to understand what students need to learn to develop a deeper understanding in relation to these concepts. This article has tried to give some answers to what they need to discern to master the concept of causation. A strength in the findings is that they are based on a composite analysis originating from the nature of the subject, curricular demands, and analysis of students' conceptions. The capability has been investigated in relation to specific subject matter (the scramble for Africa) which could complement British results which have predominantly presented student understanding of causation from a content free perspective. However, there are still similarities between earlier research and these results. That some students do not see any need to explain events or processes of change and see History just as events unfolding (C.A 1) has also been shown in the SChP project and later research (Shemilt, 1983; Lee & Shemilt, 2009). This underlines how important it is that teaching clearly emphasizes that events and changes in the past have causes, something that risks being seen as too obvious. That events/processes of change depend on multiple causes of differing importance and duration (CA 5) has also been shown within the SChP project (Shemilt, 1983) and in the research of Voss et al (1994). There is however nothing in their results that indicates that students predominantly have a tendency to advocate materialistic factors. A possible explanation for why our students did so might be found in the specific subject matter studied. This stresses the importance of explicitly addressing idealistic causes that relate to mentalities and values when teaching the scramble for Africa (or modern imperialism in general). Another finding that does not directly correspond with earlier research concerns the role of historical actors causing events/change. Halldén (1998) showed that students had a tendency to personalize explanations and did not make use of structures. Even though many of our students did not make use of societal structures in the pre-assessments, it was more common that individual actors were nonexistent in their explanations (C. A 6). A possible reason is that many lacked enough contextual knowledge to

do so. This hypothesis is supported by the fact that to a much higher extent they managed to deal with interaction between actors and societal structures in the post-assessments.

Our results also clearly indicate that teaching must illustrate that historical changes and events usually occur due to composite causes of differing character and importance (C. A 5). Using the Scramble for Africa to illustrate this, the colonization process can partly be explained by materialistic factors. Powerful interest groups saw a need for natural resources, cheap labor and deployment markets. However, as stated earlier, there is also the need to take into consideration phenomena of a more idealistic character that relates to mentalities, values and beliefs. During the scramble such idealistic factors can be associated with Social-Darwinism, Nationalism etc. One finding that showed similarities with earlier research (Barton & Lestvik, 2001) was that some students confused causes and consequences (C.A 4). Based on this it is not far-fetched to conclude that teaching needs to offer some sort of structured chronological and contextual framework for the specific subject matter when students are expected to reason on causation. The same applies for the need to back up explanatory claims with evidence (C.A 2). If we want students to work with sources while constructing explanations, we need to offer them a contextual framework for the historical phenomenon that they are expected to analyze in terms of cause while interpreting the sources. One remaining question is to what extent these findings are possible to generalize to other components of subject matter in History? A hypothesis could be that several identified critical aspects are of a general nature and necessary to master regardless of historical content. That several of them coincide with earlier findings despite different cultural contexts, research environments and applied methods strengthens that argument. That, however, is a matter for further research to explore.

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Endnotes

¹ These are the disciplinary tools that makes understanding and construction of History possible. Independent of chronology and subject matter they relate closely to the historians trade of phrasing questions, interpret sources and construct narratives (Lee, 2011).

² Most common in category A but to some extent also present in B.