DOCUMENT RESUME

ED 425 097 SO 029 466

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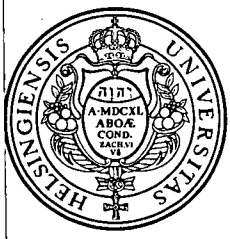
TITLE The Form of Historical Knowledge and the Adolescent Conception of It. Research Report 80.
INSTITUTION Helsinki Univ., (Finland). Dept. of Teacher Education.
ISBN ISBN-951-45-5358-6
ISSN ISSN-0359-4203
PUB DATE 1990-00-00
NOTE 261p.
AVAILABLE FROM University of Helsinki, Department of Teacher Education, P.O. Box 38 (Ratakatu 6A), Helsinki 00014, Finland. Helsinki, Finland.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC11 Plus Postage.
DESCRIPTORS *Abstract Reasoning; *Cognitive Development; *Concept Formation; Developmental Stages; Epistemology; Foreign Countries; Fundamental Concepts; History Instruction; Knowledge Representation; *Learning Processes; Thinking Skills
IDENTIFIERS *Finland

ABSTRACT

This study reports on the historical conceptualization among Finnish 12-13 year-olds who were given a projective task to yield historical thinking. The case study examines expressions the subjects used and which were studied qualitatively, using "chunks of meaning" as units of analysis, in regard to both their meaning- content and their cognitive level. The adolescent expressions in the case represented varying meanings, e.g. causalism as well as intentionalism, which were only partially due to the cognitive level. The study was based on the assumption, appearing in cognitive psychology, that formal concepts in the process of learning may eventually be domain-specific. The concepts constituting the form of historical knowledge were established in theory, through a study of the philosophy of history. "Change" and "cause" were to be the ontological key concepts, and "evidence" and "interpretation" the epistemological key concepts. Due to the nature of historical knowledge, the analysis did not yield stipulative definitions but, instead, dimensions of meaning. (EH)



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Department of Teacher Education
University of Helsinki

Sirkka Ahonen

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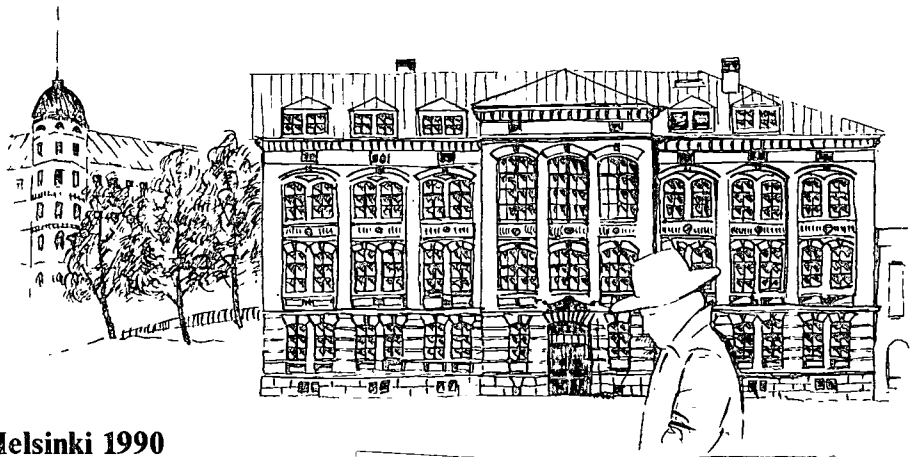

Helsinki 1990

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Sirkka Ahonen

THE FORM OF HISTORICAL KNOWLEDGE AND THE ADOLESCENT CONCEPTION OF IT

Academic dissertation to be publicly discussed by due permission of the Faculty of Education in the University of Helsinki, in Auditorium I of the Department of Teacher Education, on the 22nd of May, 1990, at 12 o'clock.

Helsinki 1990

ISBN 951-45-5358-6
ISSN 0359-4203
Helsinki 1990
Yliopistopaino

UNIVERSITY OF HELSINKI, SF
Department of Teacher Education
Research Report 80. 1990

Ahonen, Sirkka

The Form of Historical Knowledge and the Adolescent Conception of It. 246 + 9 pp.

ABSTRACT

The author studied the nature of historical knowledge and the conception of it among young adolescents. The study was based on the assumption, appearing in cognitive psychology, that formal concepts in the process of learning may eventually be domain-specific.

The concepts constituting the form of historical knowledge were established in theory, through a study of the philosophy of history. 'Change' and 'cause' were to be the ontological key concepts, and 'evidence' and 'interpretation' the epistemological key concepts. The meaning, i.e. the content and the extension, of the concepts was analysed by referring to their theory-backgrounds. Due to the nature of historical knowledge, the analysis did not yield stipulative definitions but, instead, dimensions of meaning. Thus, the meaning of 'cause', for instance, depended on whether the approach was causalistic or intentionalistic.

The level of conceptualisation in a learner was considered to be categorisable as levels of consciousness. The narrative mode of knowledge, as it appears in humanities, was seen to be of equal status with the hypothetic-deductive mode of sciences, both requiring, on their advanced level, consciousness, differentiation and tentativeness.

A case-study was conducted concerning the historical conceptualisation among the 12-13 year-olds. They were given a projective task to yield historical thinking. Their expressions were studied qualitatively, using 'chunks of meaning' as units of analysis, in regard to both their meaning-content and their cognitive level. The adolescent expressions in the case represented varying meanings, e.g. causalism as well as intentionalism, which were only partially due to the cognitive level.

Descriptors: history education, philosophy of history education, form of knowledge, concept-acquisition.

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ACKNOWLEDGEMENTS

What history as a domain of knowledge means to young people has puzzled me since the 60's, when I started to teach it. In the classroom I encountered fine young critical minds, and learned to respect the pursuit of intellectual honesty in young learners. This study is based on the assumption that the questions of 'how we know' and 'what history is about' can and should be dealt with at school.

Having accomplished this study I am much indebted to my supervisors. Professor Pertti Kansanen kept ushering me towards a necessary intellectual rigour, and Associate Professor Martti T. Kuikka penetrated into my research problems and discussed them as a patient and invaluable tutor. Disagreements eventually helped me to clarify my ideas and widen the perspective.

I was fortunate to work at the crossroads of two fine disciplines, history and education, and to receive guidance from prominent representatives of both of them. Professor Emeritus Pekka Suvanto shared with me his expertise in the philosophy of history. With gratitude I think of our long telephone conversations in many late hours.

I thank Professor Erkki Niskanen from the Department of Education for valuable support in the course of my study. Associate Professor Veijo Meisalo is to be credited for an innovative and stimulating environment in the Department of Teacher Education. All my dear colleagues, above all Senior Lecturer Matti J. Castrén, have created an inspiring atmosphere to do research.

During my sabbathical term in the mid 80's at the University of London Institute of Education, I encountered an educational culture that emphasised the philosophical nature of knowledge. Mr. Alaric Dickinson and Mr. Peter Lee let me share their seminar sessions, where the meaning of humanities at school was discussed in depth. I am grateful to many persons in the New History Project for ideas that have guided my study ever since.

Thanks are also due to the Cultural Foundation of Finland for an economic support, and to the Department of Teacher Education for acceptance of this study in the series of Research Reports.

Mr. Jukka Rantala, M.Ed, gave assistance with the empirical study, acting as an additional judge at the categorisation of the data. In writing the report, my son Tuomas helped me with English idioms. I am grateful to both young men.

I dedicate this study to my parents, who taught me a great deal about change, continuity and the diversity of life.

Helsinki, April the 9th 1990

Sirkka Ahonen

CONTENTS

FIGURES AND TABLES

A little learning is a dangerous thing;

Drink deep, or taste not of the Pierian spring:

There shallow drafts intoxicate the brain,

And drinking largely sobers us again.

Alexander Pope (1688 - 1744)

INTRODUCTION

The starting point of this study is threefold: in some findings of modern cognitive psychology, in problems arising from an eventual introduction of an integrated curriculum instead of a subject-based one, and, finally, in some preliminary observations by the author of the historical thinking of young learners.

(1)
Developmental psychologists, especially since the rise of the cognitive school, emphasise the role of concepts in the process of learning. Concepts are the organisers of knowledge and the vital tenets of the process of learning. There are, first, substantial - or material - concepts, like "art" or "revolution" in history, and analytical - or formal - concepts, like "cause" or "evidence" in history. The latter are the focus of this study.

Educationists of the cognitive approach discuss the respective roles of general and domain-specific formal concepts. Let us assume a student wants to acquire knowledge of his environment, and studies water pollution. His aspect determines his approach. If he wants to know what happens to the water when exposed to a certain type of industrial waste, he conducts an adequate chemical experiment, and uses it to measure his observations. If he then wants to know why the waste was dumped into the water, he will study the local administration, and finally the intentions of those making the decisions. The latter activity, understanding human decision-making, is very different from the chemical analysis. The student thus encounters two different

forms of experience and understanding.

Formal knowledge is considered domain-specific by educational psychologists and educationists like Bruner (1977/1960, 6-7), Marton (1984, 66), Carey (1985, 194), Shulman (1985, 8), Alexander & Judy (1988, 384) and Nickerson (1988, 13,31). Domains of knowledge are, as a rule, identifiable with academic subjects. The educational philosopher P.H.Hirst called academic subjects "forms of knowledge":

> "By a form of knowledge is meant a distinct way in which our experience becomes structured round the use of accepted public symbols." (Hirst 1972, 15)

"Public symbols" meant concepts used in subjects. Thus a study of conceptualisation was to be conducted to a major part in specific domains. To analyse the nature of historical knowledge, the analytical philosophy of history is to be studied.

(2)
The use of academic subjects as the basis of a school curriculum can be questioned. The opposite demand to integrate a school curriculum rises out of an acknowledgment of the needs of young learners to study the surrounding world as a whole. Reformists of education generally stand for integration, while traditionalists tend to defend a subject-based curriculum, fearing a muddle of concepts as a result of integration. This fear is prominent in some countries where a liberal curricular movement has lead the school away from academic subjects (A Nation at Risk 1984, Better Schools 1985, What sort of history for the core 1987).

Would the structure of knowledge be muddled if the logical sequence of a subject syllabus were broken? Philosophers **Hirst** and **Peters** in Britain in the middle of the liberal curricular reform of the 70's answered "No":

> "Because our experience and knowledge is differentiated into

> a number of distinct forms, it does not at all follow that the best way of developing such knowledge and experience is to organise a curriculum in terms of these forms." (Hirst & Peters 1970, 69)

They referred to the psychological and social needs for integration of the curriculum and continued:

> "On philosophical grounds alone, any curriculum composed of subjects, each structured to objectives within one mode, would do scant justice to the complex interrelations between the modes .....Developing a person's knowledge and experience necessarily involves developing these in different modes, but this does not mean that one must concern oneself with each of these separately in isolation from all others." (ibid.)

Thus, from a philosophical point of view, the pursuits of an integrated curriculum and of formal knowledge are not incompatible. Let us come back to my first example: the student was studying environmental pollution instead of having specialist chemistry and history lessons. He was still applying the knowledge-specific modes of knowledge-acquisition in his process of learning.

For the controversy between the discipline-oriented and the integrated approach to be managable, the nature of different forms of knowledge needs to be studied. That way the adequate form of knowledge and the valuable life-relevance of the curriculum can be pursued together at the same time.

A prospect of an integrated curriculum actualises the need to study the specific modes of knowledge.

(3)
The observations by the author of this study suggest special defects in the way school learners understand some of the constituent concepts of history.

Often learners seem to project contemporary values and views on their studies of the past. They assume medieval people to have the same sense of equality as we have, etc. They thus do not recognise **change** in times. Some, on the other hand, are astonished by finding some of today's familiar thoughts and practices among the ancient Greeks, as they do not acknowledge continuity in history.

When asked about the causes of the Second World War a young student in the 8th grade answered: "It was because they started to fight, the Germans and the rest." The answer is not untypical, and shows a confusion of cause and effect. Also, young learners often confuse moralising with a study of **causation**. Making human action intelligible seems to the author of this study to be more difficult for young learners than explaining technical and scientific phenomena. The same young student who got muddled about the causes of wars, could adequately explain why an engine stalled. He seemed to lack a conscious mode of explaining history.

Further, young learners seem not to recognise a difference between **evidence** and **interpretation**, but instead rely on their text-books as ultimate facts.

The recognition of a need of a firmer conceptual command by learners, lead to this study of the form of historical knowledge. As the pragmatic concern were the curricular implications of acknowledgement of the form of knowledge. Instead of objectives concerning the material outcome of learning, a history curriculum should perhaps be based on formal and procedural concepts.

In an educational search for the conceptual criteria underlying the acquisition of historical knowledge, this study was to use the results of both analytical philosophy and cognitive psychology.

2. THE REVIEW OF PREVIOUS RESEARCH

This study is about the form of historical knowledge and its conception in adolescent minds. Within educational research the study belongs to a genre that has been spurred by modern developmental psychology with its emphasis on cognition.

According to the reviews by Nickerson (1988), Ramsden (ed; 1988) and Uljens (1989), empirical research on cognition has not been very active regarding the humanities and social studies, compared to investigations concerning the learning of mathematics and sciences.

In Sweden, O. Halldén (1986) has compared the notions of historical causation among school pupils and their teachers. In Finland, A. Pilli's (1988) study of the structure of young students' historical propositions, together with K. Elio's (1988) review of modern theories of history didactics, open the way for the research on cognition in the study-of-man area.

The guidelines of the literature search for this review were set as follows:

- first, the focus was to be on empirical cognitive studies of the formal learning of history,

- secondly, studies in the analytical philosophy of history education were sought.

The two areas of study are closely linked with each other. In this review the studies of the material content of history education were

excluded.

So far most of the empirical research into thinking processes of history students has taken place in Britain. While the German and Scandinavian history didactics (see Kuhn 1974, Schulz-Hageleit 1977, Jensen 1978, Rohlfes 1986) have traditionally been concerned with the social relevance of the history curricula and with the actual methodology of teaching, studying both aspects mainly in theory, the British educators have conducted empirical studies on adolescent thinking. These studies will be briefly surveyed here and their results further elaborated in chapter 5.

Phenomenographic research in Sweden has not yet focussed on history. Its qualitative methods in studying school pupil's thinking have, however, influenced this study.

Piagetian Research

The first wave of cognitive research concerning history came out of a **Piagetian** revival in the early 70's in Britain. It was a reaction to behaviourist ideas of skill-based and operationalised aims and evaluation of education, the ideas which were not considered to meet the nature of historical knowledge. The behaviourists were also accused of focussing solely on the product of learning and ignoring the process and the formal conceptual content of learning. Piaget, instead, studied the quality and form of thinking, and established a theory of an age-bound transition from concrete to abstract concepts. The highest form of thinking were formal operations, which meant hypothetic-deductive argumentation using abstract concepts.

E.A.Peel (1971) adopted Piaget's ideas of age-bound developmental stages of thinking in order to study empirically children's ideas about the nature of historical knowledge. Peel was mainly interested in the concept of causation and, using Piaget's theory, questioned how far children were able to make hypothetic-deductive causal inferences. Peel came to a very Piagetian result, that children before their late

teens were not able to generalise about history. They could not produce hypothetic-deductive statements. He was supported later on by Hallam on the basis of similar studies (Hallam 1975, see also Thompson 1984).

Peel's conclusions were soon questioned by history educators. Martin **Booth** (1978) used more elastic, context-based tasks, where the abstract thinking of the young testees was studied in the context of real, meaningful contexts. His results showed a remarkable abstracting competence as early as in the 14-year-olds. Thus **Booth** (ibid. 112-118) questioned the Piagetian frame of research. By an adequate exercise he found it possible to hasten the abstract thinking of children. This finding was supported by Jerome **Bruner**, who already in 1960 had launched his theory of developmental psychology in the work "The Process of Education".

The new paradigm of historico-cognitive research was adopted by Booth as well as by **Thompson** (1972), who disagreed with Piaget and Peel about the usefulness of formal logics as a starting-point in cognitive research. One should start with the discipline, they suggested. Thus the emergence of an analytical philosophy of history education was called for.

The Emergence of "The Form of Knowledge" Approach

The second stage of research of the juvenile conception of the nature of historical knowledge can be credited to the psychological ideas of L.S.**Vygotsky** (1987/1934), Jerome **Bruner** (1977/1960), and M. **Donaldson** (1983/1978). They all offered an alternative to Piaget's narrow idea of knowledge.

Bruner (1977/1960, 6-7) held subject-specific cognitive structures as the backbone of learning. He first found history unscientific because of the lack of constructive epistemological or ontological key concepts, and turned his interest to the real social sciences (ibid. 23-25; 1966, 74). By his attitude he spurred a lively interest in an analytical philo-

sophical study of the nature of history as a domain in education.

The philosophy of history education as a special area of study emerged in Britain, where the philosopher P.H.Hirst (1972, 15) first called school subjects "forms of knowledge". To define an educationally valid form of knowledge for history, its ontological and epistemological foundations had to be considered. Thus the philosophy of history education in Britain was to be analytical instead of speculative.

When the British philosophy of history education (see e.g. Philosophy of History Teaching 1983) focussed strongly on the theory of knowledge, in Germany and the Nordic countries the emphasis was on speculative philosophy. Instead of analysing the form, the German and Nordic educators speculated on the substance, i.e. on the material content of history with its social and moral contexts. (Kuhn 1974, Schulz-Hageleit 1977, Rohlfes 1986, Geschichte und Wissenschaft 1977-1987, Jensen 1978). The American philosophy of history education remained mainly pragmatic in its approach (Fitzgerald 1987).

The British developments of the philosophy of history education can be traced in the main textbooks of history education, such as "Learning History"(Dickinson et al. ed 1986), "History Curriculum for Teachers" (Portal ed. 1987) and, not least, "The Philosophy of History Teaching" (1983). The dominant trends are, first, an interest in epistemology (Dickinson & Gard & Lee 1978, Shemilt 1980, History in the Primary and Secondary Years 1985), and an emphasis on the singular and phenomenological character of historical knowledge. This trend was manifested in a renaissance of R.G. Collingwood's thoughts, obvious in the textbooks mentioned above.

The interaction between the philosophy of history education and the developments in actual teaching also had curricular implications in Britain. The epistemological interest in the concepts of evidence and empathy produced a new popular syllabus called the New History. (Rogers 1979, Shemilt 1980). The Collingwoodian argument of a

reconstructive method supported the concept of empathy, which was to be made an examined area of knowledge in the new national GCSE examination (History in the Primary and Secondary Years 1985, Empathy in History 1986).

Research with "The Form of Knowledge" Approach

With the rise of the new cognitive psychology in the 70's and 80's, the idea of the crucial role of a domain-specific formal knowledge gained further momentum (Nickerson 1988, Perkins & Salomon 1989).

The new research of history education was characterised by a domain-specific approach. Unlike the Piagetian research, a researcher concentrated on genuinely historical formal concepts among young learners.

Martin **Booth** (1978), the first of the Brunerian line in Britain, did not require of the young students specifically hypothetic-deductive thinking in order to demonstrate the skill of abstract thinking in history. Instead, he adopted a broader concept of 'colligation' from the philosopher W.H.Walsh (1974) and let his testees try their competence in it. Colligation meant a tentative, descriptive inclusion of objects or events into a concept.

Denis **Shemilt**, a sociologist, conducted an investigation of the New History syllabus in the late 70's. He had a special interest in the concept of causation, where he differentiated between "a physical agency" and "a motivation" - a crucial difference in the philosophy of history (Shemilt 1980, 30-32). Other concepts studied were "necessity", "change", "continuity", "evidence" and "empathy" (ibid. 32-36). All were specifically historical concepts. He also wanted to get a hold on the process of thinking, instead of the resulting product only, and had long interviews with children. As his frame of reference was mainly from Jerome Bruner, instead of Jean Piaget, his hypothesis was, in contrast to Peel, that the epistemological understanding of a young learner can be promoted and accelerated by adequate teaching, as it

is not age-determined. He was able to confirm his hypothesis by his studies (1980, 1983).

Similar results were shown by Rosalyn **Ashby** and Peter **Lee** (1987, 1987a) in their research of secondary school classes studying historical evidence. Lee monitored young pupils' group discussions and studied the level of inferences and argumentation. He was specially interested in the understanding through empathy. The pupils seemed, in favourable circumstances, to develop remarkable historical thinking skills.

The research only shortly portrayed above, will be elaborated later on when studying the respective concepts.

Discussion on the "Form of Knowledge" Approach

The "form of knowledge" approach provoked both positive interest as well as criticisms, when it was presented in the Beiheft 22 of the journal "History and Theory" in 1983. The criticism was more concerned with the educational value of the approach, than with its usefulness in the research of thinking.

First, P. Lee (1983) who had conducted research himself with the "form of knowledge" approach, questioned its formal nature. Is it legitimate to juxtapose "developing concepts" and "transmitting content", he asked, adding: "Can one take a historian as a model for a history student?" Lee blaimed the Brunerian research for omitting the educational opportunities implied in the material content of history. The formal aspect was not enough, one had to study how children think about the historical content itself.

The German history educationist Jürgen Herbst (1985, 325-328) challenged both Shemilt and Hirst, questioning the importance of the form of knowledge. He considered formal thinking skills too hard for too many pupils and blaimed the theoretisation of history for creating inequality. If, as in Shemilt's results, as many as 1/3 of the pupils

proved to be non-thinkers, Herbst held the "form of knowledge" approach non-viable.

The Canadian educationist Kieran Egan (1985, 328 ff) especially criticised Shemilt for limiting himself to a rather narrow range of logical skills and particular concepts. Egan, being an advocate of broad humanistic, child-based education, doubted the necessity of epistemological concepts when education should be a life-enriching and world-orientating experience.

The American James Fitzgerald (1983) also challenged the life-relevance of the form of knowledge approach. He hinted at the rich Brunerian tradition of "history as an inquiry" in the US, and referred to the criticisms of the professional historians. Even the historians wanted school history to be more of a constructive thinking than of a purely intellectual exercise.

One realises from the criticism that the "form of knowledge" approach in history education or in the respective research has its shortcomings. The social context of education is absent in the cognitive research, where the problems are derived from psychology and philosophy. This worries educators, who want to see the material content of history as an asset in socialising children in a society.

Secondly, some educators saw the appeal of history to a human mind as going beyond formal critical exercise. History is received by using both aesthetic feeling and moral sense. This was Egan's strong point against the "form of knowledge" approach. According to this criticism, any research of how we understand history, should be conducted with a broad human frame.

The author of this study would like to present a further criticism: both Shemilt and Lee use the epistemological and ontological concepts of history as they were defined by a certain school of philosophy of history. Conceptions of history among philosophers or historians in Britain or Finland, however, are not uniform. Therefore, when stu-

dying adolescent notions, it would be adequate to use an open research frame, which would allow the study of different views of causation etc.

On the basis of phenomenographic principles of research (Marton 1988, Uljens 1989), the form-of-knowledge approach could be criticised as a stipulative design: adolescent minds are studied from the pre-set angle of the expert concepts, instead of studying the novice concepts in their own right. With a phenomenographic approach a new realm of ideas could be found.

Despite its shortcomings, the Brunerian approach appeared useful and valuable to the author of this study. Its benefits will be further elaborated in chapter 5. The domain-specific formal concepts have been in the focus of the discussion about cognitive learning in the late 80's (Nickerson 1988, Perkins & Salomon 1989). So far, the reasons to adopt a form-of knowledge approach for this study were the following:

- history seems to be best approachable as a form of knowledge of its own kind; if the special criteria of historical knowledge were not acknowledged, the research findings might prove invalid

- the combined use of analytical philosophy and of cognitive psychology, as conducted in the form-of-knowledge approach, helps to establish the criteria of concept attainment

- The criteria are needed to monitor formal thinking by learners in the classroom

2. THE RATIONALE AND THE DESIGN OF THE STUDY

The Rationale of the Study

The rationale of the study was based on three preliminary assumptions: on the necessity of a combined study of analytical philosophy and developmental psychology in finding out about concept-acquisition, on the legitimacy of studying thinking in its own right, and finally, on the contextual, theory-loaded nature of concepts.

(1) Knowledge is a process, not a static body. Formal concepts organise and promote the process. Analytical philosophy studies the nature and relations of the concepts, thus helping to distinguish between different forms of knowledge on different domains and to establish the 'a priori' core concepts and their meanings.

The contribution of philosophical analysis to cognitive education was pointed out by cognitivists like Bruner, especially when he found the different modes of knowledge (1984), Carey (1985, 1988), Campbell & Bickhard (1986), Nickerson (1988) and in the Finnish context by Voutilainen & Mehtäläinen & Niiniluoto (1989). They all see conceptual analysis as a prerequisite of relevant education.

A process of conceptualisation implies experience of world, reflective abstraction and human interaction. Vygotsky's idea of an integrated growth of spontaneous and scientific concepts, not through maturation but through interaction and reflective work, has gained new momentum with the rejection of age-determinism by e.g. Donaldson (1983) as well as Campbell and Bickhard (1986) , and with the rise of cognitive psychology as a whole. Cognitive psychology studies the internal

connections of rational thinking.

(2) The idea held by Harré & Secord (1979) and Campbell & Bickhard (1986; cf. Uljens 1989), that subjects in educational research were to be seen as reflective minds and conscious organisers of their world, had an impact on the focus and method of this study. Conceptualisation is studied here in its own right, not as a variable of external factors affecting subjects. Thus conceptualisation is studied in its internal connections.

Thus, the connection between the meaning and the cognitive level of a juvenile concept, interested the author rather as a logical connection than as a functional co-occurrence (cf. Campbell & Bickhard 1986, 12, 19). To account for a certain conception by an adolescent of e.g. 'cause', the cognitive level of his concept was studied. The parallel analysis of the meaning and the level of 'cause' would show whether there was a logical connection between the two.

As conceptualisation was seen as a conscious process instead of a passive variable, the external factors of adolescent development, e.g. the school education, were not included in the design of the study, where the focus was on the internal connections of thinking.

(3) Kuhn (1969) emphasized the idea of concepts as parts of theory-like constructions and, further, of paradigms. The meaning of a concept depended on the current paradigm. Though an existence of exclusive paradigms has been denied especially in the humanities, concepts are still seen as theory-loaded instead of closed autonomous semantic meanings. A concept varies in its meaning depending on the theory adopted by the user of the concept (Hirst 1972; Niiniluoto 1984, 227; Carey 1985, 3-8, 198; Carey 1988, passim). Thus in this study the 'a priori' concepts were studied in their theory-contexts, to prepare an elastic and sensitive frame to study juvenile meaning-attributions.

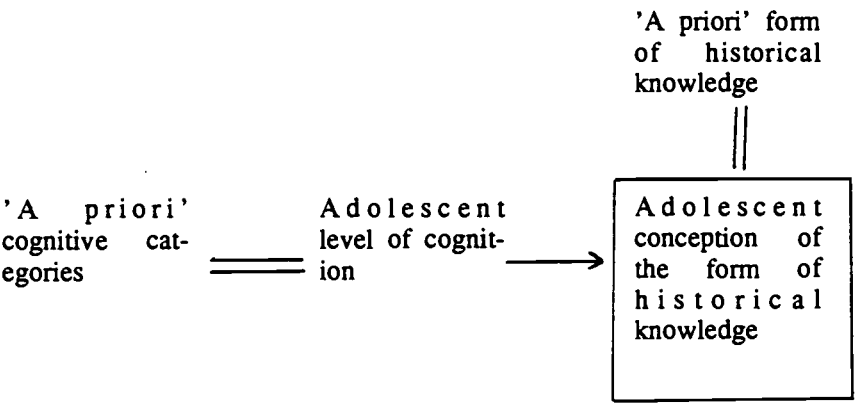
Also juvenile, developing concepts were found theory-loaded by

Marton (1988) and Carey (1985, 1988/1985) when they studied the physical scientific preconceptions of children. Carey (1988/1985) referred further to studies of the novice-expert shift in conceptualisation and maintained that theory-constructions played a similar role in the concepts of novices as in those of educated experts. The novice theories were not incompatible with expert theories, only less complete than those.

The Design of the Study

On the previous assumptions, the author attempted in this study to deal with both theoretical and empirical questions about conceptualisation in history. The 'a priori' concepts were first analysed, then the adolescent conceptions were empirically studied. The latter were also studied regarding their cognitive level, using theoretically set categories. The focus or the conceptual frame of the study is shown in Figure 1.

Figure 1. The Focus of the Study



The first two questions of the study concerned historical formal know-

ledge 'a priori':

1. What, according to philosophy of history, are the basic formal concepts to constitute historical knowledge?

2. In developmental psychology, which would be the 'a priori' levels of conceptual attainment in history, considering an adolescent learner?

The two last questions concerned the juvenile perception of history, studied empirically as a case of a group of young learners:

1. How do the young learners' ideas of the form of historical knowledge relate to the 'a priori' criteria of the concepts?

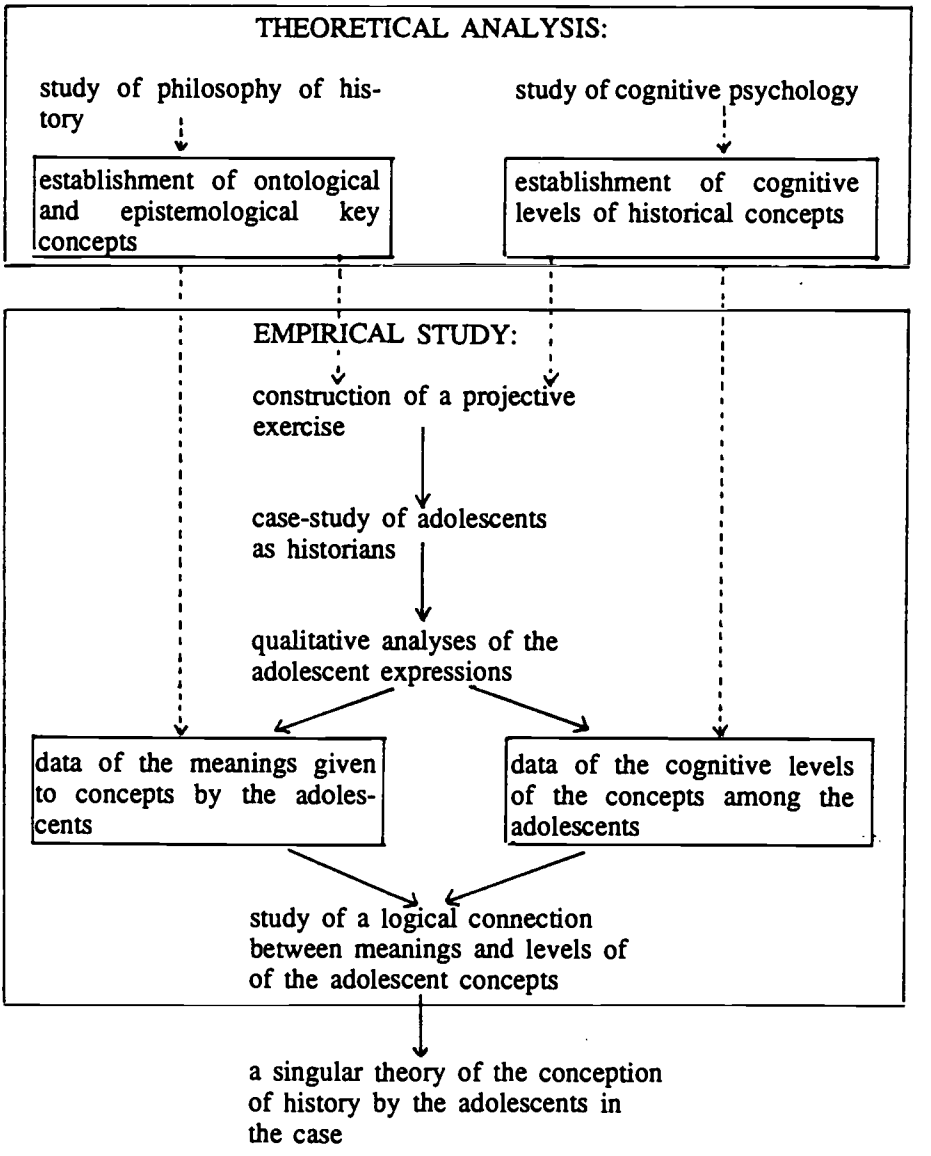
2. What cognitive levels of the formal concepts are presented by the young learners?

3. Is there a logical connection between the cognitive level and the approach to the meaning of a concept by a learner?

For the empirical research a contextual set-up was constructed. This set-up, a projective exercise, was based on the 'a priori' theoretical findings of the study.

Figure 2 shows the theoretical and the empirical components of the study as they were conducted in the process.

Figure 2. The Design of the Study of the Form of Historical Knowledge and the Adolescent Conception of It



3. THE METHOD OF THE STUDY

3.1. Conceptual Analysis

The 'a priori' form of historical knowledge was established by conceptual analysis.

A concept is not same as a real thing. For instance, in reality evidence can be destroyed, but the concept 'evidence' cannot be eliminated. Thus, the relations of concepts are logical to their nature, and a conceptual analysis is based on formal argumentation. Still, as conceptual analysis concerns language, which is a social and thus a time-and-place-bound phenomen, a look at the historical dimension is implied in the analysis (Wright 1968, Niiniluoto 1989). Therefore the concepts that constitute historical knowledge were studied here by referring to the discussion of them during the past few decades by analytical philosophers of history, above all Collingwood, Hempel, v. Wright, Dray, Atkinson and Veyne. From their theories the author deduced the crucial concepts and their dimensions of meaning. Different schools of thought were acknowledged when describing concept criteria.

P.H. **Hirst** and R.S. **Peters** (1970, 3-8) outlined the principles of conceptual analysis, as philosophers of education. According to them, **having a concept** means to be able to use it appropriately, which implies an ability to both discriminate the concept from other concepts and classify things together under a specific concept. For that purpose one needs, first, to relate words functionally together. For example, to be able to use the word "punishment", one has to recognise its linkage to "guilt". A punishment without guilt is not a punishment. Secondly,

one needs to recognise cases where the concept applies; e.g. when dealing with a crime or an evil act, one requires a punishment. In reverse, in the case of an accident one will not apply "punishment" to the consequences. (See also Koort 1975; Voutilainen & Mehtäläinen & Niiniluoto 1989).

Analysis of a concept means a study of its **meaning**, i.e. its **content** and **extension.** Content is given by the criteria (properties and relations), and extension is determined by the things the concept can be applied to. Both are theory-dependent.

Hirst and Peters (1970, 3-8) acknowledged a difference between the "hard" physical-scientific concepts and the "softer" concepts in the humanities. Thus, in sciences, an analysis of a concept means looking for the logically necessary and sufficient conditions of the use of a concept, i.e. finding the characteristics, the presence of which would justify the use.

In the study-of-man area of knowledge, concepts are not logically "hard", i.e. preconditioned by a definite set of both necessary and sufficient characteristics. Concepts like 'justice' cannot be defined like one would define a triangle, by requiring that "if and only if characteristics x, y and z are present, is justice being made". 'Justice' is a context-dependent and dynamic concept. No stipulative, exclusive definitions are sought in the humanities, but instead more descriptive explications, based on the dynamics and dimensions of meaning (Hirst & Peters 1970, 3-8).

Neither are concepts in the humanities as paradigm-bound as in sciences, but instead different theoretical frames for concepts are used at the same time (Knuuttila 1979; Niiniluoto 1984, 245). Thus the meaning-components of concepts are dependent on theory-approaches.

No concepts, neither spontaneous nor scientific, have their meaning in isolation, but as supported by theory-like constructions, built to make

sense of the world. A 'theory' in this study means propositions of concepts and their relations (Ketonen 1975, 96; Niiniluoto 1984, 198). Theories are domain-specific, e.g. causation is approached differently in physics or in history. Thus a theory tends to license only certain predicates to a concept. Concepts have to be analysed in regard to theories, as the concepts gain their meaning from their theory-context (Niiniluoto 1984, 226-227; Carey 1985, 191-201). The theory-context in this study is called "approach".

The propositions of properties and relations of things can be studied by analysing **predicate-attribution**, instead of using stipulative, classical conceptual analysis with necessary and sufficient conditions. Simple predicate-analysis studies the attribution of predicates to concepts. (Niiniluoto 1984, 119; Carey 1985, Campbell & Bickhard 1986).

Predicate analysis in this study was conducted in natural language. A predicate is a property or a component of a concept, e.g. 'is mortal' is a predicate of 'man'. When a predicate can be applied sensibly to a concept, it is said to span the extent of the concept. Clusters of predicates can be used to pick out ontologically basic concepts. Patterns of spanning relations diagnose the concepts. The predication of 'man' can be portrayed as

man (is mortal)

and the subpredication, referring to a theory-context (approach) as

man ((is mortal, which (is by the law of nature))

Carey (1985) used predicate-analysis in his study of developing concepts in young children. He studied what children considered to be 'alive' by the predicates they attributed to it, and found the predicate-attribution indicating different biological theories.

In this study the stages of a an 'a priori' conceptual analysis were as follows:

1. A study of the meaning of a concept, by the theory-approaches

to it. For instance, if 'change' was found to have been approached from both a determinist and an indeterminist point of view, the universal content of 'change' was portrayed as a dimension:

determinism <----------> indeterminism

The components of the meaning of the concept of 'change' were deduced from the theories of determinism and indeterminism.

2. The components presenting the content and the extension of a concept were then portrayed as predicates of the concept. For instance, if 'cause' in a certain approach would imply 'responsibility', the latter was considered to be a predicate of the former. Or, if 'change' appeared as change of social structures and of technology, the extension of 'change' was portrayed by the predicates:

'change' (is of social structures; is of technology)

The validity of conceptual analysis as conducted 'a priori' in the theoretical part of the study, depends on the coherence of the argumentation and on an adequate support of the respective literature.

3.2. Qualitative Content Analysis

Juvenile developing concepts, though spontaneous in their origins, already imply components of theories, and are thus analysable in regard to their meaning, with the adult theories as a hypothetical frame. Spontaneous theories have been recognised by philosophers (Voutilainen & Mehtäläinen & Niiniluoto 1989, 33) as well as by psychologists. Thus, A.Kelly (1955) wrote of "personal constructs", which were results of human beings acting naturally like researchers, i.e. constructing hypotheses of the world. Both Vygotsky (1987/1934, 110-140, 148) and Bruner (1977/1960, 13) found the spontaneous or

semispontaneous juvenile concepts not inevitably categorically apart from the scientific concepts, as both were from the same intellectual root.

On the basis of the relatedness of spontaneous and scientific concepts the 'a priori' criteria of formal historical knowledge, set through a theoretical analysis, were used to categorise the actual juvenile thinking.

The 'a priori' category criteria to study thinking were used as qualitative tools instead of operationalising them, for two reasons.

First, semantic empirism, which would allow conversion of theoretical concepts into empirical terms, cannot be applied to all abstract concepts (Lehtinen 1988; Niiniluoto 1984, 186-187). The correspondence of the empirical terms and the original theoretical concepts tends to prove problematic. Both the content of historical concepts and their cognitive level require a sensitive, elastic analysis.

Secondly, this study approached the thoughts of persons not as variables but as phenomena in their own right. Thoughts were not assumed to be passive responses to research instruments or to other external factors, but conscious intellectual constructs of a relatively autonomous agent. The internal connections of the expressed thoughts were the focus of the study. The thoughts were analysed and explained through these internal connections and rules. (cf. Harré & Secord 1979, 4-9; Walker 1985, 12-16; Eneroth 1984; 76-88, Jones 1985, 46, 59; Lehtinen 1988, 65).

The methodological considerations above are implicit in a notion of human beings as conscious thinkers and agents. Human beings are not, in qualitative research, considered to be passive reflectors of their environment or unconscious objects manipulable by changes in the environment. Thus the external factors like social or ethnic background, or treatment by other persons are not in the focus of qualitative research. Those factors exist, but how far they affect individual

minds, depends on how the person's mind organises the experience. Thus the thoughts as such are the primary focus of the inquiry (ibid.).

Further reasons for a qualitative inquiry were the sensitivity and and complexity of the research topic 'conception' and the mainly descriptive aims connected to it. (cf. Walker, ed. 1985, 21).

The main modes of data collection in this study were **protocols of interviews and reports by research persons.** Records of group discussions were an auxiliary source of data. The following criteria of qualitative research concerned the data retrieval:

1. As a subject was considered as a conscious rational constructor of his world and capable of language, he was asked directly about his thoughts, which were also interpreted in their own connections, not as reflectors of external factors

2. The research setting was **contextual.** Interviews and reports by research persons were generated around a classroom exercise where the persons experienced what it was to be like a historian at work. The persons' thinking about the concepts was stimulated by the exercise, and the persons could project their pre-existing ideas of 'cause' etc. to the exercise. When writing or being interviewed, they could relate their thinking to an adequate experience (see Eneroth 1984, 114 about "qualitative experiment").

3. The interviews and reports were only semistructured to allow the respondents to bring out their own structures of thought. In the **interviews** the researcher followed a crude outline to cover the concepts and discover the approaches to them, but the subsequent questions were guided by the respondents' ideas. (Eneroth 1984, 102-4; Morton-Williams 1985, 27-28; Silverman 1985, 163). When writing **reports** the persons were left free to give the content their own structure. E.g.

they could decide themselves whether they built a narrative or an analytical account. Thus they were free to use their own preconceptions of history.

4. The data from the interviews and reports was derived by means of **qualitative content analysis.** This means first, that the units analysed were **"chunks of meaning"** , which varied in length from single sentences, asserting a meaning, to whole items where the meaning was given by the context. (Holsti 1969,116; Pietilä 1975, 243; Jones 1985, 68; see also "episodes" by Harre & Secord 1979, 147). 'Chunks of meaning' were called **'expressions'**. The student reports were dealt with as items, i.e. expressions, as such, whereas the interviews were structured as themes according to the research concepts.

   The meaning of an expression was, when it was not explicitly expressed by a subject, holistically interpreted from the content by the researcher. The researcher entered the text for an internal analysis of its realities (Silverman 1985, 148-9).

5. To achieve validity of the interpretation, a mutual understanding by intersubjective depth was pursued in the interviews. This meant ample time and sensitive listening as well as individually tailored questions (cf. Silverman 1985, 162).

3.3. Logical Connections Between Meanings and Levels

The empirical stage of the study ended with an analysis of a connection between the expressed meaning of a concept and the cognitive level of the expression.

A **functional** connection between two categories (e.g. a certain meaning and a certain level) rules when they co-occur. A functional connection can suggest a **logical** relation, which must be stated by conceptul analysis. For instance, an intentional approach to explana-

tion might be accountable by an indifferentiated level of thinking. A functional connection as such will not explain a phenomenon.

The functional connection - a certain meaning of a concept occurring together with a certain cognitive level - was here first observed. Then the actual explanation of the co-occurrence was sought by a comparison of examples of the two categories. If a certain approach to the meaning of a concept was found on ontological grounds to presuppose a certain cognitive level, the latter was asserted to explain the former, e.g. a low cognitive level could be suggested to explain an intentional approach to historical 'causation' (Campbell & Bickhardt 1986, chapter 2.)

3.4. The Research Persons

As the study was conducted with a qualitative method in depth, the number of research persons was limited to 51. The group shared common characteristics to make a single **case**:

(1) The persons were students of the same sixth grade in the same school. The nature of the school as a teaching-practice school implied, that in the learning the teacher effect was neutralised by many practising teachers.

(2) The persons had studied history for about two years, two lessons per week, according to the national curriculum, using textbooks aligned with that. The approach of the curriculum is factual and phenomenological: pupils are exposed to phenomena as such, and expected to value the landmarks of the past as such, without explicit critical epistemological considerations (Peruskoulun opetussuunitelman perusteet 1985). The curriculum contains a long line of past events from the Stone Ages to the Napoleonic Wars. As a side line in its own right runs the history of Finland. The events are grouped into blocks like "Ancient Rome" or "Life and developments in the 18th century Finland", but due to the big number of blocks the curriculum is more of a long line than a sequence of in-depth studies.

The textbooks used by the pupils were comparatively rich in facts, scarce in narrative elements and neutral in their style of presentation.

(3) The persons were 12-13 years old. This age-group was chosen, as the pupils already had some experience of human action from their life, and experience of history at school, and thus knew what they were talking about when interviewed about their ideas of history. On the other hand, they had not yet been exposed to a subject teacher influence, and thus were likely to produce relatively spontaneous views of history.

At the age of 12-13, the linguistic faculty of the persons already allows for a discussion including some universal concepts, as the school had been introducing them for six years, and both school and experiences outside it had nurtured them with content. In this respect the persons naturally represented varying standards and orientations, due to their experience. As no strict age-bound developmental stages were acknowledged by the author of this study (see chapter 5), the persons were presumed to present varying individual stages of conceptualisation.

The persons had their individual personal and social backgrounds present in their conceptions in innumerous individual combinations. Due to the theory of human nature and the approach to research adopted in this study, portrayed previously (see p.38), this study did not take external background factors into account as variables. What mattered were the internal connections of the individual mental lives.

The research group consisted of 21 boys and 20 girls. Gender was not used as an explanans in the study, as no theoretical backing for gender as a factor in making sense of the world was given by the developmental psychologists referred to in this study (see chapter 5.).

(4) The persons were studied as intact groups of their school-classes, to enable a natural interactive working situation. There were three groups of 15 to 19 students with individually differing academic and personal backgrounds. There were no established differences between the groups. The researcher knew the groups from two years of observing student teaching therein.

(5) The groups were engaged each in the same contextual exercise, the same facilities and the same schedules. Thus they shared the same instantial **experience** as a foundation to the research concerning their thinking. Materials provided were the same. The interaction during the 3 hour exercise naturally varied from one group to another, especially as the teacher (researcher) intervention was minimised. As a whole the level of motivation and activity was similar from one group to another.

(6) The research was conducted in the spring of 1988. The set-up of the research situation is described in chapter 6.1.

3.5. 'Singular Theory'

The phenomenon of thinking was studied in depth, not in extent. The purpose was not to generalise about the age-group, but to pursue a singular theory of the occurrence of certain qualities in a single case (cf. Rosing 1988, 108,138; Heikkinen 1988, 36).

A singular theory of the phenomenon , i. e. the conceptions of history among the adolescents in the study, was pursued by qualitative means as they were previously portrayed. The coverage of the theory over the phenomenon, depended on the theoretical concepts applied to it, and on systematic instantiation of the qualities discovered.

4. THE 'A PRIORI' FORM OF HISTORICAL KNOWLEDGE - A CONCEPTUAL ANALYSIS

4.1. On the Focus and Various Schools of Philosophy of History

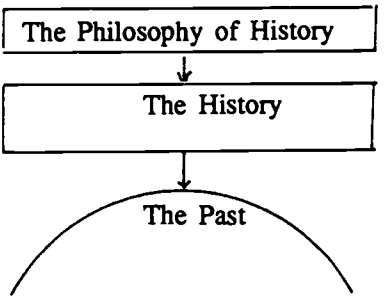
The Past, History and Philosophy of History

In the common use of language, history means both **the past itself** and the **study of history. The analytical philosophy of history**, as the term is used by R.F. Atkinson (1986/1978, 9), deals with the study of history, analysing the form of historical knowledge, instead of its substance.

The three levels of the knowledge starting with the actual past and ending at the philosophical metaknowledge, can be called "first order", "second order" and "third order" history, indicating a hierarchy between them. The importance of the "third order" knowledge is in rendering the actual study of history the structural concepts, the valid criteria of the choice of subject matter, method and purpose (Atkinson 1986/1978, 4-10, Stanford 1987, 1-3).

The relations of the concept 'history' as it is used here in the meaning of 'study of history', to the actual happenings and actions of the past, and to the "third order knowledge", i.e. philosophy of history, is illustrated in Figure 3.

Figure 3. The Past, History and Philosophy of History



Ontology and Epistemology of History

Philosophy can either study the form or the substance of knowledge. In the first case the aspect of the philosophical study is **analytical**, in the second case **substantive** or synthetic.

Concerning history, analytical philosophy first studies the **"What is it about?"** of history, i.e. the **ontology** of historical knowledge. Examples of ontological questions are "Have cats history?" or "Can UFO's play a role of an agent in history?" or "Can Cleopatra's nose be called a cause for the fall of an empire?" 'Man', 'rationality', 'cause', 'chance' and 'necessity' are the respective **ontological concepts** to organise the answers to the questions. Ontological study is to analyse such concepts.

The second concern of analytical philosophy is the **"How do we know?"** of history, i.e. the **epistomology** of history. Epistemology means a theory of knowledge for a discipline, and pursues the public criteria of a true knowledge in the discipline. 'Evidence', 'criticism', 'objectivity', 'inference', 'probability', 'empathy' or 'bias' are **epistemological concepts**, which are studied and explicated in the method books of history.

Ethics of history would be a kind of philosophy to answer the question "What for?" in history. Ethics of history would deal with value judgments and study whether history is a judge of the past.

Ethics of history are left beyond the limits of this study.

The synthetic aspect of philosophy would be presented in the **metaphysics of history**, which would answer the question "What was the past about?". As the metaphysical philosophy of history would deal with the actual substance of history, and this study looks for the formal side of historical knowledge, metaphysics will be left aside. There are, however, some interdependences between the substantive and analytical philosophies. For instance, the Marxist philosophers of history use covering laws when explaining history, whereas idealist philosophers at the other end tend to be more intentionalistic. The metaphysical view also tends to determine the method of study. For instance, a Marxist historian would use a positivist method, whereas an idealist would be hermeneutistic (Atkinson 1986/1978, 12).

This study was concerned with the ontology and the epistemology of history, thus undertaking an analysis of "What is history about?" and "How do we know in History?". (See also: Carr 1963/1961; Jerofejev 1979/1976; Jutikkala 1983; Atkinson 1986/1978; Sintonen 1984; Kirkinen 1987)

The Main Schools of the Ontology and the Epistemology of History

The study-of-man nature of history renders some fundamental questions about its ontology and epistemology. They are centred around the issue of how far "man" as an object of knowledge can be approached with the same methods as "nature" as an object. According to **Atkinson** (1986/1987, 5-6) the assimiliationists want to parallel history with natural sciences, whereas the autonomists defend the individual nature of history. This dispute was last fiercely conducted between social scientists and historians in the 60's and has not yet ended. (see: Allardt 1966; Blomberg 1966; Renvall 1966; Suvanto 1968; Carr 1963, 59-80; Atkinson 1986/1978, 5-6; Megill 1989).

Carr (1963/1961), **Atkinson** (1986/1978) and **Stanford** (1987), in their reviews of philosophy of history, portray a shift in the views of the concept of historical knowledge during the 20th century. Views differ from statements like "History is a science, no more and no less", launched by J.Bury in 1903 (in Carr 1963/1961, 60), to the defenders of history as art or humanity, implying qualitative, "unscientific" processes.

Towards the end of the 20th century assimilationists and autonomists have come closer to each other, mainly due to a change in the notion of scientific knowledge. Formerly the scientists looked for safe invariances, whereas historical explanations dealt with changing and only vaguely definable phenomena. Since the establishment of the concepts of evolution, relativity and 'free particles', the sciences came to share some of the problems of the human field of study. Still philosophers see the scientific and the human inquiries apart in regard to the object and the processes of inquiry (Gardiner 1958/1952, 64; Ketonen 1975, 138-140, 160-167; Niiniluoto 1983, 308-320; Koselleck 1985, 200).

Concerning the **ontology** of knowledge, both sciences and history should make sense of the phenomena of reality. This pursuit can be called 'explanation' in the broad sense of the word. Sciences pursue generalisable knowledge. A scientist deduces hypotheses from covering laws (e.g. Niiniluoto 1983, 271-296). The issue of covering laws has divided philosophers of history. Assimilationists like **Hempel** (1942) or **Tuomela** (1979) assumed causes and effects to be the essence of 'explanation', whereas autonomists like **Collingwood** (1974/1965) or **Veyne** (1984/1971) stood for a narrative form of knowledge, implying human intentions as explanans. von **Wright** (1971) together with **Dray** (1974/1963) and **Gardiner** (1958/1952) take an intermediate stand.

The nature of historical evidence and its interpretation divides schools of thought in **epistemology**. Assimilationists like **Renvall** (1965) or **Dahl** (1971) or **Ladourie** (1973) assume a correspondence theory of truth concerning historical knowledge and rely on externally control-

lable methods. Autonomists like **Collingwood** (1970/1946) or **Veyne** (1984/1971) assume the process of acquiring knowledge to contain subjective elements and the truth of the knowledge to depend on the inner coherence of the knowledge.

4.2. The Nature of Historical Explanation: The Ontological Key Concepts

4.2.1. The Establishment of Key Concepts

Historical inquiry is conducted to make sense of the world. History attempts to explain phenomena, with its special focus and its special concepts. History pursues a **study of man**. The past of the earth or the past of the elephants are no concern of history. History studies human action. A student of history constructs out of historical material an idea of what it is to be human. Non-human acts and happenings, i.e. physical or biological phenomena, are considered in history only as background conditions, not as a subject-matter to be studied (Collingwood 1970/1946, 23-25; 1974, 26, Carr 1963/1961, 110-111, Olafson 1979, 149-158, Dahl 1986, 49)

Historical studies concentrate on the **rational human phenomena**. (Collingwood 1974/1965, 37; Renvall 1965, 99; Elton 1967, 81; Ketonen 1975, 123; Atkinson 1986/1978, 125-7). A historian studies human reasoning in its context. His job is not to explain a maniac outburst or an attack of jealousy. He leaves those for psychiatrists. This principle does not exclude irrational phenomena being used by a historian as background conditions when making historical acts intelligible. The actual historical explanation happens, however, on the basis of rationality of actions.

Collingwood (1970/1946, 146, 318) sees all history as human action, whereas e.g. **Atkinson** (1986, 27) considers **events** as an umbrella concept, under which **actions** are a sub-concept. Some historical events include, according to Atkinson, unintentional happening and thus defy rational explanation.

Beside events, **epoques** appear as constituting entities in history books. Both **Renvall** (1965, 252 ff.) and **Carr** (1963/1961, 13-15) consider an epoque like "the Middle Ages" or "the 18th century" as a historical construction and not as a calendary fact, and thus find 'epoque' as a concept deep and essential. Still, the fundamental organising scheme behind both epoque and event is, according to the classical Kantian view, **time** (see Koselleck 1985, passim). Every epoque or event has its home in a certain time.

The concept of historical time has been widely discussed among advocates of the modern phenomenological school of thought (Heidegger 1976/1923, Ricoeur 1984). The **Heideggerian** view according to Carr (1987, 198-201) emphasizes a difference between 'time' as a marker of sequence of events in natural sciences, and 'time' as a social concept. First, the social concept of time implies an experiential sameness of past, present and future for a person. The past is present in a person as well as in his social environment. Thus an objective use of the concept of time will not work in human studies. Secondly, 'time' as a social concept is culturally bound. 'Time' has its own cultural history. Since the late 18th century Europeans consider 'historical time' as a substantial concept implying **change**. Historians study change in time. For example, J.R.Roberts (1976, 14) in the preface to his "History of the World" refers to "mankind's unique power to produce change".

Thus **'change'** as a concept related to 'time' is a central issue of modern historiography. **Stanford** (1987, 37-45) sees it only as a structurer of historical accounts, but both **Carr** (1963/1961, 115-6) and **Collingwood** (1974, 21-28) consider 'change' also as an ontological concept in its own right, as subject-matter of history. As such it has proved to be an object of different approaches, from extreme determinism to the "free will" view.

Because of its crucial role in historical analysis and its linkage to the issue of determinism, 'change' was the first ontological concept studied here.

Let us come back to the concepts **'event'** and **'action'** as subject-matter of history. In both cases, not only the course of happening but also the "why" of happening is at stake. This is true even about narratives (see p. 62). Thus causation is an ontological concept. As a subject-matter of history, it holds a prominent position in philosophies of history (see Collingwood 1970/1946, Gardiner 1958/1952, Carr 1963/1961, Dray 1974, Hempel 1974/1942, Renvall 1965, Atkinson 1986/1978, Dahl 1986). The term 'cause' appears in the literature both in a narrow and in a broad sense. The narrow meaning refers only to the physical causes of events, whereas the broad meaning also implies the reasons of human action. Both 'causes' answer the question "why". In this study **'cause'** means explanation in its broad sense.

As stated above, philosophers of history disagree about whether all of history is human action, generated by human thought, or whether part of history is to be seen as events accountable by external causes. Autonomists and assimilationists disagree about the issue.

As an essential and divisive concept of historical knowledge, 'cause' was studied as a second ontological concept in addition to 'change'.

The concepts of **'necessity'** and **'chance'**, prominent in both sciences and social studies (Atkinson 1986/1987, 182-184; Carr 1963/1961, 103-114; Niiniluoto 1983, 232, 247) were dealt with in the context of both 'change' and 'cause'. The concept of **free will** (Niiniluoto 1983, 262; Carr 1963/1961, 96-104, Atkinson 1986/1978, 181-186) was also studied in the context of 'change'. So was the question of **singular** events or actions versus **universals** in history.

4.2.2. 'Change' as an Ontological Key Concept

4.2.2.1. The Meaning of 'change' with Reference to Different Approaches

'Change' as such is a value-free ontological concept, referring to an alteration of a substance in time. 'Change' would not be a meaningful concept without its counter-concept 'continuity'. Both concepts require 'time' as an auxiliary instrumental concept. Continuity rules when a state of something (X) at a time (T1) is the same as at T2. Change is said to have happened when X is different from T1 to T2.

Determinist Approach

'Change' is a concept to make sense of history. Besides "why", a historian likes to ask "where to", meaning an eventual direction or trend in the course of happening. The concept has been affected by value considerations as well as by the metaphysics of history. Thus the concept has been identified with the concepts of 'progress' and 'development'.

According to E.H.Carr (1963/1961, 117) 'progress' was for many 19th and early 20th century historians the scientific premise that history had to be written with. It worked as a frame of reference for 'change'. All history was supposed to be about progress, one only had to find substantial predicates for the concept, i.e. to answer the question "In what respect is something considered progress?". The Anglo-Saxon Whig-historians, as their school was called, believed in a progress towards freedom (Butterfield 1931, passim; Atkinson 1986/1978, 210-211). E.H.Carr himself (1963/1961, 115-139) attributed individual security and universal humanity to 'progress'. The German social philosopher Jürgen Habermas (1984, passim) saw communality of people progressing in time, whereas the Finnish Heikki Kirkinen (1987, 158-159) assumed a sociobiological cultural evolution leading to more differentiated and effective societies.

'Progress' has been further attributed by predicates indicating the driving forces behind it. In addition to Adam Smith's classical 'invisible hand', E.H. Carr (1963/1961, 129) picked up the notion of God guiding mankind towards equality and brotherhood by Tocqueville. G.H.Wright (1961, 146) studied A. Toynbee's ideas of 'progress' and 'decay' as responses by people to environmental challenges. 'Progress' was an adequate response by people to the environment, whereas 'decay' happened when a challenge by the environment was met by an exhaustion of the resources. Later Habermas (1984, passim) saw the progress as a result of a dialectical interaction of people and their environment.

The 19th century identification of 'change' with 'progress' gave way after World War I to a less value-loaded concept of **'development'**, i.e. changes with a certain direction (v. Wright 1961, 100-180; Carr 1963/1961, 118; Kirkinen 1987, 157). According to G.H. v. Wright (1961, 100, 119-187) assumptions concerning the pattern of the direction varied from one culture to another. The ancient Greeks together with the old Chinese assumed a cyclical pattern, while the 18th century liberal philosophers as well as later Marxists were linear in their view: the world was determined to progress towards an ideal state. In contrast, after the disasters of World War I, O. Spengler in his "The Decline of the West" explained the development of a human culture in terms of a predetermined organic growth and decay.

Typically the advocates of history as 'progress' or 'development' also saw change to happen in big units. The subject of 'progress' was all of mankind, the subject of the Spenglerian decline was a whole culture (Atkinson 1986/1978, 210-211; Spengler 1959/1918-1922, 92, 100).

The idea of 'development' still appeared in post-World-War-II literature in a different context. E.H.Carr, a heir of the liberal tradition, and Habermas, presenting the Frankfurt School of thought, were mentioned above. The Marxist N. Jerofejev (1979/1976, 62-67) acknowledged dialectical forces as the only true tenets of historical

consciousness. Also the American S. Cohen (1986, 319, 321) called for dialectical common denominators in the course of history, as without such an interplay of a theory and a concrete story any historical thinking was meaningless. The French Annalists (Le Roy Ladourie 1973, passim) organised the historical information of different periods under umbrellas of mentalities, which were seen by them as units of change. In the Finnish context P. Renvall (1965, 366) considered universal covering concepts necessary to make historical change intelligible. He studied big mental structures as units of change, considering them as determinants of individual thinking and action. H. Kirkinen (1987, 144-146, 159) saw socio-biological factors as generators of change.

A tendency by a historian to let "forces", "trends", "development" or "decline" to account for change seems to grow when he writes a concise presentation of a long and wide history. Thus schoolbooks often present 'developments' instead of mere 'changes', as a short survey of Finnish history textbooks suggests (Ahonen 1989).

The views of 'change' portrayed above, from 'progress' to linear 'development', form together an approach which in this study will be called **'determinism'**, on the basis of the common components of meaning found above in 'progress' and 'development':

The first component of determinist 'change' is the **linearity** of 'change'. A certain big-scale direction, independent of human decisions, is assumed in historical changes. Linearity implies that the driving forces of 'change' are external to single human beings.

As the course of change is independent of acts of living persons ("if Napoleon had not been born, somebody else would have fought his wars"), there must be **external forces** determining developments.

The third crucial component in the meaning of 'change' concerns the subject of change. According to the determinist approach, change is

not limited to single acts. External forces push forward whole social structures and cultural mentalities.

Indeterminist Approach

The metaphysical counter-idea of determinism is **'free will'**. Ontologically 'free will' is related to the intentional mode of historical explanation (see chapter 4.4.3.), but e.g. P.Gardiner rejected determinism even if he accepted causal explanations. **Gardiner** (1958/1952, 111) stated, that external circumstances would not predetermine the rise of a great man, even if they were a necessary condition of the rise.

Atkinson (1986/1978, 217) first questioned the possibility of obtaining any overall valuation of a total change. Secondly, he (ibid. 104, 185) subjected all factors of action ultimately to a rational human control instead of suprahuman factors. He (ibid. 190-191) also acknowledged the ethical implications of ascribing historical changes to persons' free will. If a change is made by a personal agent with a free will, the responsibility for the change lies with the agent(s). An ontological issue here implies an ethical connection.

Veyne (1984/1971, 104, 268) was extreme in his defiance of determinism. History, according to him, had no broad outlines at all; events had their roots but there were no underground currents to affect the roots. As history was about humans, and humans were intentional to their nature, human events were dependent only on human choices. Also **Dahl** (1986, 58-60), though mainly on epistemological reasons, denies any transcendental goals or unifying meanings in history as a whole. Meanings can only be discovered in single contexts, and those can be used to explain the course of events if converted into an agents' premises.

Beside free will, **'chance'** is a predicate of change to defy any linear models. The problem of chance was never properly solved by the determinists. Some leave it as exception (Jerofejev 1979, 79), some

see a chance as an indication of a hidden pattern or as a collision of two causal chains (e.g. Gardiner 1958/1952, 111-112; Carr 1963/1961, 104). As an indeterminist, Atkinson (1986/1978, 181-188) acknowledges chances, but denies their role in making sense of history, as history is concerned with the rational.

The **free will** or **indeterminist** approach, as it is called in this study, according to the authors discussed above, implied three crucial components of the meaning of 'change'. First, the indeterminists considered historical changes as **singular phenomena**, which were bound to the context of a certain time and place, instead of being developments transcending time and place.

Secondly, the indeterminists humanised historical changes by ascribing them to **human agents** instead of suprahuman forces. This idea was met by the metaphysical idea of 'free will', which implied that persons and groups were responsible for changes.

Thirdly, the role of **chance** in historical changes is acknowledged by indeterminists, though it is not in the centre of a historian's focus. A historian's job is to account for human events in terms of human reasoning, and thus a chance is just a condition for human minds to come to rational terms with.

Conclusion: the Main Components of the Meaning of 'change' as Determinist and Indeterminist Categories

'Change' in history means basically an alteration of substance in time. Change is said to have happened if X (a substance) is different from T1 to T2 (T meaning a point in time).

According to the study above, the meaning of historical 'change' depends on the theoretical approach to the concept. The approaches to 'change' vary along a dimension from determinism to indeterminism:

determinism <----------> indeterminism

The content and extension of 'change' vary along the above dimension. The crucial **components of the meaning**, according to the determinist and indeterminist approaches as they were sorted out above, are portrayed here as two crude categories:

'Change' according to the determinist approach:	**'Change' according to the indeterminist approach:**
change is linear, e.g. development, progress or decline	change concerns singular phenomena definable in time and place
change is determined by external forces	change happens by free will of persons
change concerns theoretical big-scale units like structures or mentalities	change can happen by contribution of chance

As **predicates** of 'change', indicating the 'towards what', 'by what' and 'of what' of 'change', the same components are presented as follows:

(determinist approach:)	**(indeterminist approach:)**
change (is development / progress / decline)	change (is singular)
change (is by external forces)	change (is man-made)
change (is structural)	change (is casual)

4.2.3 'Cause' as an Ontological Key Concept

4.2.3.1 The Meaning of 'cause' with Reference to Different Approaches

'Cause'in this study was used as a concept referring to the questions "why" or "wherefore" something is done, meaning explanation of human events in its different modes. The meaning-content of 'cause' was studied through its theory-contexts.

Carr (1963/1961)and **Atkinson** (1986/1978) start their theoretical surveys of the nature of 'cause' in history referring to those 19th century positivists who wanted to find reliable ways to explain human phenomena and started to look for real causal explanations to substitute the narratives and descriptions used in humanities. The autonomists rose to defend the role of human reasoning in generating events. Several competing ideas of 'cause' arose with time, ranging from scientific causes to narrative accounts. **Hempel** (1942), **Gardiner** (1952), **v. Wright** (1971) and **R.Collingwood** (1946) represent below the opposing sides in the polarised discussion.

Causalist approach

Hempel (1960/1942, 345-351; 1974, passim) advocated the causalist approach to historical explanation by developing a 'covering law' model of 'cause' to substitute simple straightforward causation.

According to the simple causal view of how phenomena are related to each other, a phenomenon **A** is the cause of **B**:

A -> B

which also implies a possibility to predict what will happen

when **A**, then always **B**

In history one would say:

Hunger was the cause of the French Revolution

and correspondingly:

When hunger, then revolution.

The last statement is not reliable. Looking at the relations of events in history, it was obvious to Hempel, that causal links implying irreversability, based on necessary and sufficient conditions, were not valid in history. However, there were exceptions like "The volcanic burst of Vesuvius caused the disaster of Pompeii", where the cause was actually physical and not historical.

Even if the necessity implied in physical cause-effect relations did not hold in history, according to Hempel historians were to look for general laws instead of merely describing events. His 'covering law'-based explanation took the complexity of human events into account:

in all cases where a certain complex **F** of conditions is satisfied, an event or state of kind **G** will come about

or (x) (**Fx** -> **Gx**)

The law implies that **F** is the cause of **G**. Hempel, however, had to admit that single complex events mostly resisted covering laws, and thus rejected the necessity of causality. He then maintained that general (covering) laws in fact have a necessary explanatory function in historical inquiry, but that in such a law condition **F** only accompanies, does not cause an event **G** (Hempel 1974, 54-58).

Instead of demanding a strict universality from the covering laws Hempel allowed them to be only statistically probable:

in certain circumstances **G** is to be expected

Hempel dealt with his opponents' claim that in a study of man "causes" would be mostly "reasons", which cannot be linked to laws but only to individual contexts. He argued that even when explaining by reasons there is a covering law, that of human rationality: "**A** has the reason to do **B**" is in fact covered by the principle (or law) of action:

> a rational being in a situation **F** tends to do **B**
> (Hempel 1974, 96-99)

A similar attempt to wipe out the difference between reasons and actual causes has been made by R. Tuomela (1979, 9-12). He calls a reason or an intention "a mental cause", on the basis that the intention and the act are as phenomena independent of each other (which is a condition of causal connection), and thus one can manipulate from outside a person's intentions like one manipulates factors in a scientific experiment.

Tuomela's point raises the question of the use of sociological, economic or psychological laws as covering laws in history. **Atkinson** (1986/1978, 168-171) considers the use of those laws to be a tendency among causalists, who thus assimilate history with social sciences.

Gardiner (1958/1952, 50-51) acknowledges the role of purely physical causes, i.e. external conditions, in historical explanations. The physical causes exist and work independently of human consciousness, along side of human reasoning, in making things happen. Thus Gardiner holds causal and intentional explanations independent but compatible, both valid and mutually accomplishing (see also Dahl 1986, 50).

The assumptions of physical cause-effect relations, covering laws and mental causes, are in this study called '**a causalist approach**', on the basis of the three common components of the meaning of 'cause' in them.

First, certain regularities in the sequence of historical events are held

at least hypothetically valid. Hempel's 'covering law' is the most lucid expression of the nature of the regularity, which enables suggesting one event to be the cause of another. It implies that singular events can be categorised under universal concepts (like famine or revolution), about which propositions are made.

Secondly, a relative **necessity** is assumed by causalists to rule in the sequence of events. A positive cause is likely to lead to an effect, if there is a covering law about the concepts desribing the two events. The relation of events cannot, however, be tested in the physical sense. This is the weak point of causalism.

Thirdly, **external** factors are assumed to work as causes. Social circumstances, external events, infrastructures, work as causes without a mediation of human reasoning.

Intentionalist Approach

Attempts for a compromise between causal and reason-based explanations have been made by W. Dray (1974) and G.H. v. Wright (1971) among others. **Dray** (ibid. 83-89, see also Ketonen 1975, 136) blames covering-law based explanations of being often mere self-evident platitudes and linked to dubious determinist views of history. Instead he requires of a historian an acquaintance with singular persons, i.e. that a historian knew "his man" instead of knowing "platitudes of men generally" . Still he acknowledges a need to tentatively apply general concepts and covering laws to the individual actions in order to virtually see clearer.

von Wright (1971, chapter III; 1978, 46-61) acknowledges intentions as explanans. The intentions, purposes and beliefs explain the actions, but they require an agent to function. Wright's practical syllogism has the following form:

The agent intends to bring about P

The agent considers that he cannot bring about P unless he performs action G

Therefore, the agent sets himself to perform G

The first sentence (a purpose) is the 1st premise, the second sentence (a belief) the 2nd premise, the third sentence the conclusion. Still P - G is not a law, but only a belief. A historian produces competent accounts of a single case with this model, but not confirmations of universal laws.

v. Wright (1971, chapter III; 1978, 46-61) presents his theory as an alternative to the covering law theory. Recognising the role of intentions, purposes and beliefs in human action and historical events, the theory implies the main job of a historian to be to interpret intentions.

The actual intentionalist theory, the classical advocates of which were W. Dilthey (1960/1921) and later R.G. Collingwood (1970/1946), implies an ontological view, that human phenomena are actions rather than events. Thus they have reasons, not causes. According to Dilthey (1960/1921, passim), actions are voluntary. There is a desire or a belief behind them all. This desire is "historical"; it is based on the cultural context of the agent. It is, however, not predetermined by the context, but a product of the agent's conscious interpretation of the context. A person gives a meaning to his actions. (see also Gardiner 1958/1952, 120-133, and Winch 1958, 80-110).

An agent's will is assumed to be free. Because of this ontological-metaphysical assumption, this school of thought is also identified with philosophical idealism as opposed to determinism. Idealists credit the individual human minds instead of social environment for what happens (Atkinson 1986/1978, 24-25).

Collingwood (1970/1946, 146, 318; see also Atkinson 1986/1978, 24-25) emphasized, that all history is human action. What is not man-

made, is beyond historical knowledge. Accordingly he assumed **all 'causes'** to be **reasons** or intentions. There was no place for external physical causes. Such causes counted only as contexts of persons' reasoning, not as explanans of what happened. Quentin **Skinner** (1974, passim) considered 'reasons' to be dependent on social context and the 'social meaning' of action to be what made sense of happening.

Collingwood (1970/1946, 283-295), on epistemological reasons (see chapter 4.3.2.), in contrast to Dilthey, wanted to limit a historical study to the rational area of the agent's mind. Thus a **rational thought** behind the action would be what matters in history. A thought would explain the action. According to **v. Wright** (1967, 327; cf. Skinner 1974, 120) 'rational thought' meant a working relation of an action to an intention, and not rationality in contrast to emotional or superstitious approaches. Thus, a man could act purposefully, even if it implied sharing a superstitious belief system.

A Collingwoodian ontology also affects the presentation of history. Collingwood himself sees no real distinction between description, interpretation and explanation. If history is action and its explanation is in individual intention, the adequate way to write history is to tell in detail, how things happened. The text will not be analytical, but **narrative.** "How" works at the same time as "why". The narrative implicitly explains the action and is thus a competent form of account (Collingwood 1970/1946, part IV, section 1; see also: Atkinson 1986/1978, 128-139; Ketonen 1975, 109-141; Skinner 1974, 126; White 1984, passim; Veyne 1984, 305-306).

A narrative history is considered "non-scientific" by e.g. the French Annalists (Le Roy Ladourie 1973, 17-24), who see it as short-term dramatic political stories instead of proper social analysis. The narrativist counter-argument is, first, that social quantitative data can be presented in a story as valid "typical" persons and acts, and, secondly, that the normal form of discourse of a story is **describe - analyse - tell a story,** i.e. the historian in no way limits her work to description, but structures her story on an explanatory basis (White

1984, passim; Dahl 1986, 41-42; Megill 1989, 637-640; Olafson 1979, 42).

We explain things, but understand people. This dictum points towards the ideas common to v. Wright's practical syllogisms, Collingwood's 'inner side of an action' and Veyne's narrative form of historical accounts, which together are in this study called an **intentionalist approach** to 'cause'.

First, intentionalist explanations imply an **agent** as a catalyst of thought to action. As agents are concrete persons and groups bound to a time and a place and not reproducible, also agent-based explanations are **singular**.

Secondly, as 'causes' in history are agents' intentions and purposes based on his beliefs, 'causes' have the form of **reasons**. Instead of 'what was the cause of x' we ask 'what was the reason for x'.

Thirdly, being a reason, 'cause' is internal in an agent and in his action. It is as well the 'how' of an action as the 'why' of it. Thus historical explanation in its intentionalist mode often takes a form of **a narrative** rather than of an analytical presentation.

Conclusion: the Main Components of the Meaning of 'cause' as Causalist and Intentionalist categories

'Cause' means in this study the "**why**" of happening, may it be external causes or internal reasons in **happening**.

The analysis of the meaning of 'cause' in history resulted in a **dimension of approaches**, reaching from causalism, implying general covering laws, to intentionalism, implying individual human thoughts acting as 'cause':

causalism <----------> intentionalism

The crucial **components of the meaning** of 'cause', derived from the contrasting causalist and intentionalist approaches, were sorted out above, and are portrayed here as two crude categories of the meaning of 'cause':

'Cause' according to the causalist approach:	**'Cause' according to the intentionalist approach:**
causes are deducible from covering laws, which imply tentatively regular cause-effect relations	'cause' is singular as it is generated in an agent's mind
causes are with relative necessity leading to an effect	'cause' is a thought, an intention, derived from a belief
causes are external factors of human events	'cause' is internal part of an action and thus often in a narrative form

Presented as **predicates** of 'cause' the same components are as follows:

cause (is law-bound)	cause (is singular)
cause (is effect-bound)	cause ((is intention which (is by an agent))
cause (is external)	cause (is internal in action)

4.3. The Nature of Knowledge-Retrieval in History: The Epistemological Key Concepts

4.3.1. The Establishment of Key Concepts

History is an empirical study in the sense that it deals with real things instead of ideas. The relation of history - the study of history - to its **evidence** is crucial.

The evidence of history is not identical with the past, even if we speak of **authenticity** of the evidence referring to its origins in the past. Carr (1963/1961, 7-32), Atkinson (1986/1978, 45-55) and Stanford (1987, 59-71) survey different epistemological schools and their varying stands in the question of whether evidence really represents the past. According to them, the 19th century positivists assumed that facts of the past can be directly compiled from the evidence as soon it has been found authentic, whereas e.g. Dilthey tried to introduce epistemological hermeneutism into history, maintaining, that evidence included elements that had to be approached through more qualitative mental processes.

To find, select and study evidence, is what a historian does. As the nature of the evidence raises fundamental issues concerning the truth of the historical knowledge, and marks a difference to the epistemology of natural sciences, 'evidence' was the first epistemological concept studied here.

A method is one of the main criteria of a discipline. The **facts** of history are established from the evidence with special **methods**. As a method is scientific only if it embodies a rational way of achieving true beliefs about the world (Niiniluoto 1984, 137, 148), the historical method has to meet the requirement of a rational procedure, even if the nature of evidence would tempt for subjective, intuitive approaches. The **facts** have to be objectively verifiable. The first step towards a fact is a critical study of the evidence.

Dahl (1971/1967, 27-28), Kalela (1972, 171-172) and Stanford (1987, 65-71), when discussing the knowledge-retrieval in history, distinguish between first hand evidence and second hand evidence. Physical **relics** are first hand evidence as well as **folklore, letters, documents** and **records** like census files. They result immediately from an historical action. Historians conduct **external and internal source criticism** to establish the physical and the contentual authenticity of the evidence. **Reports, accounts** and **stories** written or drawn afterwards by eye witnesses, officials journalists, historians etc. are second hand evidence, which include interpretation by the author and thus are not authentic in the way the first hand evidence is. Authenticity is, however, a relative quality; the notion of authenticity depends on epistemological approach. If a document is considered to involve 'meaning' by its author, it is not authentic concerning what it explicitly tells.

After a critical judgment of the authenticity of the evidence, a historian will derive knowledge from it. The nature of the process of deriving knowledge from evidence is again an issue of epistemological dispute. **Carr** (1963/1961, 17-20) and **Atkinson** (1986/1978, 65) point out the basic differences between schools of thought. Those who consider authentic evidence as objective pieces of information, assume the knowledge-retrieval a less reconstructive process than those who acknowledge subjective elements in evidence.

The process of deriving knowledge from evidence is in this study called **'interpretation'**, encompassing all the different approaches in the concept. Thus both the actual "interpretative" (hermeneutistic; see e.g. Dahl 1986, 54-55) approach and the more objectivist approach are here considered to refer to 'interpretation'. **Carr** (1963/1961, 32) and **Kirkinen** (1987, 34) use the term in this broad sense, whereas **Dahl** (ibid.) restricts the concept to the "interpretative" meaning.

'Interpretation' was studied as the second epistemological concept in this study. As human evidence requires special methods of

handling, the nature of interpretation is a crucial criterion of human studies.

4.3.2. 'Evidence' as an Epistemological Key Concept

4.3.2.1. The Meaning of 'Evidence', with Reference to Different Approaches

'Evidence' refers in this study to the source-material a historian uses to derive facts. 'Evidence' is related both to the past and to the historian's mind:

the past ----------> evidence <----------> a historian

The meaning, i.e. the content and the extension of 'evidence', was studied by referring to different theories of it. The epistemological views on the nature of evidence have changed with time, still leaving different approaches to live side by side.

Analytical Approach

Carr (1963/1961, 10, 16-17) and **Stanford** (1987, 77-81) point out, that the 19th century epistemological **positivists** like L. Ranke or Lord Acton did not make a definite distinction between facts and evidence. They relied on the empiristic tradition according to which the subject and the object, the mind and the world, were apart from each other. Evidence was there to be collected and used for inductive conclusions. Evidence was very nearly same as the facts of the past. These positivists assumed that a historical truth was a matter of accumulated evidence, and that finally the result of the industrious collecting of evidence would produce a definitive history. History was thus a compilation of verified facts.

The idea of positive knowledge of the past gained in depth with rational empirism of later positivists. In methodologies of Renvall (1965,

57-67), Dahl (1971/1967, passim) and Ladourie (1973, passim) the compilatory-comparative activity was considered not to be enough, but requiring further rational elements. Rational, theoretical questions were to be set to evidence by historians. Evidence would only that way provide more relevant information. Instead of compilations of facts, historians would derive theories of what the evidence presented. Still, evidence was considered to be analysable as objective, atomic units, and the truth of the picture of the past to depend ultimately on the amount and accuracy of the data. New quantitative methods enabled a use of big amounts of piecemeal data.

The above ideas of 'evidence', reaching from the 19th century empirists to the theory-oriented positivists, are in this study called an **analytical approach.** The common components of the meaning of 'evidence' according to this approach, as they appeared by the authors, start with a notion of evidence as a remain, a footprint, a **replica of the past.** Thus there is no fundamental difference between evidence and facts; evidence is facts, as far as it is authentic.

The second component of the meaning of 'evidence' according to the analytical approach is its analysability as **atomic pieces.** The pieces can be compared, compiled and computed. The bigger pile of pieces, the more accomplished the picture of the past.

The third component is the **objective** nature of the evidence. The message of the evidence depends on the questions, but with the same question a repeated equivalent message is retrievable from the evidence, independently of the mind of the researcher.

Reconstructive Approach

The analytical approach was attacked among the first by the advocate of hermeneutism, **W. Dilthey** (1960/1921, 222-225). He maintained, that evidence was actually subjective; it contained **meaning,** which was loaded to it by its past author and contained elements of the cultural context of the author. Thus evidence was a cultural product.

Its interpretation was a two-way process. The meaning of the evidence evoked understanding in a historian's mind, and the understanding activity of the historian called forth more meanings in the evidence.

Bloch (1954, 54-55) and Elton (1967, 9) present in their methodologies a **constructionist** approach. According to them, historical knowledge was a reconstruction of evidential reality, not of the past. This was due to the nature of evidence, which was not identical with the past. Historians thus could only know about evidence, not about the past. The past is gone, and history exists independently from it. Historians do not in fact pursue a discovery of the past but construction of a historical account from the evidence with an adequate method.

Collingwood (1970/1946, 174-175, 252, 287-288, 296) subjects evidence to a historian's powers to recall the past. He agrees with constructionists in maintaining that evidence is not a replica of the past but has to be made questions before it speaks. What it speaks, is, however, real human thought from the past. A historian uses his imagination to **reconstruct** the past thought, and thus retrieve knowledge about the past itself, not just about evidence. Here Collingwood differs from the actual constructionists (cf. Bloch 1954, 64).

Veyne (1984/1971, 5-8, 33-35), like Collingwood, was not constructionist but still an advocate of a view of evidence with intrinsic meaning. According to him, history was knowledge about events, not about evidence. Evidence was not identical with events. A document about Waterloo had its content depending on who wrote it, whether he was a footman of the Old Guard or a field marshal, a Frenchman or an Englishman. Even whether the event was called a defeat or a victory depended on the author. Thus a historian thinks beyond the evidence, when writing his narrative. The rationality of history comes from a historian's mind, not from the evidence.

The idea of reconstruction of knowledge in a historian's mind, with interaction with the historian's thought, supported by Dilthey, Colling-

wood and Veyne, appears further at **Clausen** (1963, 53), who assumes an objective past behind evidence but sees the relation of a historian and his evidence as interactive:

the past ----------> evidence <----------> historian

Atkinson (1986/1978, 40-41) and **Dahl** (1986, 30-31) emphasize, that historical knowledge is a reconstruction, never a replica of the past, due to the relatively subjective nature of the evidence.

The **reconstructive approach** to evidence, as it is called in this study, representing ideas from Dilthey to Dahl, contains the following main components of the meaning of 'evidence':

Evidence is an expression of a past person's thought. It contains **meaning** invested there by the past author. This meaning is an essential object of inquiry, not subjective flaws to be critically eliminated. Meaning is the core of information to be derived from the evidence. Meaning is reconstructed by historical interpretation.

Concerning the extension of the concept 'evidence', there is no strictly categorical difference between the first and the second-hand evidence; both contain meaning. Second-hand evidence cannot thus be disqualified as a historical source. Second-hand evidence is only more markedly a **construction** of the author than first-hand evidence.

Evidence is a **holistic entity**, which has to be interpreted against its context and core meaning. It is thus not divisible into units of interpretation.

Conclusion: the Main Components of the Meaning of 'evidence' as Analytical and Reconstructive categories

The concept of 'evidence' is in this study used to mean the source-material a historian works with to derive facts. It can mean first or second-hand evidence, in regard to its authenticity.

The preceding survey of authors of historical methodology presented both "hard" and "soft" ideas of historical 'evidence'. The meaning of 'evidence' proved to be dependent on the respective theoretical approaches. The **dimension of the approaches,** reached from an analytical approach, with its ideological home in the assimilationist school of historical thought, to a reconstructive approach of the autonomist school:

analytical approach <----------> reconstructive approach

The **components of the meaning,** i.e. content and extension, of 'evidence' are as crude categories according to the two main approaches portrayed below.

'Evidence' according to the analytical approach:	**'Evidence' according to the reconstructive approach:**
evidence is authentic replica of the past and thus facts of the past as such	evidence is an expression of a past person's thought
evidence can be seen as atomic pieces which are analysed to make facts	the meaning of evidence is reconstructable
evidence is objective; a historian gives it a meaning	evidence is a holistic entity of meaning

As **predicates** the same components are as follows:

evidence ((is a replica of the past, which (is facts of the past))	evidence (is past thought)
evidence ((is atomic pieces, which are analysed))	evidence (is a construction)

evidence (is objective)	evidence ((is an entity of meaning, which (is reconstructable))

4.3.3 'Interpretation' as an Epistemological Key Concept

4.3.3.1. The Meaning of 'interpretation' with Reference to Different Approaches

'Interpretation' means here a process of handling evidence, between the establishment of its authenticity and the achievement of a fact. (see also Carr 1963, 7-32). As an epistemological concept, related to 'evidence', it is exposed to same theory-approaches as 'evidence'. An analytical or reconstructive approach to 'evidence' implies kin ideas of handling it. Still, the two concepts have separate meanings, i.e. contents and extensions, and were thus in this study analysed apart from each other.

Analytical Approach

Carr (1963/1961, 10-17) and **Stanford** (1987, 76-79), when surveying the big epistemological debate between assimiliationists and autonomists, showed, that for the positivists like Leopold Ranke or Lord Acton the interpretation of evidence went hardly beyond internal source criticism. Interpretation meant analytical and comparative reading of evidence. A historian was to keep his mind free of preconceptions. Facts were to be compiled from as many independent pieces of evidence as possible, in order to be verified.

The faces of positivism varied; the view of fact-retrieval as a compilatory 'scissors and paste' activity gave way to a more rationalistic approach, which acknowledged a dependency between 'theories' and 'data' (e.g. Le Roy Ladourie 1973 passim; Jerofejev 1979/1976, 67; Dahl 1986, 27). Theory-assumptions were seen as necessary to make

sense of the evidence and establish facts. Interpretation meant setting questions and frames of reference to evidence.

Still, the view of interpretation as an outsider's analysis of objective evidence prevailed. **Renvall** (1965, 151-152, 226) repudiates a purely observatory and compilatory method of gathering facts, and speaks of holistic inferencing from sources, but at the same time assumes an existence of hard facts within evidence, and pursues them by ripping evidence of its subjective elements. The challenge is "to discover the scientific truth from the unscientific evidence", and the method is comparison and elimination.

Also **Kirkinen** (1987, 29-30) considers subjective elements in evidence as factors of error, and comparison and inferencing as main ways of extracting facts from evidence. The same idea is maintained by the marxist methodologist **Jerofejev** (1979/1976, 91), according to whom "the subjective elements are eliminated" in order to find facts. The Annalist **LeRoy Ladourie** (1973, 17-24) goes further along the assimilationist line: he pursues generalisable knowledge by quantitative methods and by an eventually complete coverage of data. In the pursuit of generalisations, i.e. knowledge about classes of events instead of just singular phenomena, universal concepts and theory-assumptions are used (see also Jerofejev 1979/1976, 72).

The common components in the above notions of 'interpretation' by Renvall, Kirkinen and Le Roy Ladourie, constitute in this study **an analytical approach** to 'interpretation'. The main components of the meaning of 'interpretation' according to this approach are the following ones:

Interpretation is based on **observation** of objective data in an authentic evidence, "objective" meaning here "independent of an interpreters thought". Observation leads to **compilation** of data to establish facts.

Interpretation means further an analysis implying **comparison** and possibly **quantification** of data, the study of which is extensive rather

than intensive. If several pieces of evidence, independently from each other, show same data, they prove a historical fact.

Interpretation pursues **generalisable** knowledge. Data is collected to cover a class of events or persons, rather than a singular event or person, and the comparative and quantitative method of handling data enables general statements to be made. Interpretation for generalisations is based on universal concepts indicating often hypothetical theories of facts.

Reconstructive Approach

The autonomists of the historical methodology in the 19th century stood against the assimilationists by maintaining, that the subjective elements in the evidence were not an error risk to be eliminated, but instead an asset. **Dilthey** (1960/1921, 213, 222) launched the term "hermeneutics" (interpretation) to illuminate the epistemological idea that historical evidence included human thought which was to be interpreted. As Dilthey (1960/1921, 188) said, evidence was not only a part of life but also an expression of life, and the individual meaning of an evidence had to be understood against the life around the person who expressed herself in the evidence. An objective analysis was not enough, one had to use 'imagination' to achieve 'empathy'.

According to Dilthey (1960/1921, 218-221) 'empathy' (Nacherleben, Miterleben, Einfühlung) meant that a historian would identify himself with an agent of the past and thus gain understanding of her thoughts and feelings. For the understanding to work, both persons, the historian and her object, had to have some experiences and some ideas in common. Dilthey assumed this to be true about all humans, and thus historians were capable of achieving empathy.

Collingwood (1970/1946) later advocated the autonomy of history by attempting to establish a method which would render historical knowledge originality and reliability at the same time. He refused 'empathy' as too subjective and substituted it with the concept of 're-enact-

ment'.

Collingwood (1970/1946, 216) in his theory first establishes human action as the core area of historical study. History is about human actions and their reasons, whereas events and causes are concepts belonging to the social sciences. To this ontological assumption Collingwood's epistemology is linked:

> [A historian] "may begin by discovering the outside of an event, but it can never end there.....his main task is to think himself into his action, to discern the thought of the agent" (Collingwood 1970/1946, 213).

According to Collingwood (1970/1946, 213-215, 280-283), events have their "outside" and "inside". The "inside" makes an event intelligible. Within the "inside", the rational thoughts are the area a historian is able to deal with, whereas the past feelings cannot be studied, on epistemological reasons. A historian can not reconstruct feelings from sources, if they are not explicitly portrayed there. Thus 'empathy' is not an adequate historical method. A historian cannot enter a historical agent's mind by simply empathising with the agent. If he attempts to, the result can in no way be verified. A historian can only re-think the the rational thoughts of the historical agent, as their founding arguments can be found from the evidence and its context (see also Saari 1984, 30).

Collingwood calls the imaginative, yet critical process of discovering the historical agents' thoughts **'re-enactment'**:

> "To know someone else's activity of thinking is possible only on the assumption that this same activity can be re-enacted in one's own mind" (Collingwood 1970/1946, 288)

'Re-enact' means slightly more than 're-think'. Collingwood (1970, 312-313) wants to emphasize the critical, self-assessive character of the historian's job. Re-enactment is an intellectual process, which

includes continuous reference to evidence to support a thought and test it.

Heikki Saari in his philosophical dissertation on Collingwood has summed up, how the process of re-enactment goes:

> (1) Reconstructing the epistemic and motivational premises from which the agent's deed followed as a practical inference.
>
> (2) Re-arguing the agent's arguments, i.e. the historian goes through exactly the same process of argument through which the agent arrived at his decision to perform his deed in the historical situation in question.
>
> (3) Interpreting critically the evidence and filling in the gaps in the evidence in such a way that the historian is able to construct a coherent and convincing picture of what happened.
> (Saari 1984, 109)

According to Saari, a Collingwoodian 're-enactment' is a way to make the evidence intelligible, not as a method to go beyond the evidence to artistic experiences of history. Still, questions have been asked about the reliability of 're-enactment'. Collingwood has been blaimed of an over-emphasis of intuition (Gardiner 1967, 276, Coady 1975, 420). The philosopher Peter Winch (1958, 10-30) has further pointed out the problem of identification. Can a historian, even knowing the historical context well, identify with the agent? The rationality of man might take different forms depending on the culture. In that case it may be impossible to reconstruct a past persons arguments from the evidence. (also: in Atkinson 1986, 66).

Veyne (1984/1971, 8-14, 57) alignes himself with Dilthey and Collingwood by arguing, that interpretation is a subjective process of a historian's individual mind interacting with the past person. As intentional beings, the two can reach mutual understanding. The process of interpretation is holistic, as there are no atomic facts in

human happening.

Very strongly Veyne (ibid. 9, 31, 221) states, that only singular knowledge can be interpreted from the evidence. Even if historians use universal concepts for what they observe through evidence, they can only find out about singular events. A study in depth is the nature of human knowledge. The same notion of singularity of knowledge was implied in the Diltheyan and Collingwoodian ideas of interpretation; human thoughts are not as easily generalised as external data.

'Empathy', 're-enactment' and 'understanding' are refused by **Renvall** (1965, 108-110, 240-248) and **Le Roy Ladourie** (1973, passim) as inappropriate methods of historical interpretation, but **Carr** (1963/1961, 25-26) and **Dahl** (1971/1967) acknowledge even 'empathy' with some reservation concerning its subjectivity. **Dray** (1974, 68-73, 88-89) and **Atkinson** (1986/1978, 25-28) acknowledge 're-enactment' as a special contribution of the humanities to the ways men pursue understanding of the world.

Notions of 'empathy', 're-enactment' and 'understanding' are in this study called **a reconstructive approach** to 'interpretation'. The approach implies the following main components of the meaning of 'interpretation':

Interpretation is **interactive**: a historian sets questions to evidence and also projects his world on it, thus making evidence to speak. On the other hand, the historian's mind is affected by the meaning of the evidence.

Interpretation is imaginative **reconstruction** of the meaning of the evidence, as it was thought by the past agent. In this process, rational imagination is used, but irrational fantasy is excluded.

Interpretation pursues **singular knowledge** of persons behind the evidence. A historian can possibly achieve an empathy with the past person, at least on the level of rational thoughts. Historical empathy

does not, however, mean sympathising with past persons. Objectivity (meaning here a consideration of evidence) is pursued in the process of interpretation.

Conclusion: the Main Components of the Meaning of 'interpretation' as Analytical and Reconstructive Categories

'Interpretion' was in this study assumed to mean the process of handling historical evidence between the establishment of its authenticity and the achievement of a fact.

A survey of prominent ideas of the epistemology of history showed, that several different notions of the meaning of 'interpretation' prevail. The meaning of the concept is dependent on the respective approach to the concept. **The dimension of approaches to 'interpretation'** reached from an analytical approach, represented here by Renvall and Le Roy Ladourie, to a reconstructive approach of Collingwood and Veyne, leaving mediating approaches in between:

analytical approach <----------> reconstructive approach

The **components of the meaning**, i.e. content and extension, of 'interpretation' depended on the respective approach. As crude categories, the components of the meaning of 'interpretation', according to the two main approaches, are portrayed below:

'Interpretation' according to the analytical approach:	**'Interpretation' according to the reconstructive approach:**
interpretation is observation of data in evidence	interpretation is interaction between the mental world of a historian and the meaning of the evidence
interpretation is analysis of evi-	interpretation is reconstruction

dence by means of comparison and quantification	of the meaning of the evidence from its context
interpretation means a pursuit of generalised facts	interpretation means a pursuit of singular knowledge of a past agent, often leading to empathy

As **predicates** of 'interpretation' the same components are as follows:

(analytical approach:)	**(reconstructive approach:)**
interpretation (is observation)	interpretation (is interactive)
interpretation (is analysis)	interpretation (is mental reconstruction)
interpretation (is generalising)	interpretation ((is for singular knowledge which (is of a past agent))

5. CONCEPT-ACQUISITION IN HISTORY

5.1. The Importance of Formal Knowledge in Learning

Developmental psychologists since Piaget and Vygotsky have emphasized the role of formal concepts in the process of learning. Piaget called formal concepts (e.g. causation) 'structures'. Formal concepts mean in this study those concepts which organise the actual contentual (material) knowledge, and thus are required in learning it. In the well-known example by Piaget, a child, who does not yet grasp the idea of 'conservation' of length or volume in changing shapes, will not learn physics. Neither will a child with no proper command of the concept 'past', learn history, according to Vygotsky (1987/1934, 194), who also studied, whether children make sense of causation in social studies (ibid. 147).

The command of formal concepts indicates in a person a consciousness of one's knowing. Both Piaget and Vygotsky were convinced of the importance of the metacognitive consciousness of the learner of his process of learning, and both studied the growth of formal logic in young children. Piaget's (1965/ 1928) examples were mostly from physical knowledge, and Vygotsky's (1987/1934) from social studies, but neither of them came to consider the special character of these two domains of knowledge in comparison to each other.

Piaget, Vygotsky and their successors (e.g. Carey 1985, 194), when studying children's concepts, acknowledged that the meanings of concepts were dependent on theories, theories meaning here propositions of the relations of things. Human beings from infancy onwards were considered to be theory-builders, i.e. constructors of explanations of

the world, and to attain their concepts in the process of that construction.

In the 1960's Bruner developed an idea of domain-specific conceptual structures. He studied domain-specific formal concepts instead of general ones, on the premise that learning a content meant basicly learning its domain-specific structure (Bruner 1977/ 1960, 6-7). Later American empirical studies of thinking further emphasized the domain-specific cognitive skills (Alexander & Judy 1988, 384; Nickerson 1988, 13-14, 32, 37; Perkins & Salomon 1988, passim).

From Bruner's time onwards, with the structuralist idea of knowledge gaining support, one can consider the formal knowledge in two dimensions:

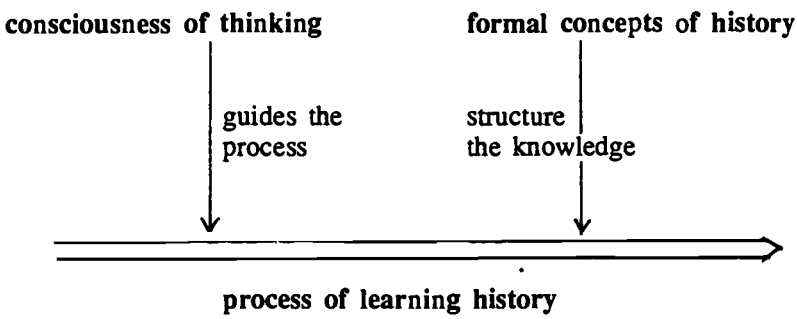
(1) general formal knowledge, or 'metaknowledge,' or 'strategic knowledge' indicating the consciousness of the learner (the subject) of his process of learning and referring to the questions "do I know or not", "how do I learn", "how do I organise a task". These general cognitive skills are shown in the structure, complexity and consistency of the thinking (Marton 1984, Biggs 1985, Alexander & Judy 1988, Perkins & Salomon 1988)

(2) the domain-specific formal concepts structuring knowledge (e.g. 'cause' in science, 'harmony' in art).(Alexander & Judy 1988, Nickerson 1988).

The respective roles of of the two kinds of formal knowledge in learning are shown in figure 4.

Formal knowledge of the latter kind was in the previous chapter studied 'a priori' from the aspect of the philosophy of history. The first aspect, the metaknowledge is in this chapter studied through developmental psychology, focussing on the interwoven relation of the two aspects.

Figure 4. The Roles of General and Domain-Specific Formal Knowledge in Learning History



The domain-specific formal concepts have in the Finnish educational research been dealt with by Aho (1987), Enkenberg (1985), Seinelä (1987) and Pilli (1988), and general metacognition by Hämäläinen (1987) and Malinen (1987). Hautamäki (1984) has studied the command of Piagetian logico-deductive operations by adolescents, and Leino (1988) has surveyed different assumptions of knowledge acquisition in different subjects by teachers and students. A preceding philosophical analysis concerning the respective areas of knowledge, as urged by Vygotsky (1987/1934, 147 ff.) or later by Marton (1984, 56) and Shulman (1985, 8, 26), is virtually missing.

5.2. Towards a Theory of Concept Acquisition in History

5.2.1. Shortcomings of Piagetian Research

Before the emergence of the actual cognitive school of psychology, the abstract concepts were generally seen as an outcome, not as prerequisites of learning. They were considered to be the highest achievement in learning. According to behaviorists, they were learned by association; the learner was first given a definition and then examples and applications, whereafter repeated associations reinforced and finally established the concept in the learner's mind. Thus the concept gained its meaning associatively, like a person is reminded of another

person by seeing some of his belongings (Miettinen 1984, 16-49).

The behaviorist view was still reflected in Benjamin Bloom's (1956) work on learning. Though he assumed a synthetic grasp of knowledge, implying general concepts to cover and explain single cases, this grasp was the end-product of a learning process, which started with a primitive stage of memorisation. The abstract concepts were, according to Bloom, not the means but the product of learning.

Opposing the associative theory, **Piaget** believed that learning depended more on processive thinking than on sensory experience (Kitchener 1986, 4-8). Piaget's approach is illustrated by his early study of infantile causality. Looking at the conjunction "because", he encountered statements like "I slapped Jim, because he was laughing at me", where the relation between the two facts "I slapped" and "He was laughing at me" is functional instead of purely logical "I slapped Jim because I was angry". Piaget met only few genuinely causal "becauses" in children's speech, and therefore concluded that young children could not distinguish between functional and logical causation (Piaget 1965/1928, 1-13).

The main characteristic of a child is, according to Piaget, **egocentrism**, which implies a lack of consciousness of one's thinking. This affects not only his grasp of causality - Piaget calls children "precausal" - but also all the rest of his thinking. Piaget mentions the following defects in the thinking of the below 12 year-olds:

1. difficulties in conscious realisation of one's thinking operations. This lack produces false generalisations like "all self-moving bodies are alive"

2. narrowness of the field of attention, difficulties in entering into anyone else's point of view, a tendency to juxtapose instead of synthetisizing

3. syncretism or perpetual association of all things to subjective schemes, primitive reasoning instead of rational thought

4. insensibility to contradiction

5. intellectual realism, incapacity of formal reasoning, an "ad hoc" approach to phenomena

(Piaget 1965/1928, 199-240)

Piaget (1965/1928; 1972, passim) assumed a genetic epistemological growth in children from infancy to puberty. Around the age of 7 a child reached the developmental stage of "concrete operations" and could make objective observations and valid inferences of visible and concrete objects and events. At 12 the final stage of "formal operations" was achieved, and hypothetic-deductive thinking with abstract concepts was possible. From this now on knowledge would be structured around abstract concepts.

Piagets genetic epistemology was to have a heavy impact on the research on history education. Piaget himself found the egocentric child devoid both of objectivity, of critical disposition of mind and of sense of relations - on the whole not able to master historical material (Piaget 1933).

Piaget's ideas were tried by several history educators in Britain in 1970's. E.A. **Peel** (1971) studied adolescent thinking in a variety of curriculum areas, history included. He focussed on the conceptual development, assuming along Piaget, that hypothetic-deductive thinking was the final stage. In the subject history only 29 % of children at 12 were capable of deductive explanation, whereas in physical science the majority mastered formal operations.

Peel (ibid.) also found that an ability of abstract and generalise in social studies was present only at the age of 17, and even then only among the the brighter students (in Entwistle 1987, 172-173). Similar results came out in R.N.Hallams (1975) research. According to him the formal operations in history were reached on average at the age of 16.5. According to Booth (1987), since 1955 altogether 25 Piaget-stimulated theses in Britain have asserted the same: **children find** it

hard to think hypothetically and deductively in history.

Martin **Booth** (1987), however, questioned both the methods and the psychological and, moreover, the philosophical premises of the Piagetian research in history education. Both Peel and Hallam used isolated textbook passages and asked the pupils to explain certain concepts there. They did not acknowledge that concepts were context-bound. How could the pupils, without contextual studies, elaborate concepts? asks Booth, and suggests for history both more open-ended research tests and a preliminary philosophical study around the nature and the conceptual structure of history.

Where Peel required from his testees deductive conceptualisation, his critic Booth represented a more content-sensitive, domain-specific approach.

5.2.2. Domain-Specific Formal Concepts as a Research Focus

Piaget's ideas of a genetic, stage-bound development of thinking, as well as hypothetic-deductive mode as the criteria of abstract thinking were with time found untenable and too narrow.

According to Jerome **Bruner** (1977/1960, 17) learning was "the continued broadening and deepening of knowledge in terms of basic and general ideas". By basic ideas Bruner meant the content-specific structures. For instance in biology 'tropism' is a crucial structure enabling the student to understand the interaction of environment and animal behaviour. In algebra, when working with equations, a mastery of commutation, distribution and association will help to encounter different equations and recognise a familiar pattern of solution (Bruner 1977/1960, 7-8). He also wrote:

> "There is nothing more central to a discipline than its way of thinking. There is nothing more important in its teaching than to provide the child the earliest opportunity to learn that way of thinking. In a word: the best introduction to a subject is the subject itself" (Bruner 1971, 60).

subject itself" (Bruner 1971, 60).

In the subject history Bruner did not in his work in the 60's find proper rational structures. There were some, like the rule "a nation must trade in order to survive" which could be used to explain the 18th century slave trade, or the concept of "war weariness" as a key to the ideological unstability of either post Thirty Years War or post World War II period, but as a whole Bruner was worried about the vagueness of historical concepts (1977/1960, 23-25), and finally condemned history as a non-rational and non-worth-while school subject. He constructed a new syllabus "Man - Course of Study", which was based on sociology rather than on history an thus dealt with timeless modes of behaviour and their hypothetical regularities.

> "The content of the course is man: his nature as species, the forces that shaped and continue to shape his humanity. Three questions recur throughout:
>
> What is human about human beings?
> How did they get that way?
> How can they be made more so?"
>
> (Bruner 1966, 74)

The ontological key concept of the syllabus was "humanness", which was supposed to structure the whole course of study for the 10-12 year-old pupils.

Bruner, secondly, rejected the Piagetian view of the intellectual development as clockwork. There was no fixed age limit for concrete thinking to give way for the abstract concepts in a child's mind. Nevertheless, at certain stages of her individual and non-scheduled individual development a child, according to Bruner, has a characteristic way of viewing phenomena and explaining them to herself. Thus Bruner uses Piaget's genetic epistemology, leaving out only the age fixation, to portray a child's development towards formal expressions of his thoughts. (Bruner 1977/1960 38-43).

Bruner's ideas stimulated a new wave of empirical research in history education. In Britain Donald **Thompson** (1972) reversed the Piagetian course of research stating that one should start with the discipline instead of formal logics. The nature of historical knowledge should be first identified and then the cognitive response by pupils prompted with adequate study materials.

The new research focussed more on the **process** than on the product of learning history. Thus Martin **Booth** (1978, 112-118) let the young students solve a problem of conflicting documents on the Hungarian rebellion of 1956 with contextual studies, and then elaborate their ideas on "cold war" or "slump". He used a colligation test, where the students had to group pictures around meanings.

Booth's test result was strikingly different from Peel and Hallam. The majority of 14 year-olds was able to group pictures around abstract concepts they constructed themselves. A control group, which did not do the contextual study, stayed on a naive and concrete level of grouping the pictures according to colours, clothes etc. To conclude, when the contextual nature of historical concepts was adequately acknowledged, the pupils coped with them (Booth 1978, 112-118).

A similar, Brunerian starting point was used by Brian **Scott** (1978, 95-97) with younger 10-11 year-old pupils. His hypothesis was, that high level concepts in history could be operated concretely as well as formally side by side. He used visual material to stimulate pupils thinking when doing history with an experiment group. The test consisted of open-ended questions in close contiguity with concrete illustrations, to allow the pupils to articulate the concepts themselves.

The concepts Scott (ibid.) studied were all **procedural**: evidence, hypothesis, probability, diversity, relevance. The result showed, that pupils who had worked with the experiment material, could use the principle of probability and produce hypotheses, in contrast to the rigid and absolutistic thinking by the control group. The experiment

pupils also were conscious of their reasoning and capable of variating their aspect.

5.2.3. The Notion of Elastic, Dynamic Concepts

As previously shown, both Piaget and Bruner (in his earlier work in the 60's) assumed a set of fixed concepts to make a structure for an area of knowledge. Piaget used general formal logics to create his model of thinking, while Bruner wanted to see a domain-specific set of concepts.

As a study of philosophy of history shows, no unanimousity about a set of defined concepts for history exists, neither epistemologically nor ontologically. "Change", for example, has many names and meanings, depending on the approach.

Another defect in the assumptions of the two psychologists was a lack of positive interest in **spontaneous concepts**, adopted and used by persons without any linkage to formal disciplines.

Spontaneous concepts were studied already in 1930's by Lev Vygotsky. He found concepts to be dynamic structures, which have their origins in everyday experience, and which gradually grow in content and differentiation.

Vygotsky (1987/1934, 30) found the origins of thinking in a child's "inner speech". A child keeps talking aloud of what he is doing, thus co-ordinating his action and coding his experience of reality. Piaget (1965/1928, 201-209) called the same function "egocentric talk" and considered it a hindrance to objective, conscious thinking. Vygotsky, on the contrary, saw inner speech as proper intellectual thinking. He found out that the inner speech doubled in a problem situation, as new concepts and combinations were prompted by a problem in a child's mind.

Vygotsky (1987/1934, 38) also dismissed Piaget's idea of "pure

thought" as unreal. According to him, thoughts have natural connections to personal needs and imagination. The difference between a naive and mature thinker is, that the latter is conscious of these links.

Cultural and mental links make the concepts elastic. For example, 'cause' has variations. A child's sense of genetic sequence is just one type of causality, not any "precausality". A syncretic approach by a child to a problem is an early attempt of explanation. Thus a child's way of thinking already borders on valid epistemological concepts, even if it does not obey deductive logics (Vygotsky 1987/1934, 40 ff.)

Concept-formation, according to Vygotsky (1987/1934, 110-140), progresses from the syncretic images, contingent to space and time, to complexes, which consist of of objective rational bonds between objects, and finally to proper abstract concepts. The last ones are normally academically taught and derived from scientific theories. Vygotsky holds "scientific concepts" indispensable for one's intellectual growth. However, they never make spontaneous concepts redundant. An interaction between the two kinds is necessary. A learner who studies the causal relations in history will benefit from it in his everyday life and vice versa (ibid. 148).

Also Margaret **Donaldson** (1983/1978, 19-30) attacked Piaget's notion of a child's pre-intellectuality. In her tests she substituted technicalities in the questions with human sense. When studying whether a child could adopt another person's point of view, she instead of the technical question "how would the three mountains look from the other side" posed a human interest problem "would the police see the runaway boys from this street". As a result the children proved Piaget wrong by easily adopting the policeman's point of view. Donaldson's task made sense to the young testees, who could use their natural situational understanding.

Donaldson (ibid. 60-80, 108-110) rejected the idea of an infantile egocentrism. In her tests children proved able to suggest what a fictive

person would feel or think, and how he would, hypothetically, act. They managed to abstract and hypothetisize, as soon they were given meaningful real-life problems. By letting children listen to stories and argue for the right course of events, researchers found that children were able to deduce from premises. Though not able of pure formal logics, they had lots of situational logic at their command. By that they already in early years made sense of the surrounding world, being tentative and conscious of their thinking. Donaldson's findings confirmed Vygotsky's ideas of the spontaneous concepts.

Bruner reconsidered in the 1980's the nature of abstract concepts. He now made a difference between "narrative" and "paradigmatic" modes of thought:

> "There are two irreducible modes of cognitive functioning - or more simply, two modes of thought - each meriting the status of a 'natural' kind. Each provides a way of ordering experience, of constructing reality, and the two (though amenable to complementary use) are irreducible to another. Each also provides ways of organising representation in memory and of filtering the perceptual world. Efforts to reduce one mode to the other or to ignore one at the expence of the other inevitably fail to capture the rich ways in which people 'know' and describe events around them.
>
> Each of the ways of knowing, moreover, has operating principles of its own and its own criteria of well-formedness."
> (Bruner 1984, 97)

Bruner (1984, 99-101, 111) described the two modes. The paradigmatic, i.e. analytical or logico-scientific mode implies a rigid conceptualisation and systematic operations. It deals with general, logically deducible causes and is objectively verifiable. The **narrative** mode, instead, "leads to good stories, gripping drama, believable historical accounts. It deals with human intentions and actions....It is essentially temporal rather than timeless". About the verfiability of a narrative Bruner is rather vague, speaking only of "vague believability" or "narrative rationality".

Thus Bruner (1984, 102-103) came to acknowledge the intentionalist notion of history. He referred to the philosophy of history, to Dilthey and his successors, to support "narrative rationality", and regretted that developmental psychology since Piaget had ignored it and neglected to investigate it.

Even if we can't verify concepts like "love", "hate", "greed", we need them to make sense of human behaviour, said Bruner. To reconstruct intention, as one does in history, one needs a sense of narrative. That sense is also useful in studying an individual human event, which can't be accounted believably and convincingly by a sole deduction of abstract concepts. The narrative mode is sensitive to both context and singularity of phenomena (Bruner 1984, 97, 101, 105).

Kieran Egan (1985, 157-158) paid special attention to narrative concepts, calling them a young child's intellectual tools. When a child listens to a story like Cinderella, she seems to make sense of it by contrasting concepts of fear - hope, of kindness - cruelty etc. When the evil is punished and a reconciliation takes place, she knows that the story is about to end. She seems to have a sense of human relations and of the dynamics of social happening.

Egan (ibid.) points out, that these concepts are abstract, being not visible or concrete. Children learn them by **imagination.** When Vygotsky (1987/1934, 120-122) emphasized the role of early human communication as a source of spontaneous human concepts, Egan emphasizes imagination, an act of forming mental images of what is not present. He maintains that history at school would appeal to imaginative powers and encourage conceptualisation through them:

> "History need not remain untouched in the primary school.... from observing how children make sense of fantasy stories we can see the conceptual tools that make history meaningful...
>
> The conceptual tools that make sense of Cinderella and of Lord of the Rings can be used to make sense the Athenians

> struggle for freedom against Persia...They do not learn the concepts, they already have them. They use concepts to learn about world and experience."
>
> (Egan 1985, 156-163)

Egan agrees with the notion that concept-acquisition is not as far a matter of directive teaching and deductive thinking, as of experience and inductive, imaginative reasoning. Both the rediscovered Vygotsky (1987/1934, 146–180), the new Bruner (1984, 100-101) and Egan (1985, 160-161) encouraged educators to study children's spontaneous concepts and divergent thinking. The same trend was shown by the Gothenburg group of cognitivists, who with the phenomenographic method studied how students build concepts about the world (Marton 1984, 56).

The process of concept-acquisition was now seen as a dynamic interactive process, which was not purely cognitive but open to feeling and social experience, and not maturation but active and conscious construction (Bruner 1987, 86-87).

In regard of history education, **Booth** (1987) found in his research that an imaginative and empathetic approach in history helped the pupils to improve their conceptual grasp. In his colligation tests, "race problem" became a covering concept by the pupils only after empathetic study experiences. Without them the colligation of pictures fulfilled only concrete external criteria.

Vivien **Little** (1983) studied critcally the role of imagination in conceptualization. She defined imagination in history as "thinking beyond the evidence". In her tests children wrote essays, e.g. "Imagine you are a serf in a medieval village and try to cheat the bailiff". Too often, reported she, children produced confused writing where historical concepts were messed up by experiences of today. Little asserts, that imaginative work has to be firmly based on studies of evidence in order to really promote conceptualization.

Ashby and **Lee** (1987) finally make a difference between imagination as a method and empathy as a learning outcome in history. Empathy as a method of achieving knowledge will easily lead to subjective judgments, they say. As a historian one has to start with evidence, deal with it critically and at the same time make it meaningful by imagination. The result is likely to be a critically achieved empathy with the past.

Ashby and Lee (ibid.) thus belong philosophically to the Collingwoodian school of thought (see chapter 4.3.3.), and take a clear distance from the affective school of history education, who freely uses empathy as a method (Coltham & Fines 1971). For Ashby and Lee empathy is a cognitive achievement and as such categorisable as cognitive stages. Thus empathy serves as an example of narrative concepts being educationally researchable as well as logico-mathematical concepts like "conservation".

The recognition of history-specific modes of conceptualisation in adolescents by Bruner, Egan or Ashby and Lee, is parallel to what **Carey** (1985, 201; 1988, passim) assumes of conceptualisation in general; concepts develop in young minds through differentiation towards domain-specific meanings. **Juvenile, underdeveloped concepts in a domain are prone to have non-authentic meanings ascribed to them, whereas on an advanced level concepts have domain-specific properties.**

To categorise dynamic, elastic historical concepts, which thrive in their narrative contexts, into cognitive levels, is a treacherous task. The criteria of categorisation, for the purposes of the present study, were in this study sought from existing taxonomies of cognition.

5.3. The Criteria of Concept-Acquisition: a Frame for the Present Study

The previous chapter studied psychological assumptions of concept-attainment, especially concerning history education. Piaget's genetic epistemology was found to have influenced studies of learning history, but also to have been challenged by cognitivists who spanned the concept of formal knowledge to involve imaginative, spontaneous and socially elastic elements. Criteria to study juvenile history concepts were sought on the basis of these ideas.

Concept-acquisition starts from what Vygotsky (1987/1934, 110-150) called 'spontaneous' concepts and Carey (1988, 134) 'novice' concepts. Perceptions imply concepts as soon as a person is cognizant of what he perceives, i.e. has a concept for it. Spontaneous concepts become 'scientific' (Vygotsky, ibid.) or 'expert' (Carey, ibid.) concepts through isolation and and abstraction, but maintain their links to life experience and human interaction. Feelings and social needs affect conceptualization (Light 1983, 75; Haste 1987, 170; Voutilainen & Mehtäläinen & Niiniluoto 1989 22, 34)

When contextual and of a narrative mode, concepts are not easily subjected to operationalisation. Indicators of their cognitive level have to be founded on the core principles of a cognitive process.

Structuralist schemes, based on earlier works of Piaget and Bruner, have been used to build universal criteria for cognitive levels of concepts. Thus Biggs & Collis in their SOLO-taxonomy (SOLO=Structure Of the Learning Outcome) assume a complex abstract account as the highest achievement:

I	prestructural response (irrelevant or just restatement of the question)
II	unistructural (one piece of relevant information)

III	multistructural (several pieces of relevant information)
IV	relational response (relevant information interrelated)
V	extended abstract (includes abstract concepts and theoretical ideas)

(see Entwistle 1987, 52)

The taxonomy estimates descreptive or narrative accounts low and an analytical response high. A similar taxonomy was designed by **Hasselgren** (in Dahlgren 1984) in the Marton team, and rated the student work in a following way:

I	fragmentary description
II	partialistic "
III	chronological "
IV	abstracting "

The two taxonomies were not sensitive to different modes of knowledge as they considered the Piagetian hypothetic-deductive mode as the only mode for 'abstract'.

Piaget (1977) himself in his later work rejected his early structuralism and adopted 'reflective abstraction' as a crucial criterium for conceptualisation. The emphasis in the term is on 'reflective', which means a process of getting conscious of one's thinking. 'Abstraction' implies that a property is differentiated and abstracted into an explicit concept.

The criterion of expanding consciousness, advocated earlier by Vygotsky (1987/1934, 167-171), can be applied to narrative or human concepts like 'empathy' as well as to physico-scientific ones. 'Consciousness' is further applicable to the dynamic interactive elements of conceptualisation: a person learns to think of his thinking gradually in interaction with his physical and social environment.

Campbell and **Bickhard** (1986) elaborated 'consciousness' as a criterium by defining it as 'knowing levels'. The first knowing level was simply 'knowing of the environment', the second, higher, was 'knowing about the procedures of the first level', and the third level meant ability to judge the second level knowledge. Campbell (ibid. 54-56) portrayed the levels in terms of predicate analysis:

At level 1	the child can explicitly represent predicates, hence can recognise and explicitly differentiate members of the classes that the predicates specify.
At level 2	the child reflectively abstracts properties of level-1 representations, which permits certain logical inferences to be drawn, like representation of classes as extensions.
At level 3	the child reflectively abstracts properties of level-2 representations, recognising the necessity of e.g. class inclusion principle.

The ascent from a level to a higher one happens by reflective abstraction, which is an interactive conscious process. The nature of the process implies, first, that the levels are not age-bound but interaction-dependent. Secondly, persons are able to explicitly describe how they think.

Even if the knowing-level model is not structuralist, it, however, implies the idea of differentiation of concepts and the idea of inclusion of concepts into classes. For the purposes of this study, 'differentiation' and 'explicit representation' are helpful criteria of consciousness, whereas the class structure is too stipulative for historical concepts.

Schrag (1989, 529) in his article "Are there levels of thinking" referred to L. Resnick's criteria of high order thinking, which involved self-regulation of the process of thinking, effortfulness, nuanced judgment and acknowledgment of uncertainty and multiple solutions.

All these criteria are implied by consciousness and differentiation, which seem to serve as common denominators for them.

Elaborating the criterion of consciousness along the ideas of the form of knowledge by Vygotsky (1987/1934), Bruner (1984), Campbell and Bickhard (1986) and Resnick (in Schrag 1989), the following two abilities can be considered to be 'a priori' fundamental in a history learner:

1. making propositions, later also tentative, about a concept, in respect of its category of approach and of its extension-predicates, as well as dealing with the concept in an analogous mode

   (analogous mode means using the concept as an organising principle in a material context)

2. making differentiating distinctions and conjunctions between concepts, and, within a concept, between its predicates

   (in an analogous mode this criterion means differentiating real-world phenomena in regard to formal concepts)

In respect of these two criteria a learner would ascent from a lower cognitive level to a higher one. Elaborating the criteria into levels of attainment, three 'a priori' cognitive levels were established (Table 1).

These level-categories were in this study used to judge the cognitive level of the acquisition of history concepts by the research subjects. The cognitive levels were further suggested to have a logically explanatory connection to the conceptions of the meaning of the concepts by the subjects. The hypothesis was based on the previous assumption of the differentiation of thinking leading to domain-specific modes.

Table 1. The Cognitive Levels of Formal Historical Concepts

1. level	Recognition of a concept, shown by the abilities of making a proposition of it and of using it as an organising principle in an account
2. level	Differentiation of the predicate-attribution to the concept
3. level	Tentative and argumented propositions of the concept

6. THE EMPIRICAL STUDY OF THE ADOLESCENT CONCEPTION OF THE FORM OF HISTORICAL KNOWLEDGE

6.1. The Course of the Empirical Study

The Construction of a Projective Exercise

In chapter 3, The Method of the Study, a principle was set to study juvenile thinking 'in a context'. An adequate substantial context would help the subjects to relate concepts to reality, without, however, determining their approach to the meaning of the concepts. The way an individual organises a relatively unstructured situation reflects his conception of the world. Thus, a special projective task was set for the subjects to conduct historical thinking and project their ideas of the form of historical knowledge on it (see Walker 1985, 6, 101-121; Carey 1985, 4).

The task, a classroom exercise, was to provide the historical context, within which the persons could project their spontaneous ideas of the nature of historical knowledge. Thus the prerequisites of an adequate exercise were as follows:

- the substance of the exercise was to be new to the subjects, in order for their expressions to be freshly thought up and not previously learned

- the exercise was to prompt thinking of both the ontology and the epistemology of history

- the exercise was to be open and elastic to allow for different

levels of conceptualization and different approaches to the meaning of the concepts

- the exercise should enable a lengthy and coherent **process**, allowing a person to exercise control over his thinking and thus possibly show his capability of being conscious of his own thinking

- the exercise should be in the form of a deep **inquiry**, where one has to account for a phenomenon instead of just stating events and acts. This is how both the level of cognitive differentiation and the approach to the meaning of formal concepts are revealed

An adequate exercise to fulfil these criteria was adopted from a set of British learning material, called "The Mystery of Tollund Man" (Schools Council History 1976; see Appendix 1). The material deals with the mysterious Nordic bog men from the early Iron Age. The men met with violent deaths and solitary burials in bogs, where the bodies have been conserved intact, bearing testimony of what happened. Also some second-hand evidence, texts from the contemporary writer Tacitus, is supplied to provide clues for an investigator.

Though the exercise is basically about 'evidence', the material, through its human interest, prompts the thinking about the 'why' of human action. The peculiarity of the event also invites reflections on 'change' in time.

As the primary evidence in the exercise is archaeological, it does not include any authentic verbal documentation. Therefore the nature of the evidence, in regard of the concept 'cause', might prompt rather causal than intentional explanation, and in regard to 'evidence', rather analytical than reconstructive thinking. However, many items in the evidence contain social meaning and support also the alternative approaches.

The structure of the exercise provides the following procedural phases and the following conceptual opportunities imbedded in them:

Phase 1. Study of first-hand evidence (The picture of the mummy, the Tollund man, see Appendix 1)..

The persons are to observe and interpret the physical object in the picture. In discussion they clarify individual observations and their relevance. It is possible for the persons to find the following criteria of historical knowledge on the basis of the material:

- an existential question arises about the Tollund man: **how and why** did he die?
- the physical **cause** of death is obvious (the scar on his neck), but the **reason** has to be thought out
- evidence is puzzling; it requires interpretation, analytical or reconstructive
- **a human being** is the object of study; an **empathetic approach** to interpretation is possible beside the physical inferences
- the **evidence** contains several clues (dress, position, expression etc); one can analyse them as pieces or look for a coherent **meaning** for them
- imaginative study of the clues prompts **further questions** and requirements of further evidence

Phase 2. Further studies on first-hand evidence (The doctor's report of the body, see Appendix 1)

The persons are to read the physical facts and fit them to their historical interpretation of the case. They are encouraged to build and give their individual interpretations of what happened. The inquiry is again reinforced by a discussion. The following criteria of historical

knowledge are possible to be revealed to the person from the material:

- **a historical statement must be supported by evidence**

- added clues (age, condition, food in the stomach) help the analysis or the **re-enactment** of the man's fate. **Narrative** interpretations may take shape

- the fragmentary nature of the evidence proves to be no hindrance, but instead a challenge, to interpretation

- the pieces of evidence have to be judged and interpreted against each other; no piece can be omitted; **different tentative interpretations** can be worked out; historical truth is **relative**

- a reliable physical explanation of the death does not yet give the **reason** for it; one needs to look for **an agent** and his **intention** ("whodunnit") and the **cultural context** of the action

- the age of the find (2000 years) prompts a question about **'change'** and **'continuity'**

Phase 3. Studies on second-hand evidence about Iron Age people (extracts from Tacitus, reports of other finds, see Appendix 1.)

The persons are to read the new evidence and try to link it to their interpretations. They are further encouraged to build their own interpretations of what happened, and submit those for discussion. A discussion clarifies how individuals see the different pieces of evidence. These last pieces of evidence provide opportunity for further conclusions of the nature of historical knowledge:

- a **second-hand evidence** is not authentically linked to the event or person studied; one must be aware of its relative validity and reliability

- an account written by a historian is based on analysed facts or re-enacted meanings of the evidence; it can be objectively discussed; another historian might re-enact the past more truthfully;

- a convincing story must include most of the evidence; imagination must be subjected to an intellectual control

- generalisations of explanatory relations are hypothetical only

- causes of action can be derived from covering laws; reasons for action can be derived from a cultural context

- reasons for an action might be individual or social

- (about change:) different does not mean underdeveloped; one has to be careful about linear (determinist) views concerning the change from past to present

The exercise ends with the pupils writing down their own report of the case. Only the title is given: The Story of the Tollund Man. The structure is left to the writer to decide.

The Moderation of the Projective Task and of the Research Set-Up

The exercise was preliminarily tried in 1987 in a comprehensive school with three groups of 12-13 year-olds and with six researchers, who were teacher candidates. As a result one could state that the exercise was sufficiently open and elastic to bring forward different ideas of historical knowledge, and stimulating enough to engage the persons in a process of inquiry. The material was further shortened to make the exercise more feasible for a three hour session, and the researcher interference was decided to be confined strictly to chairing the session during the exercise.

The reports produced by the pupils in the preliminary research were found adequate in providing data of historical thinking, whereas the

protocols of the interviews were not. The interviews had been conducted as structured ones and the results showed that the young interviewees needed more elastic modes of interaction and individually tailored questions. Therefore the interviews in the actual research set-up were changed to be relatively unstructured. Also the length of an interview proved to depend on a person; some pupils needed a half hour to sort out their thoughts, whereas some expressed their ideas in 15 minutes. The length of an interview was decided to be 15-30 minutes.

The Proceedings in the Classroom

The subjects of the case-study were portrayed in chapter 3.4.

In the final case-study the persons did the exercise in three groups, each working three hours. Depending on which course the discussion in different groups took, the time-span used for each of the different phases varied a little.

The classroom discussions were tape-recorded. The researcher addressed the persons by their names, in order to establish on the tape who was speaking at a particular time. The exercise worked out as follows:

hour 1

The researcher (now as a teacher) presented the **picture** of the mummy of the Tollund Man and invited pupils to work as historians. After that the researcher retired into a mere chairperson's role.

In about the first five minutes the persons got engaged in the process of inquiry. The striking contrast between the indications of a violent death and the calm expression on the man's face fixed their attention and the first hypotheses for an historical explanation appeared: murder, suicide, maltreatment of a slave or a prisoner were suggested. Disagreement was sharp in all groups. The rope and the appearance of the man were considered contradictory

evidence.

In one group, violence and its causes and modes took a prominent position in the discussion, whereas another group dwelt long on the attire and the social status of the dead man ("Why naked, why only a hood?". "A foreigner?" "A poor man?" "A soldier?").

The pictorial evidence gave a concrete, stimulating and equal start to the perception and historical thinking in all groups. The process was kept to a slow pace for all persons to get engaged. While pointing out observed concrete details (nose, hood, rope, hands, feet, skin, belt, position, expression), they had time to integrate them into meaningful entities, like into theories of the cause of the death. Not all persons came up with theories at this stage.

hour 2

The first written evidence was delivered and studied. It was the doctor's and chemist's reports, with the information of the mummy's age and of the peculiar last meal in his stomach. Though the contents of the reports were physical and concrete, they were written in words and thus harder to perceive than the earlier picture. From here on the discussion tapes show growing differences in the pupil perception. In the classroom interaction some got stuck in the concrete evidence of the first phase, and stayed with it for the rest of the exercise, whereas the rest differentiated their perceptions.

A few persons now geared their minds to pro-and-against distinctions:

> "The rope would indicate a murder. Nakedness would suggest a sacrifice. The hood was ritual, as well as the belt. Maybe they left him to die in the waste land. He had a meal, the last meal, and then purified himself. They might have hanged him as an offer. Or then he hanged himself as he did not want to

starve."

This shows a conscious control of the process: the person wants to hold the strings of argumentation in his hands. As a rule, however, one theory was defended against the others, using one piece of evidence per time.

Only one group pondered thoroughly over the historicity of the theories, having now the information of the age of the find available. One member of the group tried to imagine how people lived:

> "They offered him in the spring in order to have a good crop, perhaps of barley. Linseeds and camomille, in order to please a god."

The third-phase material, containing the second-hand evidence of iron age habits by Tacitus and information of comparative finds, was then handed out and read. When the discussion started, a few persons dealt with the Tacitus evidence as if it were from a text-book: they took the statements for granted:

> "He was a criminal. They were drowned and covered with a branch."

In all groups it took a while before the persons started to combine the testimonies of the 1st and 2nd hand evidence with this new second-hand evidence. The combination required ability to differentiate thinking. Many persons seemed to lack an ability to keep the strings together in their addresses; when returning back to the former evidence and theories, they forgot all about Tacitus. It was seemingly hard to be consciously holding all the perceptions and thoughts together.

hour 3

The theories the persons presented in the course of the two hours were collected on the blackboard.

When the pupils returned from a short break for the third lesson, individual persons in groups I and II engaged themselves in eliminating theories with the weakest support, which shows differentiation and growing conscious control of thought:

> "You can wipe out 'criminal'. It is anyway linked to 'murder'."
>
> "Wipe out 'ill'. The doctor's report proves that he was well."

The group III went on arguing for individual theories.

After the final discussion the persons used about 30 minutes to write down their own reports.

The Reports

At the moment of starting individual reports, a wide disagreement about the solution to the historical inquiry about Tollund man still prevailed in all groups. Several theories were being both supported and criticised in all three groups. The process of inquiry was still halfway, and the writing of the report was to be part of it.

The persons were given the title "The Story of the Tollund Man" and asked to write down their own theory and arguments. They were asked to be good historians and convince their readers.

In all groups at least six different theories appeared in the reports. This shows that the research setting had stayed open and non-compelling, allowing the persons to project their own ways of thinking to the material.

The Interviews

The interviews, 15-30 minutes per person, were conducted by the researcher within a day after the projective task, regarding each group.

In the interviews the subjects were expected to make explicit propositions about the concepts they had implicitly used in the reports. They were also encouraged to explain how the meaning of the concepts would appear when detached from the Tollund man context.

Preceding the interviews, the subjects were asked to fill in a question sheet where the different approaches to the chosen concepts were portrayed. (See Appendix 2.) The purpose of the sheet was to generate in the persons' minds a process of thinking about the formal concepts of history on a general level. Five persons admitted to being confused by the paper and not able to fill it in properly. The rest told that they could relate the statements on the paper to the classroom exercise and thus make sense of them. Still, during the interviews, they tended to re-evaluate their responses. The responses on the questionnaire were not used as research evidence.

In the interviews the strategy of the researcher was to start by relating the questions to the context of the Tollund Man exercise, but then to go beyond the specific context and ask about the general conception of "change" etc. This was done in order to see whether there was coherence, consciousness and differentiation in a subject's conceptualisation. A subject could e.g. in his report imply that old times were inferior to today, but in the interview refuse any direction in historical change. In such a case his conception of 'change' was categorised as 'determinist' in the report but as 'indeterminist' in the protocol, and his consciousness of the concept not high.

In two cases a respondent was too inhibited to elaborate his views, even with a half hour of time. These cases were eliminated from the data, as the interest of this study lies in the cognitive contents and

not in emotional responses to the process.

The course of an interview was as follows:

1. The interviewer used a few moments to let the respondent relax. Then she made it clear to the respondent that there were no questions with right or wrong answers, but the respondent should feel free to express his individual view.

2. The interviewer asked a concrete or an exercise-related question ("Where would you go to check whether your history book is right about [something]"; "Was it the circumstances or the man himself which were decisive in what happened to the Tollund man?").

3. The interviewer asked some auxiliary questions if the meaning of the response was not clear to her. That way the inter-subjective understanding was pursued (see p.40).

4. The interviewer progressed by asking making a more general question ("Is it by circumstances of the time and place or by free will of an individual, you normally explain what happens to people?").

5. Auxiliary questions, tailored for individual contexts, were asked to reach the true meaning of the reply.

The Qualitative Analysis of the Expressions in the Reports and Protocols

The student reports and the protocols were studied qualitatively. The student expressions were studied not as externally manageable variables, but in their own right, as expressed thoughts, accountable by their internal rational connections. Neither were the contents of the reports or the protocols split into atomic units of meaning, but instead interpreted as "chunks of meaning" in their contexts. (See chapter 3.2.)

The role of a theory-frame in the analysis was stronger than in many qualitative studies, e.g. in phenomenographic research, where the subjects' ideas are let to determine the research concepts and theories

(Marton 1988, Uljens 1989). 'A priori' categories were here used to sort out both conceptions of meaning by the persons and also their cognitive levels.

The perspective of the analysis was **static** in the sense that knowledge was sought of only one stage of conceptualisation by an individual, instead of its development (see Eneroth 1984). The focus was on the historical concepts as they appeared in juvenile minds in the case-group. Thus the qualitative data to be derived from the reports and the protocols, concerned three issues:

1. the approach to the meaning of a concept, as held by a subject, judged against the 'a priori' meanings

2. the predicate-attribution by a subject to the concept, indicating the elaborated meaning (i.e. content and extension) of the concept

3. the cognitive level of conceptualisation, judged on the 'a priori' level criteria

The stages of the analysis of the expressions in the reports and protocols were as follows:

First, the **meaning** of the adolescent juvenile concepts was analysed.

- The 'a priori' categories of the meaning of 'change' etc. were brought closer to the data, i.e. the juvenile expressions of thought in the reports and protocols, by further breaking the meanings into components. Thus two sets of categories, one for protocols and another for reports were formed.

- The data were sorted out, by recognising the different approaches to the meaning of the concepts with the help of the modified 'a priori' categories.

- Within the categories the juvenile conceptualisation was analysed by predicate-attribution.

Secondly, the cognitive **level** of the concepts was analysed.

- The data were preliminarily judged on the basis of the theoretical stages of cognitive consciousness. Thus examples of different stages were derived.

- The concept-specific level-criteria were set, using both the previous, consciousness-related criteria and the qualities of some real examples of juvenile expressions. No meaning of a concept was considered cognitively inferior to another as such.

- The data were sorted out along the level-criteria.

Then the **logical connection** between the meaning and the level of a concept in the expressions was analysed by studying real examples of different combinations of meaning and level.

The Role of Frequencies in the Case-Study

The adolescent meanings and levels of concepts were sorted out in the respective categories and the frequencies portrayed in tables. The meanings and levels were also cross-tabulated. These frequencies were not, however, supposed to indicate any representativeness of the analysed qualities of the phenomena in general. Instead, the numbers were just to describe the single research case, the distribution of qualities there.

The qualities, discovered in juvenile expressions in the case, irrespective of how frequent they were in the case, were considered as indicators of what is worth and possible to further study in history education.

6.2. Conceptions of the Ontology of History by the Adolescents in the Case

The ontological views of history were previously found in chapter 4 to vary from nomothetic to singular approaches. Approaches to 'change' varied along a dimension from determinism to indeterminism, and approaches to 'cause' from causalism to intentionalism.

As also concepts on a spontaneous level were assumed to be theory-loaded (see p.30, 37), the theoretical approaches were elaborated into 'a priori' categories for student conceptions. The crude categorisation was based on the main contrasting approaches to 'change' and 'cause'. A finer analysis of adolescent conceptions was conducted by studying the attribution of predicates to the concepts, within the frame of the two categories.

6.2.1. Conceptions of 'change'

6.2.1.1. The 'A Priori' Categories of 'change'

'Change' is a time-bound concept which basically concerns the question "towards what" things happen. Its meaning was previously 'a priori' shown to depend on an approach to it, on the dimension

determinism <----------> indeterminism

These main approaches, categorised to their criteria in chapter 4.2.2., were elaborated to facilitate the analysis of adolescent expressions in the reports and protocols, by further breaking down the components of meaning. Thus two sets of broad categories were derived, one for the **protocols**, another for the **reports** (Table 2.)

Table 2. Criteria of Two Categories of Approaching 'change'

1. Category: Determinism	2. Category: Indeterminism
change is linear development or progress or decline of structures, institutions or of mankind as a whole	change is singular action only
change is mobilised by impersonal forces, detached from individual persons or identifiable social groups	change is man-made; is mobilised by individuals or groups identifiable in time and place
change is a phenomenon to which individuals are passively exposed to, without having active agency	change is a phenomenon for which persons are responsible, being active agents of it
(for reports:)	
the world of the Tollund man is seen as a whole more primitive and insecure than today (or happier etc, than today)	the world of the Tollund man lives on its own right
the destiny of the Tollund man is seen as predetermined by the circumstances of the time-period	the destiny of the Tollund man is constructed on his own active agency; what happened was singular
the Tollund man is seen as not able to resist the forces of time and culture	the Tollund man is seen as able to manipulate his time

The two main sources of data, the student reports ("The Story of Tollund Man") and the interviews were judged separately in their

meaning of 'change'. The consistency of the two data was also studied.

Then, predicate-analysis of the student concepts was conducted within the categories of determinist and indeterminist expressions, studying the key issues of linearity and agency. In the analysis, the predication of linearity has the following form:

change (is towards x)

and the predication of agency has the form

change (is by x)

The interviews concerning 'change' were conducted in the following course:

The person was asked about his choice on the question sheet (Appendix 2), where he had been asked to compare the worlds of the Tollund man and of himself. Then he was asked, whether there was a direction in change, and, if there was, whereto it pointed.

Then the person was asked, whether a private person could contribute to change. The interviewer specified the question as needed.

6.2.1.2. The Adolescent Approaches to 'change'

6.2.1.2.1 Determinist Expressions

Recognition of a Determinist Expression

On the category-criteria, a determinist approach by a student was recognised as in the following examples of a protocol and a report.

(The research subjects were numbered, both the protocol and the report of a person bearing the same number.)

The following **protocol** (47) presented a determinist notion of change as progress, pushed forward by impersonal forces:

Interviewer:	Is the world changing in any obvious direction?
Respondent:	It gets more secure all the time, though not too secure.
I:	In any other direction?
R:	Electronics develop. There are robots all over the place.
I:	Is it a good or bad development?
R:	Good, for sure.
I:	Can an individual influence developments?
R:	Not an individual. There must be a great many.
I:	Won't individual inventors change things?
R:	Don't know.
I:	Do you think you will change history?
R:	Hardly. I do not think so.

The notion of 'change' was linear. The respondent thought of positive developments only. He defied the role of any personal agents in change. Least of all did he see himself as such an agent. A feeling of powerlessness appeared in those expressions (13 out of 31 determinist protocols, see Appendix 3) where impersonal forces were seen as factors of change.

The following **report** (20) of the Tollund case showed a determinist notion of old times as primitive and inhuman compared to today:

> "Still at the time of Christ's birth they sacrificed people to gods. In Denmark hey had adopted the habit of offering a sacrifice to the god of Spring. It was a great honour to be sacrificed.
>
> The Tollund man was pleased to be offered to their god. Before the sacrifice he ate a soup which was believed to promote the growth of vegetation...."

The author started with the norms of the period, which implied that people subjected their lives to the norms and the beliefs. The Tollund man had no active role in shaping his time; he merely "was pleased"

by his Fate. Impersonal forces were running his life.

Predicate-Attribution to Determinist 'change'

The examples above showed the following predicate attributions, indicating the content of 'change':
(the protocol 47):

> **change (is of all the world, of electronics; is towards better; is by impersonal forces)**

(the report 20):

> **change (is of beliefs; is towards better; is not by private individuals)**

The predicates indicated the determinist idea of linear change on a big scale.

The rest of the determinist expressions were studied in the same way to find out more about the linearity and agency of determinist 'change' by the young students.

An extreme form of the 19th century determinism was to see all change as progress towards freedom and security. Expressions of a similar view were provided by subjects 3 and 50:

I: If I said that nobody would today meet his death as the Tollund man, what would you say?
R: The world is constantly getting safer.
I: Would you like to say more about that?
R: Day by day, second by second, the world is getting better, not all of it of course, but for instance, nobody will be sacrificed, and so on.

I: Is there a direction in the change of the world?

R: Towards freedom, I guess.
I: Is the world bound to change that way, or is it just now and then that it happens?
R: I think there is a rule which works all the time.

The predication of this view was

change ((is of all the world; is progress (which is towards freedom and security))

In one of the determinist protocols (16) the world was bound to a downward course:

I: What about the whole world? It is changing, but is there a direction in the change?
R: For the worse.
I: Is that irreversible, if you look at the history of mankind with a long perspective? Is it getting worse all the time?
R: Not very rapidly.
I: What is getting worse?
R: Do you mean in the people or in the world?
I: I mean the world of the people.
R: The way violence has grown, but in a way individuals..

The following respondents (28, 45, 2) picked up some fields, which were getting better, but did not want to generalise the approach to concern all life. Instead they considered development to concern limited fields:

R: At least technology is growing. Before they used to plough the fields manually, now they have tractors and such.

change (is towards the better; is of technology)

R: People are now more civilised, so that they think more, and that they give even a criminal a chance. Whereas before the minorities had no rights. Like no equality, then. For instance, women were in a low position.

change (is towards the better; is of social justice)

R: The world is becoming all the time more secure, as such beliefs no longer exist. Now we think more than then. Then they just believed and so on, while now we think out what somebody says, for instance if he says "that is God". In old times they just believed.

change (is towards the better; is of rationality)

Finally, one respondent (36) nearly came to the notion of social or cultural 'structures' by stating that change was horisontal as well as vertical in time:

R: "Every period has its own line of development, and those take different courses. In our time they develop missiles and satellites, and in the Roman period, when Rome was powerful, they promoted the arts. They also had more wars and such. Different times present different ways. It depends on the time period."

change (is towards integration; is of a period)

From the above examples a cluster of predicates of linear 'change' emerged: linearily changing in student conceptions were **world - technology - rationality - social justice.**

Impersonal forces as generators of change are beside linearity a crucial tenet of determinist 'change'. In the following protocol (36) the respondent referred to power-structures as generators of change:

R: No single person will make a big decision. It is the greatest decision-makers of the time and such who make them, and their assistants. I, a sixth-grader, can't say that I will build a satellite and study the surface of Mars. The big decision-makers have the opportunities and resources to do it. It is not the business of a little private person to change things.

change (is by political power)

The same predicate attribution ("those in power"; "if you are in a position") was suggested by two other respondents (15, 38).

Among other impersonal forces brought forward by respondents was "genius" (35). Even when a respondent (22) came to the conclusion that legislation has improved in modern times, he did not credit the democratic legislature but instead "judges who have the wisdom". Instead of the will of a person or persons, it was wisdom, unidentifiable in time or person, which generated change.

The predicates appearing in the case, defining impersonal forces of 'change', were **political power - wisdom.** For the rest the forces were left unsubstantiated. When comparing student predication to the 'a priori' predicates of 'change', one notices that 'structures' and 'mentality' as extensions of the concept are missing. They were beyond the conceptions of the young respondents.

The analysis of predicates of determinist 'change' was also conducted on the student **reports** of the Tollund case. Alltogether 33 out of 51 reports were categorised as determinist (see Table 4 and Appendix 3). Linearity was recognisable on the basis of how the subjects treated the time-period of the Tollund man, whether they contrasted it with more modern times, considering it as necessarily primitive. The predicates found in the reports were related to the predicates "social justice" and "rationality" from the protocols: the respondents portrayed the time of the Tollund man as inferior to their own time concerning human and social values (reports 4, 7-11, 19-21, 27-29, 40-41, 44, 49).

A **conceptual inconsistency** between the criteria of 'linearity' and 'impersonal forces' was noticeable in student responses. In altogether 8 protocols out of the 31 determinist ones 'change' was seen as a linear process without acknowledging impersonal forces. Respondent 2, who supported the view of history as progress, saw an ordinary man as a contributor:

I: Can a private person influence the world?
R: Sure, of course. If he just won't go around saying that the world will end, and all would believe...He must not believe

all what is said - how should I say -

The inconsistency is possibly due to two reasons. First, there is an understandable emotional attraction in having in sight a clear course towards better, and still personal participation involved. Secondly, an inconsistency is likely to be present in spontanous conceptualisation. A spontaneous concept can incorporate controversial approaches, as it is not yet fully established.

To summarise the results of the study of the adolescent determinist expressions, a belief in progress was clearly present in the predication of 'change'. In the protocols even all the world, or at least areas of life like technology, social justice and rationality were considered to be within the extension of 'change'. In the reports the scope of predicates was slightly more limited, concentrating on the cultural and social system.

6.2.2.2. Indeterminist Expressions

Recognition of an Indeterminist Expression

Indeterminism in broad terms means a view of history as singular happenings and changes, with an individual or an identifiable group with his or their free will as the factor. The category criteria were set in Table 2 on p. 113.

On the category-criteria, an indeterminist expression was recognised as in the following examples of a protocol and of a report.

In the following protocol a respondent (27) presents an indeterminist idea of historical change:

I: Is the world changing?
R: I think yes.
I: Is there a direction in that change?
R: I wouldn't say so, really.
I: Is it more secure today than before?

R: Not to my view. For instance, there are cars that can run over you.
I: What about freedom, is there more of it now than before?
R: I wouldn't say so, perhaps somewhere. Not all are free in other countries, even if they happen to be in Finland. In Africa, for instance, they are not.

The respondent refused any linear developments. Instead, she saw singular states of things in singular places definable in place and time.

Concerning the second main criterium of an indeterminist 'change', namely the individual agency, respondent 20 is positive about it:

I: Is there a direction in the change of the world?
R: People just do not take any sensible direction. They just do what pleases them at the time.
I: Has it always been like that?
R: Yes, it has, I think.
I: The world would not get better or worse?
R: Now better, then worse. Whichever way.
I: Can an individual affect that?
R: Sure he can.

The respondent saw individuals as responsible agents of changes. He thus in the interview presented a 'free will' approach to 'change'.

As often in indeterminist, singularistic history, the following **report** (1) was written in a narrative form:

> "There was once upon a time a poor man living in Denmark. He obeyed traditions and beliefs, despite of being poor. Poverty bothered him, and haunted by hunger and misery, he started to rob rich houses and dwellings. He did not get far before he was caught. In jail he turned skinny and poorly, but did not give in, as that was not the thing to do. He trusted the God of Spring. In jail they respected the wishes of those who were sentenced to death. As soon as the man learned that he was sentenced to death, he knew what to wish: linseed soup as his last meal. Thus did all the poor in those days, in order to gain eternal peace and the Spring God's favour. All those sentenced to death were dressed in a similar outfit: a leather

hood. Though the convict walked steadily to death, they took him to his grave with a rope so that he would not escape."

The author started with the life situation and wishes of an individual. The historical circumstances were subjected to the will of the individual. The individual chose his destiny freely. The time-period was not seen as primitive compelling conditions but as a culture providing hope to its members like any viable culture would.

Predicate-Attribution to Indeterminist 'change'

The protocol and the report above, showed the following predicate-attributions with an indeterminist approach:

(protocol 27) **change (is of single functions; is casual in direction)**

(protocol 20) **change (is of single functions; is by ordinary individuals)**

(report 1) **change (is of single functions; is by ordinary individuals)**

In the rest of the protocols and the reports, the predicate-attribution to indeterminist 'change' was further elaborated, concerning the issues of **singularity** and **agency.**

Singularity of change, in contrast to linear change, was argumented by the research persons 13 and 14 with a reference to the insecurity of the modern nuclear age:

I: (pointing at the question sheet) You did not choose "World is getting safer"?

R: No way is it getting better as there is the fear of nuclear war. I do not believe...In fact, I have been thinking that one could still find oneself in the same position as the Tollund man. I cannot see why I did not choose that.

I: You don't think there is a direction in the change of the world?
R: I don't know. True, it is safe at home today, but when one thinks of the bombs which can be dropped on you just like that, or all the new weapons they invent, so it is not secure.
I: One can't say that the world is getting better?
R: Not to my view.

In altogether 7 cases out of 20 indeterminist protocols the threat of war was given as the argument against ideas of linear positive development.

The following respondent (19), as also four others, referred to the double blessings of technology to defy progress:

I: (referring to the question sheet) You don't think the world is getting better?
R: It isn't, really, as different risks keep emerging. For instance, before there was no danger of being run over by a train. Now there is. Before there were different dangers. Things change. Also notions of what is allowed and not allowed, change. Nowadays death sentences are rare.

In the rest of the indeterminists expressions, any direction in history or present world was defied without argumentation.

The expressions above implied a vague kind of **continuity** in life. The following respondent (10) specified the continuity as a restriction of 'change': human nature contained unchanging, unpredictably emerging elements:

I: (referring to the question sheet) You think that what happened to Tollund man, can still happen?
R: Sure. For instance, some lunatic, a neo-nazi can do similar things. Take that kind of a role.
I: You think that the world has no direction to go?
R: Surely not.

The quotations showed 'continuity', counteracting change, as a predicate:

change (is counteracted by continuity)

Concerning the scale of change, the idea of singularity implied that change would be recognisable only in small-scale phenomena. Better medical care (40), less inhumane religious rites (7), humane punishments (21) and better weapons (40) were picked as positive changes. Cars and modern warfare were seen as negative changes (13, 14, 27).

change (is of cars; is of medicine; is of weapons; is of punishments; is of rites)

This predication did not convey a complete picture of the respondents' ideas, as they had no time to map all possible attributions in their minds. Still it suggested how they made sense of the world by singular theories.

The indeterminist idea of an individual human **agent** as the generator of change appeared in the following protocols (40, 42):

I: Can a private person contribute to the world becoming safer?
R: Sure, by not killing anybody.
I: What about influencing the prevailing norms?
R: Sure, by not throwing trash around. Isn't it safety, to keep nature clean?

I: How far can an individual affect change?
R: On his own part, sure he can. By trying to live in a normal way.

A slightly different idea of a historical agent was expressed in protocols 14, 30 and 32, where activity and resourcefulness were given as the predicates of an agent of change.

In the indeterminist **reports,** the Tollund man appeared as an agent

exercising manipulative powers on his circumstances. Respondent 13 made the man to decide to desert his troops in a tribal war, to take refuge in a bog and finally, when caught, to return there to die. In another report (17) the case of the Tollund man was totally privatised, cut off from the society and culture, and explained as a suicide committed for purely personal reasons.

The predicate-attribution concerning the agency of change was, on the basis of previous examples, as follows:

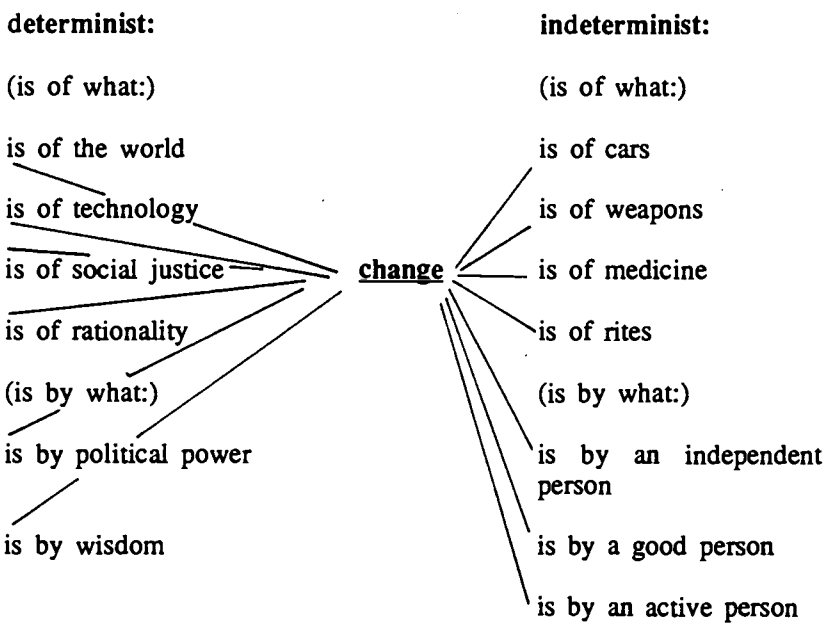
> **change ((is by a person who (is supported by others; is living a good life; is independent; is active))**

A conceptual inconsistency was presented by those respondents who saw change as singular but denied the role of individuals as agents of change. Instead they relied on impersonal forces in the same way as in the most determinists expressions. Altogether 7/20 of the indeterminist protocols showed an inconsistency of this kind.

To sum up, the predicates of 'change', under the umbrellas of determinism and indeterminism, appeared in the conceptions of the young students as in Fig. 5.

The predicates of Fig. 5 imply the basic criteria of determinism and indeterminism, like properties of linearity/singularity or of impersonal/personal agency. The predicates further elaborate them. The determinist expressions in the reports and protocols, according to the predicates above, do not indicate direct ideological commitments; the young respondents did not ascribe an agency ('by what') to big ideas like liberty (cf. whig-history) or to social structure (cf. Marxist historiography). The indeterminist expressions, according to the predicates, portrayed a trust in an ordinary man's powers. This trust was explicitly expressed in a total of 13 protocols (Appendix 3) .

Figure 5. Predicates Attributed to 'change' by the Adolescents



6.2.1.3. Functional Inconsistency in Expressions about 'change'

Functionally inconsistent were those respondents, who wrote an indeterminist report but in the protocol expressed determinist views. Inconsistency involves a double methodological problem, concerning the validity of the research:

- Was there something in the projective task (the classroom exercise) or in the way of interviewing, which prompted unauthentic expressions of thought in a respondent?
- If both data were authentic, which would be the better indicator of the approach of a respondent?

Respondent 1 wrote an indeterminist report of the Tollund case (quoted on p.121), systematically avoiding to use external circumstances as determinants of what happened. Then, in the interview, she turned into a determinist:

I: You chose on the question sheet...
R: That the world is getting more secure.
I: You really think that there is a development towards the better?
R: Sure.
I: Can a person affect that development?
R: Well....All the wars and such. It is the presidents and such who decide what will happen.

The number of functionally inconsistent respondents was 28/51 (Table 3); 15 students wrote determinist reports but produced indeterminist expressions in the interview, 13 students acted vice versa. The inconsistency hinders the researcher from a strong conclusion of determinis tendencies in the case, despite what the figures in Table 4 show. If the inconsistent expressions are counted as a separate group, the case group of 51 students looks as follows:

18 determinist approaches
5 indeterminists approaches
28 inconsistent approaches

Why would the two sources of data point towards different approaches? The story-form of the report, implying a narrative form of knowledge, possibly lead research persons towards a singular approach to history. On the other hand, the projective task was constructed in a way that an inclusion of external circumstances in the story was not too far-fetched for a respondent.

In the interviews, the interviewer with her questions possibly ushered respondents to a certain approach. On the other hand, the preliminary free pondering of the alternative approaches on the question sheet and the repetitive questions by the interviewer were to counteract the influence of single questions.

Thus both data were treated as valid testimony of student thinking. The root of the inconsistency was interpreted to lie in the spontaneous nature of the student conceptualisation. The students possessed elements of the two approaches, the determinist and the indeterminist, and had not yet consciously decided which to adopt, as an expert historian would have done. The inconsistent nature of spontaneous concepts, as Vygotsky first analysed them (p.89), was proved valid in this research case.

Table 3. The Frequencies of Consistent and Inconsistent Adolescent Approaches to 'change' in Protocols and Reports

N=51

	indeterminist in report	determinist in report	Total
indeterminist in protocol	5	15	(20)
determinist in protocol	13	18	(31)
	(18)	(33)	(51)

Table 4. The Frequencies and % of Determinist and Indeterminist Reports and Protocols

N=51

	determinist	indeterminist	Total
report	33 (65%)	18 (35%)	51
protocol	31 (61%)	20 (39%)	51

6.2.1.4. Summary: The Adolescent Conception of Historical 'Change'

Notions of 'change' among the group of 51 young students were studied using the 'a priori' approaches of determinism and indeterminism as a crude frame. Within it predicates of 'change' were analysed. Of the two approaches, 'change' as linear development pushed ahead by impersonal forces was predominant in the case group.

Determinist expressions appeared, even in their extreme form, as a belief in universal progress towards security and freedom. A more modest view of 'change' as 'development', was attributed by the respondents with predicates like technology, social justice and rationality.

The free-will approach was predicated by singular or small scale functions as medical care or cars.

The categorisation of student expressions was complicated by both conceptual and functional inconsistencies concerning the question of an agent of 'change'. The 'a priori' logical connection of linearity and impersonal agency on the one hand, and singularity and pesonal agency on the other hand, did not hold.

Inconsistencies were hypothetically credited to the spontaneous nature of the juvenile conceptualisation.

The frequency of determinist expressions among the research persons raises a question: Why would a young person adopt a determinist approach instead of seeing the world as singular happenings and personal relations? According to the Piagetian stereotype, a child would personalise things which would rather lead to an indeterminist approach.

The determinist expressions in the case were inconsistent and thus

spontaneous, but still rational constructions. The reasoning behind them can be suggested. The expressions were all, except one, optimistic to their ethos. The world was getting better according to them. The optimistic determinist approach, hypothetically, had more emotional attraction than a view of an indetermined change with no goal.

The role of the cognitive level in explaining the approach was studied and discussed later in chapter 7.

6.2.2. Conceptions of 'cause'

6.2.2.1. The 'A Priori' Categories of 'cause'

Historical explanations of events or actions answer the question 'why'. In this study the concept 'cause' is used to mean all different approaches to 'why'. In the theory of history these approaches vary from causalist to intentionalist modes. Causalists (here used in the deductive-causalist sense of the term) assume explanations of events to be deducible from covering laws, whereas intentionalists, at the other end of the dimension of approaches, look for an explanation of a human act in the intentions of an agent:

causalism <----------> intentionalism

The opposite approaches can also be expressed as syllogisms:

causalism: in all cases, if conditions F are satisfied, the event G will occur, where F is the cause of G

intentionalism: the agent intends to bring about P;
the agent consideres that he cannot bring about P unless he performs action G;
therefore, the agent performs G

To analyse the content of the protocols and reports, the two main opposite theory-approaches were elaborated into categories, by deducing components and properties from them (see chapter 4.2.3). The categories were further modified to meet the nature of the students' reports. Thus two mutually related sets of categories were formed, one for protocols and the other for reports (Table 5)

Table 5. Criteria of Two Categories of Approaching 'cause'

1. category: causalism	2. category: intentionalism
cause is deduced from a covering law of historical, sociological or psychological significance	'cause' is a thought of an agent
cause is bound to its effect	'cause' is 'how' of an action
cause is external to the explicandum; e.g. circumstances, another event can be a cause	'cause' as an internal part of the action (the explicandum)
(for reports:)	
cause is derived of a genaral rule concerning causes and effects in happening of events	'cause' is bound to an agent, who has intentions and beliefs
cause leads irreversibly to an effect	'cause' is a purposive act in its own right
cause is external circumstances of the Tollund man	'cause' is the 'how' of action in a narrative

After the categorisation of the adolescent expressions into determinist and indeterminist ones, the predicate-attribution within each approach was analysed, in order to see the nuances in both approaches.

In the case of causalist, external 'cause', the predicates of 'cause' would depend on a covering law. Thus predication would be hierarchic:

cause ((is by an event or state, which (is connected to the explanandum by a covering law))

The adolescent assumptions of covering laws in human events were studied.

In an intentional explanation, the intention of an agent was a singular 'cause', but still it was derived from a belief, which was the ultimate explanans:

intention ((is by an agent who (is of a belief)

Thus student assumptions of belief systems by people were studied first in the reports, where they were implicitly present.

The interviews concerning 'cause' were conducted in the following course:

A person was first asked about his choice on the question sheet (Appendix 2) concerning his explanation of the Tollund case, whether he had given the priority to the circumstances or to the man himself.

Then the interviewer extended the question of 'cause' to contemporary personal histories, asking, how the subject would explain why one is a tramp, a famous athlete etc. The examples were tailored according to the interviewee.

6.2.2.2. Adolescent Approaches to 'cause'

6.2.2.2.1. Causalist Expressions

Recognition of a Causalist Expression

On the category-criteria, a causalist approach by a student was recognised as in the following examples of a protocol and a report.

In the following **protocol** a reseach person (18) supported the deductive-causalist view of historical explanation:

I: When, for instance, you think of the Tollund man, will you first ask about his circumstances or his personality and doings?

R: Don't know. I suppose about the circumstances of the time, about the opportunities which existed and about what possibly could happen, and what type of an event that was. Then I would study the person.

I: How with a modern person, let us say a local tramp you would like to know about. Would you with him start from the circumstances or from his personality and doings?

R: Don't know. A normal person would not drop out that way, I mean to have no job and to booze all the time. Not a normal person, as down as that, it must be the circumstances, the society and all that.

The respondent hypothetically suggested, that society would cause personal failures. His covering law was: society can let down people.

The number of causalist protocols was 25/51 (Table 7).

The same deductive-causalist approach was present in a **report** of the Tollund case by a research person (28), who first made a hypothesis of the Tollund man as a sacrifice to a god, and then explained why this special man was offered:

> "The offering of the victims might be due to their nationality. When looking at his picture, he did not look Danish but foreign, for instance a Red Indian. His nose is special. They

might have been sacrificed as the Danes did not accept other nationalities. And that was why they were sacrificed..."

The author did not specify the agents of action. Neither had the victim or his killers any individual features in the story. It was from a covering law of xenophobia, i.e. 'people fear alien ethnic groups', which explained the killing.

How did the the author generate her covering law? The evidence did not strongly support xenophobia in the iron-age Danish society. It was most probably an analogy of another time, perhaps of the author's own time, which was used to make xenophobia into a covering law, which was then applied to the projective task in the classroom.

The number of deductive-causal reports was 36 out of 51.

Predicate-Attribution to Causalist 'cause'

The predicates attributed by the research students showed varying assumptions of covering laws around human events.

In the protocol 18 (quoted previously on p. 133) "society and all that" was given as the cause of what happened to a person. Similar ideas of extenal circumstances were present in 7 other protocols (2, 3, 5, 28, 30, 31, 50), The following respondent (48) specified the predicate:

I: What about a criminal, would you explain his destiny by the circumstances or by himself?
R: By the circumstances. If he went down because of poverty.

The same idea of social status as a cause was presented by respondents 9, 11 and 15). The covering law was 'social structure causes things to happen to persons', which is as predicate-attribution:

cause (is by social structure)

A similar predicate was present in the following report (12):

> "He must have been a soldier, as he had a rope around his neck. And he wasn't able to walk anymore. Then they put a rope around his neck and left him close to a bog..."

Beside the soldier status, also a slave status was used as an explanation to the man's fate: he had no choice (6, 9, 10).

A belief-system was suggested as an explanation by the following respondent (13):

R: ....First [I would look at] the customs and beliefs of the time.
I: Is a person bound to obey them, or can he resist them?
R: You see, in many countries...or a person is bound to them if they are supported by the majority.

Altogether 4 subjects saw the belief systems still in the present pluralist societies causing things (protocols 4, 6, 8, 13, 14, 15). Their covering law was 'belief systems cause things to happen to people', which as predicate attribution means

cause (is by belief system)

In the **reports** of the Tollund case, the belief system was by far the most popular predicate of 'cause' (30 out of 36 causalists supported it). The evidence with the mysterious wild-seed soup probably captured the student attention, as in the following report (4):

> "...The Tollund man was offered to the God of Spring, as he had wild-seed soup as his last meal. They believed that it would make a good crop. The man's face shows, that he was glad to sacrifice himself for his people. Also his young age proves that it was a sacrificial rite."

The compelling nature of the belief-system was emphasized by the respondent when he pointed out, that the victim was happy when losing his life for the god. The same was suggested in 11 other reports.

The belief system had a different role in the reports where the victim was portrayed as a dissident who was persecuted and killed by a religious majority (6 cases). This explanation was probably an inductive projection of a student experience of present time, as it was not supported by the evidence.

In the more sophisticated causalist reports (2, 5, 8, 27), a belief system was subjected to a paramount social structure, the tribe. The tribe supported the beliefs, which then caused the events. The predicate-attribution was hierarchic:

cause ((is by belief-system, which (is by a tribe))

The hierarchic attribution promoted the historicity of 'cause', as the belief-system was anchored to an historically (time and place) identified group instead of a vague 'they'.

6.2.2.2.2. Intentionalist Expressions

Recognition of an Intentionalist Expression

On the category-criteria, an intentionalist approach to the case by a student was recognised as in the following examples of a protocol and a report.

In his protocol respondent 1 supported an intentionalist approach to historical explanation:

I: (referring to the question sheet:) You were pondering the causes of the death of the Tollund man. What was your answer?
R: All of them.
I: You did not prefer any mode of explanation? The circumstances, or another choice?
R: In my story all of them were present.

I: How would you in general explain what happens to people? Would you look at the background or at the person himself, whether he was being nasty or did something special just before?

R: I will certainly look at the person. It all depends on him.

The respondent was ambiguous about the Tollund case, but when asked about historical explanation in general, she was sure about the significance of personal intentions.

The respondent's approach lead her to notion of a historian as a moral judge. Her "It all depends on him" had a moral undertone: the person can be blaimed on his failures. This notion was supported explicitly by 5 of 25 intentionalist respondents (1, 8, 20, 25, 45). These examples show the tone:

> "If somebody murders, then, even if his circumstances were appalling, I woudn't, it is wrong to kill anyway." (8)
>
> "There is always a choice available." (20)
>
> "It was his (the Tollund man's) own decision to go into that."(25)

These judgments, compared to the causalist view of circumstances ruling people, remind one of the idealist notion of history as the work of individuals. The spontaneous concepts seem to imply an ontological theory of the relation of cause to responsibility.

In the following report respondent 6 made the Tollund man choose to free himself from the circumstances of the fatal spring ceremony.

> "It was a normal spring morning when Mother Earth arrived in our village. We made a feast. We feasted throughout the day until Mother Earth got tired. He and the wizard went to the secret pond and took slaves with them. At the pond they put the slaves in ropes under a strict control. The job was done, and they decided to drown the slaves the following day.
>
> However, one slave fled, took off his clothes except the hat

> and the belt, and swam across the pond. He had no time to untie the rope as he feared a chase. He fell asleep in a sheltered place, and died with the rope around his neck. The cause of death is unknown."

The respondent uses in the last sentence the term 'cause' in its strictly physical sense. The actual explanation of what happened is implicit in the acts of the persons in the story. The respondent used a narrative form of report, which is typical in intentional explanations. Instead of explicitly analysing, 'why' things happened, he told 'how' they happened. He did not use any explicit conjunctions like 'because' in his text. He made sense of the slave's act by referring to context.

The narrative form, where an agent is given a leading role and there is a coherent plot, was used in 9 out of 15 intentional reports. The logic of the approach affected the form of presentation: an intentionalist approach produced a narrative report.

Respondent 50 brought the intentional explanation to a very private level:

> "He was about 30 years old, when he hanged himself in a tree in a bog. As life had been difficult to him."

The respondent, defying all the possible external causes, made the Tollund man an agent of his own death by his free will. A suicidal will appeared as intention also in another report (17).

Predicate-Attribution to Intentionalist 'cause'

According to Egan and Bruner (see chapter 5.2.3.) children from the pre-school age onwards would master some abstract human concepts to make sense of personal and existential issues. These concepts are used in intentional explanations. A variety of them were met in the research case.

A need of personal freedom was an implicit predicate of an agent's intention in the narrative reports where the Tollund man appeared as

a slave or a prisoner and decided to flee (respondents 6,9,13).

intention (is of a need of personal freedom)

A revenge as a human concept was known by respondent 9, who projected it in his report on those who chased a fugitive slave:

> "Vengeful soldiers had chased him. The soldiers had caught him and murdered him by strangling, and threw him into a bog."

intention (is of revenge)

In two reports (23, 31) group loyalty was behind an intention to kill:

> "...There had been a war. This man had betrayed his country. Now he faced a court martial. The crime was severe. He was sentenced to death. The people applauded the sentence. The Tollund man had his last meal, spring-seed soup, which tasted bad. In less than a day he would be hanged with a leather rope. The sun is rising. The man is dragged to be hanged. People tear his clothes off." (23)

intention (is of group loyalty)

The strong reaction by the people was due to a sense of loyalty to the community. As loyalty was not present in the evidence, the respondents must have picked it from among their spontaneous concepts.

The predications above can be formulated as practical syllogisms. For instance report 23 has the following form:

> The people wanted to maintain group loyality.
>
> They believed that in order to maintain group loyality they had to kill the inloyal members.
>
> Therefore they killed the Tollund man.

The predication thus presented rational explanation and was within the

extension of the concept of history (see p. 62). An irrational and thus non-historical explanation was presented by those respondents, who did not connect their intentional explanation to any context. A respondent (43) credited the intention unsubstantially to madness:

> "Some lunie came along. This lunie dragged the Tollund man by a rope to a tree. There he possibly hanged him, from the rope on his neck. Then the lunie cut the rope, and the man fell down."
>
> **intention (is irrational)**

A similar irrational approach was present in protocol 21, where a vague 'disposition of mind' without any substantial context is attributed to 'intention':

I: If a chap from your neighbourhood is jailed, will you look for explanation in his circumstances or in himself?
R: Often, sure, if his character is such that he pesters other people, it of course explains things."

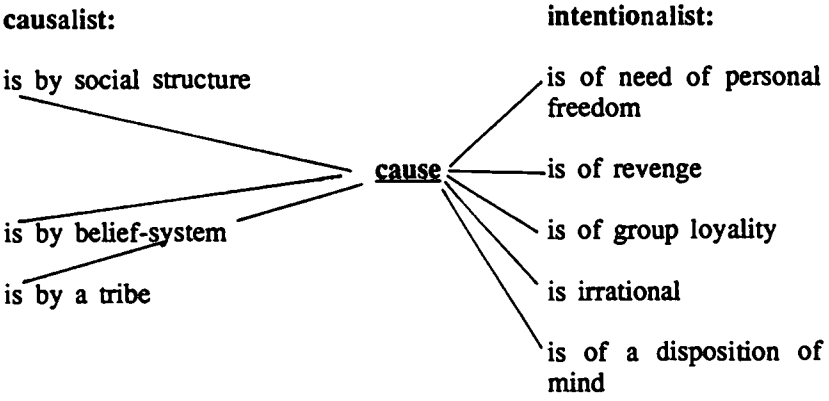
intention (is of disposition of mind)

The same historically unsubstantial predication was supported in 5 out of 26 intentionalist protocols.

Tu sum up the causalist and the intentionalist predicates attributed by the research persons in the case, the juvenile conception of 'cause' looked as in Fig. 6.

One can see that the basic 'a priori' predicates of the causalist and the intentionalist 'cause' are implicit in the categorisation of pupils' expressions. The spontaneous, explicitly expressed predicates above show how students substantiate their approach. The causalist predicates indicate social and cultural structures affecting people's doings. The intentionalist predicates are about human mind.

Figure 6. Predicates Attributed to 'cause' by the Adolescents



6.2.2.2.3. Functional Inconsistency in Expressions about 'cause'

Functional inconsistency, an incongruence of thought between the interview protocol and the projective report, was noticable at 27 out of 51 research persons. Most of them wrote a causal report but were intentionalist in the interview. (Table 6.).

Table 6. The Frequencies of Consistent and Inconsistent Adolescent Approaches to 'cause' in Protocols and Reports

N=51

	intentionalist in report	causalist in report	Total
intentionalist in protocol	7	19	(26)
causalist in protocol	8	17	(25)
	(15)	(36)	(51)

Table 7. The Frequencies and the % of Causalist and Intentionalist Reports and Protocols

	causalist	intentionalist	Total(%)
report	36 (71%)	15 (29%)	51(100)
protocol	25 (49%)	26 (51%)	51(100)

An inconsistent respondent (13) first wrote a narrative account of the Tollund man, explaining things intentionally and avoiding any general rules of action:

> "This man was a warrior. He was very young and had never been in a big battle. Then a tribal war broke out...He eventually got involved in the war. For some reason he fled. He left the village and went to a bog nearby. He prepared some food out of what he had collected on his way, and then went to sleep. In the morning he was found...."

In the interview the respondent argued in a causalist way. She gave a priority to customs and beliefs when explaining things. She also explicitly told that individual lives were dependent on belief systems.

If inconsistent thinkers would be categorised as their own group, the numbers of different approaches would be as follows:

17 causalist approaches
7 intentionalist approaches
27 inconsistent approaches

Why were respondents inconsistent? Hypothetically, inconsistency was here as well as in the case of 'change' due to the spontaneous, inestablished nature of the juvenile conceptualization. The respondent had no decided conscious line of 'cause', and accordingly used varying approaches depending on the situation and context.

In the reports causalism was predominant (Table 7). An analytical form of presentation was far more popular than a re-enacted story. Here the issue of 'cause' coincided with the epistemological issue. Because of the nature of evidence, rather short of personal details, respondents might have found it difficult to get into the intentions of the agent, whereas in the interview they could relate the issue to their present personal acquaintances. Therefore they made the men of today responsible for their action, but let the Tollund man be excused on the circumstances.

6.2.2.4. Summary: The Adolescent Conception of 'cause'

Notions of historical explanation, 'cause', among the 51 young students were studied with a crude categorisation of approaches to causalist and intentionalist as the frame of analysis. The main category-criteria were, first, whether the focus by a respondent was on the external or the internal side of the action, and secondly, whether he used a covering law or a personal individual momentum to explain happening. The category-criteria were used to sort out the notions, and within the assorted categories of causalists and intentionalists the predicates of 'cause' were analysed.

Of the two main approaches to 'cause' causalism was predominant in the reports, whereas in protocols the approaches were equally represented.

The spontaneity of a juvenile conceptualisation was revealed by an inconsistency in the approach. In their actual own historiography, in the reports, the subjects tended to be more causalist than in their explicit statements about 'cause' in general.

The student notion of the causalist 'cause' was elaborated by the predicate-attribution. 'Social structure' and 'belief system' appeared

in protocols and reports as predicates indicating covering laws of human happening. The predication appeared also as hierarchic: a belief system had a historical social situation as an umbrella, which provided historicity to 'cause'.

Intentionalism appeared in the case more often in general statements in the interviews than in the historically specific projective reports. In the interview, when asked about his contemporaries, an adolescent could in some cases turn into a straightforward moralist, claiming responsibility to people for their acts. This classical issue of moral judgment in history separated intentionalist expressions from the causalist ones; in the latter no moral claims were made.

The predicates of 'intention' revealed, that the student spontaneously mastered human concepts like 'revenge', 'personal freedom' or 'group loyality' to make sense of human happening.

Irrational predicates, which were not rationally linkable to human action, were acknowledged by the researcher but not recognised as historically relevant. They were not considered to be products of conscious historical thinking.

6.2.3. Conclusion: 'A Priori' and Juvenile Approaches to Historical Explanation Compared

'Science is explicable; history is not.' This classical ontological statement implies, that only exact, generalisable explanations are true. The opposite ontological view implies, that also individual events are explicable in their own right. Thus historians make singular theories, using their own criteria of scientific rigour.

In this study 'change' and 'cause' were seen to construct historical explanation. 'Change' was seen as concept to make sense of time-bound alterations, 'cause' as a concept answering the question 'why'

concerning past events and acts.

The way a person approached 'change' and 'cause', was seen to construct his way of making sense of human events.

As in this study the persons were considered as active constructors of their world and conscious thinkers, the conceptualisation was studied as internally intelligible, not as externally explicable.

The concepts we use to organise the world have both their spontaneous meaning and their expert, 'scientific' meaning. The both meanings have the same fundamental root in the personal life experience and the practice of thinking, and are thus akin. In this study the expert concepts were used as a research tool to sort out student notions, which were then studied empirically concerning their predication, to find out about the spontaneous conceptualization.

The spontaneous notions of 'change' proved to be organisable along the 'a priori' categories of determinism and indeterminism, as the parallel views appeared among young learners. 'Progress' and 'linear development' were present in adolescent notions, with 'impersonal forces' as mobilisers. At the indeterminist end, though nobody in the case explicitly supported the role of pure chance, changes were nevertheless seen as ruled by free will.

The study of spontaneous conceptualisation of 'cause' showed a similar diversity as with 'change'. Causalist and intentionalist approaches along the 'a priori' categorisation were distinguishable among the case students. The causalist expressions were conctructed around covering laws of social structures and belief systems, whereas the intentionalists expressions referred to basic human concepts like 'need of freedom' to account for the acts by agents.

The ontological concepts 'change' and 'cause' are in theory mutually linked. Determinism would logically imply causalist explanation of single events, but, on the other hand, a covering law can also be

assumed without an overall determinism. Intentionalism would logically require an indeterminist 'change', but not inevitably vice versa. To be consistent, the student notions should have followed the logical linkings determinism - causalism, and intentionalism - indeterminism. Alltogether 24/51 protocols and 44/51 reports satisfied the requirement. (Table 8; Appendix 3). In the interviews, when making statements on a general level, the logical link seemed not to hold.

The lack of congruence is accountable by the spontaneous nature of the juvenile conceptualisation. The concepts require conscious integration to become 'mature'.

Table 8. The Frequencies of the co-occurrencies of determinism and causalism / indeterminism and intentionalism in protocols and reports (reports in brackets)

N=51

	determinist	indeterminist	Total
causalist	16 (31)	9 (5)	25 (36)
intentionalist	18 (2)	8 (13)	26 (15)
	34 (33)	17 (18)	51

6.3. Conceptions of the Epistemology of History by the Adolescents in the Case

Historical interpretation answers the question 'how do we know about history'. The nature of interpretations was studied here by focusing on the concepts 'evidence' and 'interpretation'. The meanings of those two concepts vary along a dimension from analytical to reconstructive approaches, which were 'a priori' analysed in chapter 4:

analytical approach	<----------	reconstructive approach

'Evidence', according to the extreme analytical approach, meant atomic, directly registrable and quantifiable data, whereas according to the extreme reconstructive approach 'evidence' was seen as meaning, as an expression of human thought.

'Interpretation', according to the extreme analytical approach meant collecting, comparing and analysing data, whereas according to the extreme reconstructive approach it meant qualitative, constructive interpretation of data.

Approaches to the two concepts, evidence and interpretation, are logically interlinked. If one considers 'evidence' as straightforward atomic data, 'interpretation' is bound to be analytical. Correspondingly, meaning-loaded 'evidence' can only be dealt with in terms of qualitative, reconstructive 'interpretation'.

In this study a preliminary categorisation of the student approaches was made on the basis of the criteria of the two contrasting main 'a priori' approaches. Within the categories, the meanings were studied further by a predicate analysis, on the previously established assumption. that predication depends on an approach.

6.3.1. Conceptions of 'evidence'

6.3.1.1. The 'A Priori' Categories of 'evidence'

The key issue about 'evidence', as it was studied in theory in chapter 4, was its relation to the past. The analytical school assumes that pieces of evidence are foot-prints of the past, compilable as facts, wheras the reconstructive school considers 'evidence' to be material for the construction of facts.

For the purposes of categorising student approaches to 'evidence', the 'a priori' criteria of the analytical and reconstructive approaches, as set in chapter 4.3.2, were brought closer to adolescent expressions by deducing components and properties from them. The criteria were further modified to meet the nature of the reports of the projective exercise. As a result, two sets of categories, one for protocols and another for reports, were derived. (Table 9)

After the student protocols and reports had been sorted along the criteria, the predicate attribution to 'evidence' by the adolescents was studied within the two categories. Among the 'a priori' questions to be studied by the predicate analysis, one concerned discrimination between the first and the second hand evidence, or with other words, the sense of authenticity among the school children.

Another question was about the awareness of the adolescents of the different kinds of evidence. Did they know about written documents of human life beside the visual and concrete remains?

Table 9. Criteria of Two Categories of Approaching 'evidence

1. Category: Analytical	2. Category: Reconstructive
evidence is as such facts	evidence is clues, the meaning of which has to be interpreted
books and authorities provide facts in the same way as the first hand evidence	second hand evidence is a construction by an author
contradictory knowledge can only be true or false	the truth of an interpretation is relative
(for reports:)	
evidence is atomic pieces of information	evidence is treated holistically and hierarchically, under an overall interpretation scheme
pieces of evidence are handled in their own right	evidence requires to be set active questions to
physical evidence is predominant as it is straight-forward	meaning is to be interpreted in the pieces of evidence

The interviews concerning 'evidence' and 'interpretation' were conducted in the following course:

A research person was first asked about his choice on the question-sheet (Appendix 2), where he was asked about the ways historians find their information. Then the person had to specify, what he personally could do to check whether the information in a school book was right.

Next, the interview proceeded to the concept 'interpretation'. Depending on the response on the preliminary question sheet, the subject was asked, whether he found it easy or difficult to find out about past people's thoughts, and what made it easy or difficult.

The two concepts 'evidence' and 'interpretation' were studied to a certain extent together. The interwoven relation of the concepts allowed this.

6.3.1.2. Adolescent Approaches to 'evidence'

6.3.1.2.1. Analytical Expressions

Recognition of an Analytical Expression

On the category-criteria, an analytical approach was recognised as in the following examples of a protocol and a report.

In the following **protocol** a respondent (30) supported the analytical idea of deriving facts as such from different sources:

I: Where do you think historical knowledge in general comes from?
R: Well, many people tell other people, the old people; and by studying a place one finds it.
I: If you wanted to check something in your history book, what would you do?
R: I would go to the place the book tells about, and would study all the things there.
I: Is there any other way?
R: One can ask historians, what they think.
I: How much imagination would one need?
R: Won't need much.
I: Do you get the matter ready from the sources?
R: Surely.

The respondent assumed oral tradition as directly usable as information. She recognised the concept of the first hand evidence (the places)

and again considered it directly and mechanically usable.

Another respondent (39) assumed an official truth of history to be available by phone from an office:

.....

I: If you would like to check whether your history book is right when it says that it was Finland who attacked Soviet Union in 1941, where would you find information?

R: From books and from other people.

I: If you would doubt all books, how would you check their information?

R: I would call a state office of some kind. There they have all the information registered.

The respondent did not recognise the first hand evidence at all, nor any 'meaning' to discover in an information. When later asked, how he would deal with fragmentary information, he suggested "combination of pieces and finding a route with them", where "route" indicated a straight forward way of inferencing from the evidence.

In the following **report** a respondent (21) deals with the evidence of the Tollund case in an atomistic and mechanical way:

> "I support [a theory of] a criminal as a sacrifice. An accident or a suicide are unlikely, as there were many similar findings. Hardly would a hundred of similar accidents take place in identical circumstances.
>
> On the basis of Tacitus he is a criminal. A ritual offering could also be possible. Most likely he was a deserter, as he was hanged in a tree and drowned in a bog. While it was spring he was a suitable sacrifice for Mother Earth. His calm face is due to him knowing that there are worse destinies, and he was happy to be sacrificed to a big god. The spring-seed soup might have been part of the ritual at that time. They might have liked its taste."

The coverage of the evidence by the respondent was good and reliable. In the analytical way she counted different pieces of evidence equally, and thus did not make difference between first and second

hand evidence. Her work did not involve theory-building. Until the half way of the report the author let atomic pieces of evidence lead her to casual perceptions. She did not organise her perceptions hierarchically, but instead let 'bog', 'face' or 'soup' to indicate separate ideas. At the end she did not come to a final theory but instead floated to further loose observations.

The number of analytical protocols was 21/51 and of analytical reports 31/51 (Table 11)

Predicate-Attribution to Analytical 'evidence'

One of the criteria of an analytical approach was a lack of discrimination between first and second hand evidence, as instantialised by respondent 50:

I: If you would like to check whether corporal punishment was accepted at school fifty years ago, where would you find evidence?
R: In some books.
I: If you would think that the book merely conveys the author's ideas?
R: I don't know.

She did not have an idea of an authentic source. Her predication of 'evidence' was limited:

evidence (is second hand evidence)

A vague sense of authenticity was shown by two respondents (35, 44), who suggested "old" books as adequate evidence to find reliable information. Assuming authentic evidence as reliable as such, indicates an analytical approach.

In a projective **report** (e.g. 19) the lack of discrimination between first and second hand evidence appeared as an equal treatment of the authentic testimony of the remains of the Tollund man and of the second hand testimony by Tacitus. The author simply linked the pieces together.

evidence (is undiscriminable first and second hand sources)

Only five research persons in the research group could think of written documents as historical sources. The rest were not aware of the kind. Instead, most were aware of concrete historical remains as evidence. Respondent 34 did not know how to check information on political history, as he only knew concrete evidence:

.....

I: If you would like to check whether your school book is right telling that Finland attacked Soviet Union in 1941, where would you find information?

R: First I would look for - go to library and find a book about the war.

I: If you would not trust the author?

R: ?

I: Where did the author find his information?

R: If I knew somebody who lived at that time and still lives, he could be asked.

I: If no such person is found?

R: From the books, - but if I wouldn't trust them - -

I: Where did the writers find the information? Where do they work?

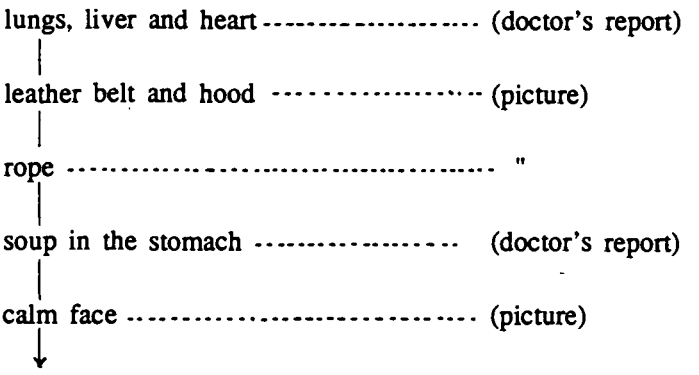
R: Right on the spot. But who started the war - no such information is there at the place.- - If one would like to know something else about the war, one would find objects, one would go to the place.

No clear idea of a distinction between the first and the second hand evidence was present in the protocol. Eventually a notion of concrete places and objects as the ultimate evidence was expressed.

evidence (is concrete)

In the projective exercise of the Tollund man there were both concrete evidence (pictures), a document with physical concrete content (doctor's report and the short reports of other findings) and second hand evidence (Tacitus). Alltogether 8 out of the 31 analytical respondents used merely concrete evidence in their reports. For instance, a respondent (4) selected and organised her data and evi-

dence this way:



Her predication was the same as in the preceding protocol: evidence is concrete.

An atomistic, piecemeal treatment of evidence produced the following structure of a report 22:

spring-seed soup	->	a traditional dish
time of the death	->	(no conclusion)
Tacitus	->	man was a traitor
"	->	T. was an unworthy soldier
picture	->	buried in a bog
"	->	a rope around neck

The author did not bring together the testimonies of the soup, of the time of the killings and of the rope, but instead left them unconnected. His predication was

evidence (is atomic pieces)

Six protocols out of the 21 analytical ones implied, that evidence is adequate when derived from an authority. Pupils relied on their teachers and parents as paramount sources of information, as in the following protocol (11):

I: What would you do to check a piece of information in your book?
R: I could ask a teacher, or look in a dictionary, or ask my parents.

The predication was

evidence (is of authority)

6.3.1.2.2. Reconstructive Expressions

Recognition of a Reconstructive Expression

On the category-criteria, a reconstructive approach was recognised as in the following examples of a protocol and a report.

The main criterion of a reconstructive approach was a view of evidence as clues rather than as accomplished facts. Respondent 15 was thus considered reconstructivist:

I: Let us say that your history book tells you that Finland attacked Soviet Union in 1941, and you decide to check if that was so -
R: I would look at the memoranda and books, whether they say the same. If not, then they have a different opinion.
I: If you wouldn't trust books, would there be a way to find the genuine original information?
R: Of 1941 and all that?
I: Yes.
R: Well, from documents, old ones - perhaps not. If no papers are found, then not.
I: Did you say from documents?

R: They might have something on it.
I: Would it be so, that if you only collect the remains, you would know, what they thought?
R: Not only that; you have to think yourself, too.
I: Imagine?
R: Yes.

The respondent first acknowledged the element of 'opinion' in a second hand evidence, and secondly, saw documents as material of reconstructive thinking. Another respondent (17) knew how to be constructive about books: "I would read many books and then construct my own opinion." He also included 'imagination' in the process. The next respondent (27) hovered between an authoritarian and a constructive idea of knowledge:

I: If you would like to check something in your history book, where would you go and what would you do?
R: Well, I would look at other books and find out; ask people.
I: Who would you ask?
R: Mom and Dad.
I: If you wouldn't trust them but suspected that books, moms and dads have their own special views, and you really would like to find out, where would you go?
R: Plah - OK, I would first read many books, and then make inferences on how far they agree on matters.
I: What is the role of imagination in finding out about the past?
R: Fairly big, I think.

The respondent argumented for critical, ultimately reconstructive knowledge-retrieval in history.

The main criterion of a reconstructive expression in a **report** was, that the evidence was dealt with holistically, looking for a core of 'meaning' in it. In the following report (2) evidence was selected to support a sacrifice-theory, around which a holistic narrative was written. The meaning of the evidence was interpreted using the theory:

.....
"One year the tribe had a poor crop and they thought they had offended Mother Earth. They considered that a sacrifice would

bring them luck. They chose this Tollund man, as he was a prestigious person among the tribe, a warlord perhaps. As Mother Earth was the god of spring and crop, they offered him in the spring. He was given soup, which was made of rare wild seeds. It was meant to be his best and last meal. They clad him with a belt and a hood only, on two reasons:
a) he was to be as close to the soil as possible
b) it was the best dress among the tribe.
Then a fear grabbed the man: he was to meet Mother Earth. He fled, but was caught and dragged back by a rope.
He calmed down, as he was to save the village. He was laid, still alive, in a bog and covered by peat. He died and was in the course of time buried by the bog."

The interpretation of the meaning of the soup, the dress and the rope was sensible and credible. The Tollund man's last sentiment of resignation was reconstructed on the basis of the expression on his face.

A reconstructive approach can carry a historian away from the evidence. For instance, in the case of the suicide story quoted previously (respondent 50, p.138) the dramatic interpretation was not evidentially founded. In the expression above (2) the author, however, referred to the historical sources as faithfully as any analytical author. The difference of approach lay in the way evidence was considered, as facts or as expressions of thought.

The number of reconstructive reports was 20/51 and the number of protocols with the same approach 30/51. (Table 11.)

Predicate-Attribution to Reconstructive 'evidence'

The following respondents (23, 24, 29) acknowledged the fundamental role of the first hand evidence, in their answers to the question "how is the historical knowledge derived?":

"From the artefacts by means of imagination."

"When they find some ceramic pots they learn about the craft

and about what they did there, and such things."

"One could check in the census files, where people used to live, and then study the place, what kind of environment; and through that one could see what kind of life they spent."

The respondents did not expect evidence to give facts ready, but instead considered it as the basis of reconstructive thinking:

evidence ((is first hand evidence which (is used for reconstruction))

The predominance of concrete 'evidence' was stronger among the reconstructive than among the analytical expressions in protocols. In altogether 19 out of 30 reconstructive expressions only concrete 'evidence' was acknowledged.

evidence (is concrete only)

Authentic places were found to spur historical imagination by respondent 4 as well as by 10 others:

....

I: Is it easy to imagine being somebody from another time?

R: Not very easy if one can't concentrate. But when one is in such an environment or in a museum, if there is an atmosphere, one really can imagine it.

The sense of authenticity was present in the protocol. Here authenticity was of a different significance than in the previous analytical context. The former used authentic remains for reconstruction of past thoughts, while for the latter 'authentic' implied reliability as such.

evidence ((is authentic which (is imagination-provoking))

The constructive nature of the historiographical process was portrayed by respondent 18 in the following way:

I: How is the historical knowledge derived?

R: The historians create knowledge. They can research what other people have said, the old ones. Then they study historical inscriptions and places and remains and all evidence and that. It is not only tradition, it is all kinds of other things, too.

This predication satisfied the main 'a priori' criterion of the reconstructive approach:

evidence (is constructable)

In the **reports** the reconstructive approach appeared as a subordination of single pieces of evidence to the leading theme of interpretation. A respondent (45) found the lonely bog as a burial place to be the most striking piece of evidence. He constructed a meaning of 'frightfulness' to the bog, and then used his imagination to develop the meaning further: a bog was a place of demons. This was a belief of the Tollund people, and their actions were guided by it. The whole construction of the Tollund case consisted of the following clues subordinated to the meaning of the bog (the corresponding source of evidence is in brackets):

demons of the bog.....	(picture)
↓	
young men sacrificed.....	(doctor's report)
↓	
ritual soup.....	(")
↓	
ritual nakedness.....	(picture)
↓	
hanging in the bog.....	(")

The pieces of the evidence were interpreted through the demon-theme. The use of evidence was very different from the piecemeal treatment of evidence by the analytical authors, who made separate conclusions from atomic pieces of evidence.

evidence (is meaning-loaded)

The meanings were attributed to evidence by means of reconstructive thinking, which involved building a hierarchic whole of meanings expressed in the evidence.

evidence (is hierarchic)

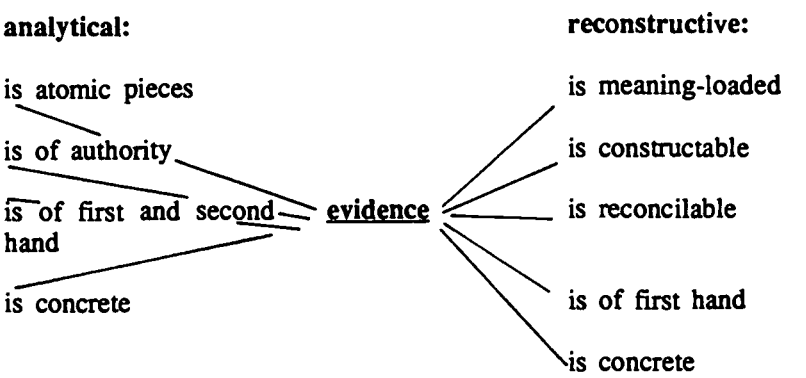
The hierarchic approach also solved the problem of contradictory evidence. As an example, the respondent 26 chose a theory of Tollund man as criminal, basing it on Tacitus, and then subjected to it the contradictory evidence by the picture of an innocent-looking, undressed person. According to his reconstruction the man was poor, therefore a thief by accident and a victim of cruel laws. The respondent thus considered controversial evidence not as false but rather as reconcilable by interpretation.

evidence (is reconcilable)

To sum up, the predicate-attribution to 'evidence' by the research persons varied between analytical and reconstructive approaches as shown in Figure 7. Also mutually exclusive different predications concerning the same aspect appeared in the same category, like "is of authority" and "is concrete". Some of the 'a priori' predicates were explicitly instantialised in student expressions, as well as they were implicitly present in the categorisation of the expressions into "analytical" and "reconstructive".

One can see that the basic 'a priori' criteria of analytical and reconstructive approaches were acknowledged by the students. Only in the reconstructive expressions the first hand evidence was given a distinct position. In neither of the categories a full range of the essential kinds of evidence was presented.

Figure 7. Predicates Attributed to 'evidence' by Adolescents



6.3.1.3. Functional Inconsistency in Expressions about 'evidence'

Again, as previously with 'change' and 'cause', the research persons showed their Janus-faces as historians; they thought differently as interviewees and as practising historians in their reports (Table 10.)

Table 10. The Frequencies of Consistent and Inconsistent Adolescent Approaches to 'evidence' in Protocols and Reports

N=51

	analytical in report	reconstructive in report	Total
analytical in protocol	14	7	(21)
reconstructive in protocol	17	13	(30)
	(31)	(20)	(51)

Table 11. The Frequencies and the % of Analytical and Reconstructive Reports and Protocols

	analytical	reconstructive	Total (%)
report	31 (61%)	20 (39%)	51 (100)
protocol	21 (41%)	30 (59%)	51 (100)

Alltogether 17 research persons expressed reconstructive notions in the interview, but still resorted to an analytical piecemeal use of evidence when writing a report. The inconsistency can possibly be credited to the research situation, where time might have been short for reconstructive thinking, or to a genuine preference for the analytical mode in the students minds, even if that preference was defied in the explicit expressions in the 17 interviews.

The spontaneous nature of the conceptualisation rules here as well as with the previous concepts. The students had a spontaneous idea of both approaches but were ambiguous about them and thus could use any of them.

6.3.1.4. Summary: The Adolescent Conception of 'evidence'

The student reports and protocols were in this study investigated with a crude frame of two contrasting 'a priori' approaches to 'evidence', the analytical and the reconstructive. The first meant here a notion of 'evidence' as facts, to be treated atomically, and the second meant a notion of 'evidence' as expressions of meaning, to be treated interpretatively.

Both approaches were supported in the case. The analytical approach was seen in the protocols as a reliance in second hand evidence and as a view of information being collectable as such from different

sources. The reconstructive approach was found in the student protocols to imply a view of the historian's craft as construction of meaning around authentic concrete remains of the past. The analytical approach dominated the projective reports written by the students.

Predication of 'evidence' differed from the analytical to the reconstructive expressions. The analytical 'evidence' was attributed by predicates like 'is first and second hand', 'is from an authority' and 'is a sum of pieces', whereas the reconstructive notion was predicated as 'is first hand', 'is constructable' and 'is reconcilable'.

The meaning of 'evidence', as it appeared among the adolescents in the case, was further illuminated by the study of the concept of 'interpretation' in the chapter 6.3.2. The preference for the analytical approach when writing reports was discussed there.

6.3.2. Conceptions of 'interpretation'

6.3.2.1. The 'A Priori' Categories of 'interpretation'

The concept of 'interpretation' refers to the process between the establishment of the authenticity of evidence and the achievement of a historical fact. Most facts in history include interpretation. Interpretation is required to make evidence historically intelligible.

'Evidence' and 'interpretation' are interrelated. If 'evidence' is seen as facts, 'interpretation' means selection and comparative analysis of them. If 'evidence' is seen to include meaning, interpretation is a qualitative, imaginative process.

As with 'evidence', the dimension of the 'a priori' meaning of 'interpretation reached from an **analytical** to an **reconstructive** approach. The two approaches were for the purposes of the analysis of adoles-

cent protocols and reports elaborated into two broad contrasting categories, on the basis of the previous criteria of analytical and reconstructive 'interpretation' (see p.78). The criteria were further modified to facilitate the categorisation of the reports. (Table 12.)

Table 12. Criteria of Two Categories of Approaching 'interpretation'

1. Category: Analytical	2. Category: Reconstructive
interpretation is observation of facts in evidence	interpretation is setting questions to evidence to construct facts
interpretation is analysing (compiling and comparing) evidence	interpretation is reconstructing the internal meaning of the evidence
interpretation is inferencing on evidential facts towards a generalisation	interpretation is using imagination and pursuing empathy with the agent
(for reports:)	
interpretation is using evidence as indicia	interpretation is reconstructing an agent's thoughts and action
interpretation is connecting pieces of evidence by external criteria	interpretation is reconstructing a narrative or an insightful account of what happened
interpretation is inferencing from indicia towards a theory	

The adolescent conceptions of 'interpretation' were judged using the 'a priori' criteria. Also the expressions by the respondents about 'evidence' were used to support the judgment concerning 'interpretation'. The two concepts were categorised together, as an approach to 'evidence' implies a related approach to 'interpretation'. The special elements of the meaning of 'interpretation' were then studied apart by predicate-attribution.

6.3.2.2. Adolescent Approaches to 'interpretation'

6.3.2.2.1. Analytical Expressions

Recognition of an Analytical Expression

On the category criteria, an analytical approach was recognised as in the following examples of a protocol and two reports.

In the **protocol** below, a respondent (30) firmly supported a straightforward recording of facts from evidence:

.....

I: How much would one need imagination [to know what people in the past pursued]?
R: Not much, really.
I: You get it directly from the sources?
R: Sure.
I: And if you had to [use imagination], would it be easy or difficult?
R: Fairly easy, I think, as they had a similar nature, I guess.

The respondent saw no complications arising from the contextual nature of evidence; evidence was intelligible, as human nature was unchanging. Therefore deriving facts from evidence would be just compiling them.

In the following **report** a research person (5) used the method of

compilation, picking and organising pieces of evidence and refraining from their contextual interpretation:

> "The man was found in the Tollund bog in 1953. Thereafter he has been called the Tollund man.
> The man had been in the bog for 2000 years. The man belonged to a tribe, which every spring offered a man to a god. The offering ceremony included a certain meal, a spring seed soup which had been made for this occasion. The man, when sacrificed, had only a leather hood and a belt on, for the rest he was naked. He lay on a thin layer of moss, which dated back to the early iron age. Around his neck he had a rope to help to drag him. He had marks on his neck. The man had been poor and offered to God according to old traditions."

After a compilation of a few unconnected pieces of evidence, some of which the author used as indicia (the soup, the rope), he produced a hypothesis of the case.

Another author (16) produced stronger indicia and a more compelling theory of the case by his analysis, which was started by setting questions to the evidence:

> ".....The man had thus been hanged and dumped into a bog....but why? An article by the Roman Tacitus has been found. According to it the traitors and the deserters are hanged in trees. Cowards, bad soldiers and big scoundrels are drowned in bogs. The man has been a scoundrel and was killed in a due course. He had eaten spring soup.....In a few other cases men have also been found hanged and drowned, with spring-seed soup in their stomachs. They have had soup for some special reason, or perhaps it has been given to those who were to be killed, and wanted to be better persons to be offered instead."

The two reports represent two kinds of analytical approach: the former is evidential objectivism, where interpretation is cautious and the final account merely factual, whereas the latter is already critical rationalism, where a theory was used to illuminate, select and make sense of

the evidence. The author of the latter report analysed the second hand evidence (Tacitus), made an inference on the basis of it and of a comparable first hand evidence to produce a tentative theory, which then was compared to other indicia.

Due to the integrated categorisation, the numbers of the analytical expressions in the protocols and the reports are the same as those of 'evidence', 21/51 and 31/51 (Table 11.)

Predicate-Attribution to Analytical 'interpretation'

In the two reports above, the research persons refrained themselves from any imaginative insight into the past persons' acts and instead restricted their interpretation to inferencing. This principle was also explicitly expressed in protocols by students (11, 42).

interpretation (is inferencing)

Respondents 21 and 42 further stated, that imagination and truth are incompatible:

> "Partly they [history books] might be imagined, but most is surely established by research. Here and there one has to add something imagined, as all cannot be found out by research." (21)

The prerequisite of a true interpretation was according to the respondent a critical process, imagination being just a poor substitute for it.

interpretation (is critical)

Accordingly, a total of 12/23 analytical respondents in their protocols mentioned sufficient information as the prerequisite of adequate interpretation of evidence. "A terribly wide knowledge" was required, for instance, by the respondent 39.

interpretation (is information-based)

Two respondents (38, 40) were tempted by the method of natural sciences, as far as to resort to physical experiments. An experiment with a rope was in fact conducted by one group in the classroom, to prove that a rope could get coiled when a hanged person fell down.

interpretation (is experiment-testable)

In altogether 13 **reports** the emphasis of the interpretative process was clearly on comparison and generalisation. The respondents made comparative observations of the two respective bog men, portrayed in the evidence, and produced a generalisation of the bog men, as in the report 42:

> ".... The men have most likely been offered to the god of spring, concluding from the season. Burying took place in bogs. The sacrifices went to bogs voluntarily, as no signs of violence were seen in the bodies...."

The text implied two predicates: one concerning the method, the other being about the purpose:

interpretation (is by comparison; is for generalisation)

Both predicates indicate the ideas of positivist social research, where the method is affected by the aim of achieving generalisations.

6.3.2.2.2. Reconstructive Expressions

Recognition of a Reconstructive Expression

On the category-criteria, a reconstructive approach to 'interpretation' was recognised as in the following examples of a protocol and a report.

The main criterion of a reconstructive method was constructivism: the

meaning of evidence was to be reconctructed. Respondent 36 told how to catch the thought behind action:

I: Do you find it easy or difficult to imagine how a past person thought?
R: It is easy at times. If one has collected information and can see the situation where they were. It is facilitated by thinking in the way that if I had been the leader during the war, so what I had done if they had attacked Finland.

The respondent presented the Collingwoodian re-enactment: being informed of the context, one can re-enact in one's mind the thoughts of a past.

Another respondent (10) was more extreme in his approach. On merely personal information he would achieve an understanding of the past:

I: Do you find it easy to get into how the past person thought?
R: It depends on the subject-matter. For instance, to understand what a hunter thinks when he sees a deer - that will work, but if it is a more difficult case - like the attitudes of hunters have changed.
I: What would one need in order to imagine?
R: It is difficult if one does not know what the person has been, let us say a thief, so one can think that he would think of picking a purse, - or a traitor, that he would betray one.

According to the respondent, one could re-enact the past person's thoughts by being informed whether he was a hunter or a thief, acknowledging, though, that the ways of thinking might have changed.

A nut-shell description of a critical process of constructive interpretation was given by respondent 23:

I: Is it easy to imagine how people thought before?
R: It is fairly easy, if one sees some of their things, so one can think what they did with them and then figure out more. Like coming to think further. Then one can eliminate silly ideas. Then it will a kind of a true story.

In reports the first criterion of a reconstructive approach was agent-centered interpretation. Instead of the indicia, used by analytical authors, the thoughts of an agent were pursued to make sense of the evidence.
In the Tollund reports the agent could be the man, the tribe or just a vague "they" meaning the community. In one case an empathetic author (6) wrote a "we" story. In the report below (29) both the thoughts of the Tollund man and of his killers were reconstructed:

> "The Tollund man was very happy to be offered to their God. Before the offering ceremony he had some soup which was made of all the spring plants and which was thought to promote the growth of the plants. For a whole day before the ceremony he fasted, hoping that his soul would get purified. As a ceremonial place they used a bog, as they thought the Spring God would like a place with decorative plants and lush surroundings.
> Around the sacrifice's neck they hang a rope, like also around his waist, to enable God to lift him to himself by that."

In the report every piece of evidence was given a meaning in a form of somebody's thought. The pieces of evidence, like the soup or the rope were interpretatively linked to hopes or beliefs, which made sense of the whole of the evidence.

The method the author used, is equivalent with what was said in the protocol 36 above about empathising with the past person to re-enact his thoughts. The author considered the contextual information of the meaning of sacrifice for the iron age community. Thus the Collingwoodian requirement of a critical nature of re-enactment was satisfied.

Predicate-Attribution to Reconstructive 'interpretation'

The key of a reconstructive approach was the role and nature of imagination. In some reconstructive protocols (24, 29, 49) imagination

was accepted without any reservations. Altogether 12 persons, however, saw interpretation as a critical process, emphasizing, that imagination was an adequate method only when conducted with a concern of contextual information:

> "One has to read a terrible lot" (2)
> "When one knows how it was one can think how it felt" (31)
>
> **interpretation ((is by imagination which (is information-based))**

For some respondents, less intellectually, it was not information but "junk" (12), "historical surroundings" (4) and "pictures" (25), which helped imagination. Their predicate for historical imagination was 'by visual contact'.

> **interpretation ((is by imagination which (is by visual contact))**

The possibility of a reliable re-enactment of past persons' thoughts was both doubted and supported by the respondents. The controversial issue of whether human rationality has stayed the same over time, was raised. Different views were presented:

> "I would guess we think in nearly the same way as before." (27)
>
> "If one first knows what year it was, so one can think to what year one should transfer oneself in order to be able to think." (37)
>
> "As one does not know what they thought. As one can't know on artefacts what they thought." (12)
>
> "They had nothing like what we have now, for instance. Other things were important." (17)

The both contradictory notions, first, human rationality as an unchanging property, and secondly, human rationality as a property subjected to change, appeared in the quotations above, and indicated the following predications:

interpretation ((is by re-enactment which (is based on unchanging human nature)

interpretation ((is by re-enactment which (is based on recognition of historical change in human nature))

One respondent (44) recognised a constant basic logic in human action, a logic which facilitated re-enactive thinking of what people in certain circumstances would have done:

I: Do you find it easy to figure out, how past people thought?
R: Well, it is fairly easy, if one for instance is told a story and has then to invent how it continued, so it is fairly easy to imagine, what possibly could have happened.

interpretation ((is imagination which (is by logics of human action))

Instead of imagination, respondents also used terms "concentrating" (4), "hard thinking" (15) and "discovering" (23, 37) when referring to the process of reconstructing past persons' thoughts. They wanted to avoid the connotation of fantasy in 'imagination'.

Also the use of imagination in filling the gaps in evidence and integrating the data was present in protocol 18:

I: How far do you need imagination?
R: A little, to bring things together, to make it a whole. If it is something exceptional from normal, it has to be connected to something. It is hard to explain.

interpretation ((is imagination which (is to integrate the evidence))

Instead of generalising statements, the reconstructive author above pursued a deep integrated theory of a single case.

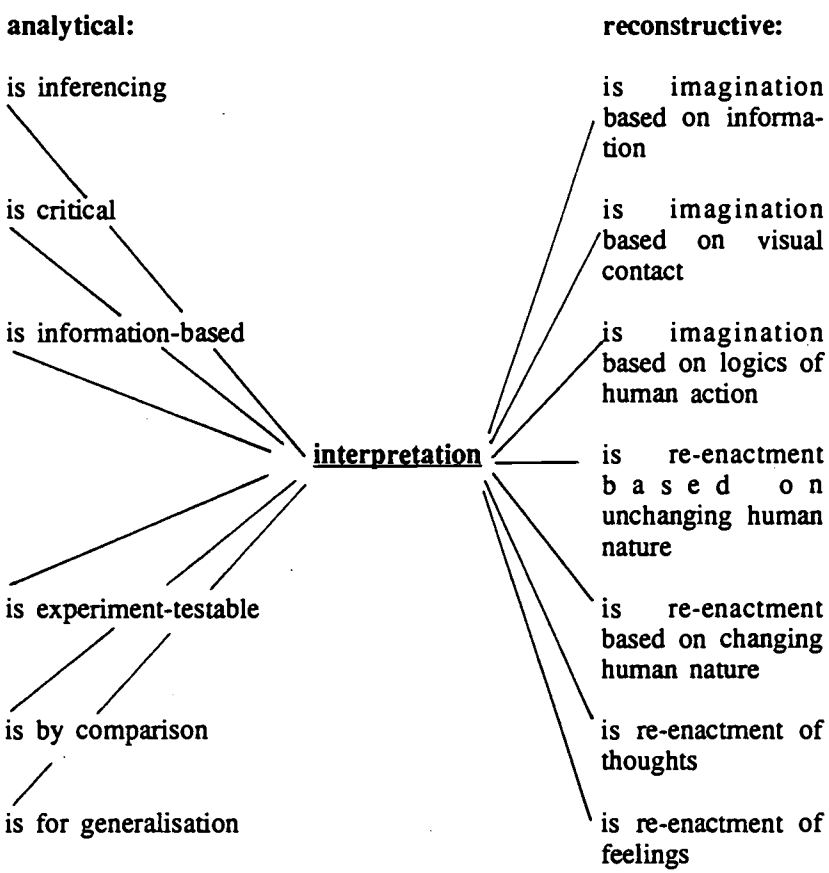
In the reports the extension of reconstructive 'interpretation' included reconstructions of both rational thoughts and belief-systems (see report 29, p.170) and irrational fears and other feelings (reports 17 and 50). The latter, empathetic kind is a controversial isssue in the theory of history; Collingwood considered such empathy not actually historical, as feelings can never be reliably re-enacted. The two predicate-attributions are as follows:

interpretation (is re-enactment of thoughts)
interpretation (is re-enactment of feelings)

To sum up, the adolescent predication of analytical and reconstructive 'interpretation' was portrayed in Fig. 8. The predicates coincide with the previous 'a priori' criteria. Thus the spontaneous adolescent expressions, in their way, instantiate components of the main prevailing theories of the nature of the epistemology of history.

One can see that among the reconstructive predicates contradictory and mutually exclusive conceptions appeared, concerning historical imagination and re-enactment (unchanging/changing human nature; thoughts/feelings). The concept of reconstructive interpretation seemed thus to be vague among the adolescents.

Figure 8. Predicates Attributed to 'interpretation' by the Adolescents



6.3.2.3. Summary: The Adolescent Conception of 'interpretation'

The functional inconsistency about approach in protocols vs. reports was pointed out in the connection of the first epistemological concept 'evidence'. The comments made there concern the inconsistency about 'interpretation' as well. As with 'evidence', the reports were by many respondents (Table 10; Appendix 3) analytical even when the approach expressed in the protocol was reconstructive.

A prominent finding concerning the research case was the lack of reliance on the reconstructive method of writing narratives around a historical agent. The narrative reports were few. The adolescent expressions were noticably evidential and critical.

The critical approach was presented by the predicates of 'interpretation' in both analytical and reconstructive expressions. 'Information-based' was a widely supported predicate. In the reconstructive expressions it was attributed to the method of imagination. Many doubted re-enactment in the Collingwoodian sense, considering human nature too changing to be re-enacted. Though classical "hermeneutism" thus was not popular in the case-group, still in some reports past fears and hopes were reconstructed.

The analytical authors in their reports searched indicia by inferencing, whereas the reconstructive reporters established an agent - or agents - and reconstructed his thoughts from the evidence. The former tended to produce general theories by means of comparison, whereas the latter could write narrative single theories of the Tollund case.

6.3.3. Conclusion: The 'A Priori' and the Juvenile Approaches to Historical Interpretation Compared

In this study the concepts 'evidence' and 'interpretation' constituted the tenets of historical epistemology. They were supposed to cover the historical material and the ways of dealing with it. The way a person approaches them constitutes his epistemological view of history.

In physical sciences a student observes, quantifies and infers, to derive knowledge. In history one instead interpretes fragmentary evidence which implies subjective meaning. The two worlds have come closer concerning their theories of knowledge, but the distinction can be made in the ways they approach their study material. In the theory of history, assimilationists consider the analytical method of sciences to be the only reliable method, whereas autonomists acknowledge the

reconstructive method.

The above distinction could be made in the spontaneous juvenile expressions of history in the case. "The assimilationists" used the analytical method, when "the autonomists" reconstructed meanings by past persons from the evidence. The distinction was, however, partly distorted by the inconsistency of spontaneous concepts between protocols and reports.

The closer study, conducted by means of predicate-analysis, revealed that in analytical expressions 'evidence' was seen as a straight-forward testimony of what happened, regardless of whether it was first or second hand evidence. Here the adolescents presented a deficiency in their understanding of a historical process; among the expert historians a definite difference in the treatment of the two kinds of evidence is made, independently of whether one is analytical or reconstructive in one's approach.

In analytical expressions evidence could be handled piecemeal but also hierarchically using a theory to organise the evidence.

The reconstructivist expressions among the adolescents in the case were not extreme. As a rule imagination was accepted only when founded on information. Doubts were expressed about the intelligibility of human nature in the past. The pupils were also hesitant to construct narratives, even when they had expressed hermeneutist views when interviewed. This ambiguity was creditable to the unestablished, unstable nature of spontaneous conceptualisation.

As a whole, a hypothetical statement could be made, that adolescents were more at home in the analytical approach. Whether this is due to influence from the physical sciences, cannot be judged in this case. Instead of personalising things, as Piagetian research would have anticipated, in this research case the adolescents seemed to mechanise human stories.

7. The Cognitive Level of the Attainment of 'change', 'cause', 'evidence' and 'interpretation'

The research persons' expressions in reports and protocols, beside their form of historical knowledge, were also studied in regard of the cognitive level. The 'a priori' levels of conceptual consciousness were set in chapter 5.

Would a level of consciousness have qualities that would account for an adoption of a certain meaning of a concept, e.g. would a high consciousness of 'cause' be accountable for causalism? The idea of an explanatory connection between cognitive properties and ways of making sense of things was supported by Piaget (1983/1929, 207-253), who concluded that children until the age of 10 -12 applied the intentional mode of explanation to both human and natural phenomena, as they were naively animistic and also incapable of conscious distinctions between different areas of knowledge. Bruner (1984, 97-111) and Egan (1985, 157-158) on the other hand, defied the idea of intentionalism being due to a low cognitive level but instead being a form of explanation in its own right (see chapter 5).

Carey (1985, 174) brought Piaget's and Bruner's views together by her conclusion that cognitive development leads towards differentiation of modes of knowledge, so that on a high level of consciousness a person would explain phenomena and derive knowledge of them in domain-specific ways.

Campbell's and Bickhard's (1986, 16 - 24) ideas of levels of con-

sciousness were in this study elaborated to meet domain-specific, and further concept-specific demands. Then the levels of juvenile conceptualisation were studied in order to see whether a cognitive level would imply properties that would explain an individual's approach to history, i.e. whether there was a logical connection between the level and the approach in individual expressions. A mere functional co-occurrence of the two was not considered as a proof of a connection. The conclusions concerning the connection were single theories of the research case only.

7.1. The Method of Judging the Cognitive Level

Stages of reflective abstraction and resulting consciousness are not operationalisable, as the properties included are mostly not expressible in behavioural terms (Campbell & Bickhard 1986, 22-24). However, functional criteria had to be found to judge consciousness.

Consciousness as a criterium of cognitive level was described in the previous chapter 5 (p. 98) in terms of two main criteria,

- an ability to make explicit propositions of the approach and the predicates of a concept
- an ability to differentiate the concept in regard to its predicates.

The three 'a priori' cognitive levels derived from the above properties were as below:

level 1	Recognition of the concept, shown in the abilities of making a propositon of it and of using it as an organising principle in an account.
level 2	Differentiation of predicates of the concept
level 3	Tentative and argumented propositions of the

concept, of the theory-approach and of the extension-predicates

In interviews the subjects expressed the cognitive levels of the concepts more explicitly than in reports. In a report the level was judged on how the content was organised in regard to a certain concept. The 'a priori' levels were moderated for each concept, for reports and concepts separately.

The cognitive level of a concept in an expression by a person was finally judged on the protocol and on the report together.

7.2. The Cognitive Levels of 'Change'

7.2.1. The Criteria and Occurrence of the Cognitive Levels of 'Change'

A prerequisite of understanding change is a grasp of 'now' and 'then', 'before' and 'after'. Piaget (1928) in his early research judged the pre-adolescent concept of time to be restricted to a narrow 'ad hoc', 'here and now' view. On the other hand, if conceptualisation was seen as a contextual process, the acquisition of a concept depended on individual experience and context and could well in pre-adolescense surpass 'here and now'(Vygotsky 1987/1934, 38 ff.; Voutilainen & Mehtäläinen & Niiniluoto 1989, 173).

Concerning, for instance, the determinist/indeterminist dimension of the meaning of 'change', **Karlegärd**'s (1986) preliminary research would indicate that one's approach depends on the cognitive level; the 9-year-olds supported indeterminism where young adults were determinist. **Shemilt** (1980, 33-35) studied the understanding of 'change' as a variable depending on adequate education. According to his frame, determinism was an indicator of a low-level cognition.

In this study, the concept-specific levels of 'change' were elaborated using the 'a priori' criteria of the levels of consciousness as the basis. These were first used to pick empirical examples of the levels, which

were then analysed to make the concept-specific level-criteria.

The first level. The first empirical example (respondent 35) was according to the general level-criteria, analysed to present the 1st low cognitive level, because of a lacking differentiation of the concept:

> "The mummy was found in a bog, which was peculiar. All the victims were of the same age, which also was peculiar, and all had had the same soup and their nails were manicured, and there were cases in different countries."

A time perspective was virtually nonexistent in his report. The only indication of a sense of changing times was the characterisation "peculiar", which meant "different from things now". No predicates were attributed to "peculiar".

In the protocol the respondent failed to attribute any substantial meaning-predicates to 'change' and was not consciously stable in his approach (determinism/indeterminism) to the concept:

I: (referring to the question sheet) You chose "Somebody can still find himself in the same position as the Tollund man". So the world has not become more secure?
R: Sure it has, a little.
I: Is that a kind of a law of development?
R: In a way. All the time everything is developing.
I: Can a single man affect that development?
R: If he invents a miraculous miracle.

The properties found in the examples were used to elaborate the general criteria of the consciousness of 'change' further towards the data of the case. Thus the following criteria of the first, lowest level of the attainment of 'change' were derived:

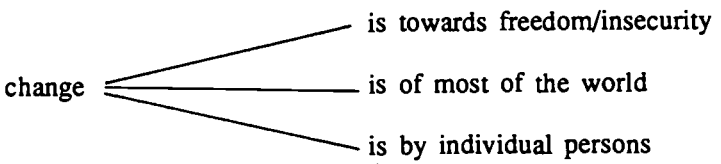
report:	protocol:
happening linked to a time	concept 'change' distinguished, by making a proposition of one predicate of it

The second level. The next respondent (9), judged on the general consciousness-related criteria to represent the 2nd level, stated in his **report** a theory of the Tollund man as "one of the ancient poor". Then he predicated the 'ancient poor' with a historical condition 'slavery'.

In the **protocol** the differentiation of the concept 'change' was shown by the attribution of several predicates, concerning the direction, extension and agency of change:

I: (referring to the question sheet) You chose "The world is getting safer". You think that is a universal development?
R: In some matters. But in armaments they go a wrong direction.
I: In general, is there a kind of law -
R: Some things progress, some do not.
I: What about all of the world, would you say that -
R: Sure the most of it progresses, at least. A minority perhaps not.
I: Would you say that the world of the Roman empire was worse than the world today?
R: Sure, it was a harder time. Now it is much easier. There they had lots of prohibitions about doing this and that. Now it is easier.
I: Would that be like the law of gravity in physics? How far would singular men affect change?
R: Sure they would to some extent. In a way of - supporting another person.

The predication was as below:



Despite the advanced differentiation of the concept, the predication lacked hierarchy and therefore only satisfied the 2nd level. The elaborated criteria for the second level of 'change' are thus as follows:

report:	protocol:
consciousness of 'then and now' differentiation of how time affects life	propositions of several predicates; abstract covering predicates (e.g. security)

The third level. The respondent 8 met the cognitive requirements of hierarchy and tentativeness in conceptualisation. He started his **report** with the time, subjected hierarchically a belief-system to the time and finally the personal aspirations to the beliefs:

time-period
↓
belief-system
↓
expectations of benefits of sacrifices

In the **interview** the respondent was tentative about his predication of 'change':

I: (referring to the question sheet) You chose "A judge would not sentence people that way any more, etc". Would this mean a law of development towards better security?
R: There is more security in the sense that no tribe is likely to have such customs, unless perhaps on some distant islands.
I: Would you consider that these distant islands, too, develop towards security?
R: Yes, they attain new customs, more developed customs.
I: Is the development always for the better?
R: Not inevitably. For instance, arms-race is a wrong direction.
I: Can a private person affect such development?
R: Not as a private person, but with other people, one can start a movement.

The proposition "there is more security" was made tentative first by referring to territorial differences and then to a presence of harmful occupations. The predicates differentiated the concept adequately.

The elaborated criteria for the 3rd level of 'change' are as follows:

report:
notion of time as hierarchic, integrated structure, with certain predicates predominant

protocol:
tentative propositions about determinism/indeterminism

To sum up, the elaborated criteria of the three cognitive levels of 'change' were brought together in Table 13.

Table 13. Criteria of the Cognitive Levels of 'change'

REPORT	PROTOCOL
level 1	
happening linked to a time	concept 'change' distinguished by making a proposition of one predicate of it
level 2	
consciousness of 'then and now'; differentiation of how time affects life	propositions of several predicates; abstract covering predicates (e.g. 'security')
level 3	
notion of time as a hierarchic, integrated structure, with certain predicates predominant	tentative propositions about determinism/indeterminism

The following extra criteria indicate an ascent to a higher level:

- reflective language (e.g. "I doubt...", "I conclude..."
- conceptual and functional consistency about the approach, specially about the agency of 'change'

Using the above criteria the individual responses were evaluated in regard to their cognitive level (see Appendix 3). (If there were several criteria of one level, only one of them was required to satisfy the level.) Then the cognitive levels were cross-tabulated with the approaches concerning the meaning of 'change'. (Table 14).

Table 14. The Frequencies of Determinist, Indeterminist and Inconsistent Adolescent Approaches to 'Change'on the Different Cognitive Levels

N=51

	determ.	indeterm.	inconsist.*	Total
1st level	5	1	8	14
2nd level	4	3	15	22
3rd level	9	1	5	15
Total	18	5	28	51

*inconsistent = approach differs from protocol to report

7.2.2. How Far Does Cognitive Level Account for Different Approaches to 'change'?

Assuming that a higher level of conceptualisation means differentiation, the adolescent notion of 'change' should advance to be distinguished from the physical concepts of static states or the biological concept of evolution and turn into a genuinely historical concept, whether determinist or indeterminist.

In the research case all the cognitive levels proved to occur both with determinist and indeterminist approaches (Table 14). The existence of

functional connections can suggest some kind of a logical connection between a level and an approach. In order to find out whether there on different levels in the cognition were ontological qualities, which would be logically connected to certain approaches, four relevant combinations of juvenile conceptualisation were analysed:

low cognitive level connected to determinist approach

low cognitive level connected to indeterminist approach

high cognitive level connected to determinist approach

high cognitive level connected to indeterminist approach

The combinations presented the most illustrative cases from Table 14 to be further studied.

Low Cognitive Level - Determinist Approach

An example of the combination was portrayed on p. 180. Respondent 35, determinist both in report and protocol, was analysed as not having an advanced 'now and then' conceptualisation and thus no conscious concept of change in time. He was capable of recognising the concept, but could not substantiate his predicate 'is development'.

His expressions both in report and in protocol were determinist, but only in an unargumented and crude form of the approach. Because of the lack of consciousness he could have easily changed his mind about the meaning of the concept. Thus the determinist approach is not creditable to a low level of conceptualisation.

Low Cognitive Level - Indeterminist Approach

Respondent 17 wrote a short **report** telling that the Tollund man was murdered on his own request. There was no reference to time or belief-systems. The theory of personal feelings as a 'cause' was not

evidentially founded and could therefore not be differentiated.

In the protocol the conceptualisation had not reached a level of explicit propositions. The expression was vague:

I: Thinking of the whole world, is there a direction in its changes?
R: Some direction, I guess.
I: What could it be?
R: At present, you mean?
I: I see, you think it goes zig zag?
R: Uh? I don't know what to answer.
I: What is the direction now?
R: I don't know.
I: Is there more freedom or security than before?
R: Not really, not a lot. In some countries - in Finland maybe, but not in developing countries.
I: Can an individual affect developments?
R: If he does something big.

The respondent managed to attribute two predicates ("is territorial", "is by individual deeds") to 'change'. Thus he substantiated his indeterminist notion of 'change', which nevertheless was rather unconscious ("I don't know", "not a lot", "some").

The respondent's expression was marked off as indeterminist both in report and in protocol. The low cognitive level was not creditable for the indeterminist expression, in the sense that an indeterminist expression would have been easy to produce. The concept of 'change' was still vague, preliminary and most likely unstable.

High Cognitive Level - Determinist Approach

Respondent 8, quoted and studied on p. 182, argued with differentiated and hierarchic predicates, in both the report and the protocol, for linearity of development. She also made tentative arguments.

The hierarchy and systemacy in the respondent's thinking matched well with the orderliness of determinism, which with its linear patterns

and deducible schemas brings order into human happening. In this case the high cognitive level can ontologically be connected to determinist expressions. She took a determinist approach because of being organised and hierarchic in her thinking. This connection is known even from the history of historiography: in order to be scientific, the positivist historians in the 19th century turned to causalism and determinism.

High Cognitive Level - Indeterminist Approach

Respondent 13 based her report on a view of the Tollund man as a young deserter and used a rich structure of time-related predicates to make the act of desertion intelligible. In the protocol she consistently argued for uniqueness of all human happenings. She also told explicitly about her process of reflecting abstraction: "I have been thinking of this (what can happen to people)."

The differentiation of her thought was equivalent to the requirements of an indetermist explanation in history. Indeterminism implies that numerous interlinking singular phenomena constitute history. In this case a logical connection between the differentiated cognition and the indeterminist idea of 'change' can be suggested.

The suggested logical connection concerns the singular case only; as stated previously, indeterminist expressions in their crude form can also be present where the cognitive level is low. In its proper form however, an indeterminist approach requires capability of differentiation.

Conclusion

The analyses of the above examples would suggest, that both determinist and indeterminist expressions can appear on a high cognitive level, in a logical connection to it. Both, in their adequate forms, presuppose consciousness and differentiation. Determinist and indeterminist approaches in a spontaneous conceptualisation present thus

genuine intellectual choices, instead of being products of lacking or excelling thinking skills.

Only if determinism were denied as an adequate approach to history, and an indeterminist approach were held as a criterion of true historical thinking, could the latter be considered as a result of differentiation and maturation of the concept 'change'. This assumption was not, however, used in this study.

7.3. The Cognitive Levels of 'cause'

7.3.1. The Criteria and Occurrence of the Cognitive Levels of 'Cause'

'Cause' is beside 'change' an ontological concept required to make sense of the human world. The student perception of it as studied in chapter 6.2.2. included approaches from physico-scientific causalism to narrative intentionalism. The cognitive level of the juvenile 'cause' was presently studied in order to find cognitive qualities to account for the approaches to the meaning of the concept.

A preliminary cognitive prerequisite of historical explanation is a differentiation of 'event' or 'action' into 'why' and 'what'. Piaget (1965/1928, 7-13, 131; 1972/1957, 45) considered children as precausal because of their syncretic way of looking at action. A child before puberty could only see the consecution of action, not the logic of thought behind it. To the childish precausality he also credited intentionalism, which he found in juvenile explanations: children personalised things and thus used intentions as explanantes.

With a Piagetian frame **Halldén** (1986) studied teachers' and adolescent pupils' historical explanations, and found teachers being causalist and their pupils intentionalist and thus precausal.

Already Vygotsky (1987/1934; see here p. 89) questioned the Piagetian

idea of the superiority of deductive causes to intentions, but ultimately Bruner (1985) and Egan (1985 a) introduced the ontological variety of the meanings of 'cause' to developmental psychology. They considered an intentional explanation in humanities cognitively as mature as analytical explanations in sciences.

Shemilt (1980, 12; 1983) proved empirically, that it was easier for children to perceive a physical causalist 'cause' than intentions of human action. They resorted in applying causalist explanations to human action. Same has been found by **Dunn** (1988, 23).

Thus in this case study a question was set: would causalist causes in history, by adolescents, be cognitively inferior or superior to the intentionalist causes?

As the starting point the previously established criteria of general cognitive levels, concerning the recognition and differentiation of concepts, (p.98) were used to survey the reports and protocols and pick up examples of the levels. Then the 'cause'- specific levels were elaborated.

The first level. Respondent 43 in her **report** was judged to lack both consciousness and differentiation of 'cause'. She unfoundedly credited the killing of the Tollund man to insanity of the killer, instead of making it intelligible in a context. 'Cause' was thus recognised, by attributing one predicate (disposition of mind) to it. The rest of the descriptive details in her story were not explanatorily linked.

In the **protocol** the respondent made one proposition of the concept:

> "I guess it is the doings of persons [that explains what happens to them]."

The predication was not further substantiated.

The elaborated criteria of the lowest, 1st level of 'cause', as deduced from the general level-criteria (p. 98) and substantiated by the ex-

ample, were as follows:

report:	protocol:
'cause' distinguished from happening; attempt to explain 'why'	differentiation of 'cause' and effect; explicit proposition of 'cause' including a minimum of one predicate

The second level. Respondent 4 in her **report** built a differentiated causation to her theory of the Tollund man as a sacrifice. 'Cause' was attributed with three predicates (beliefs, economic needs, historical age), which however were not connected to each other.

In the **protocol** the respondent, consistently with her report, referred to beliefs and customs as the explanans. Thus she also explicitly attributed 'cause' with more than one predicate.

The criteria of the 2nd cognitive level of 'cause', were elaborated as follows:

report:	protocol:
differentiation of causes or intentions	substantiation of proposition(s) by more than one predicate

The third level. Respondent 42 built his **report** on a covering law 'a community subjects its members to certain norms' and made the Tollund man into a voluntary sacrifice. The hierarchic chain of causation was as below:

a religious community
|
a cult of a spring-god
|
a sacrificial rite
|
↓
a voluntary sacrifice by a member

The respondent connected the predicates to each other by explicit 'because' and 'therefore' conjunctions. Thus he explicitly argumented his causation.

In the protocol the respondent consciously portrayed his causalist model of explanation:

I: (referring to the question-sheet) You chose "The religious customs of the time". If you would like to know why somebody in this town is a tramp, would you study the circumstances or the man himself?

R: I guess, first, the environment, how it affected him that he started drinking, if there were some pressures or else. Then I would ask himself, what affected him, or if he started to drink just like that.

The respondent, apart from argumented propositions, also managed to distinguish explanation from moralising. 'Cause' was predicated by hierarchic predicates 'is external' and 'is compelling'. The subpredicate 'is compelling' was attributed tentatively.

The elaborated criteria of the 3rd cognitive level of 'cause', substantiated by the example, were as follows:

report:	protocol:
a hierarchic chain of causes or a coherent intentional account; logical causation	argumentation for the proposition(s) about 'cause'; an explicit account of a process of explanation

To sum up, as a result of deducing properties from the general criteria of the three cognitive levels of conceptualisation, and of analysing the examples above, levels of 'cause' to judge reports and protocols were portrayed in Table 15.

Table 15. Criteria of the Cognitive Levels of 'cause'

REPORT	PROTOCOL
level 1	
'cause' distinguished from happening; attempt to explain 'why'	differentiation of 'cause' and effect; explicit proposition of 'cause' including a minimum of one predicate
level 2	
differentiation of causes or intentions	substantiation of proposition(s) by more than one predicates
level 3	
a hierarchic chain of causes or a coherent intentional account; logical causation	argumentation for the proposition(s) about 'cause'; an explicit account of a process of explanation

Following criteria further indicate an ascent to a higher level:

- historicity (linking to a historical age) of causes or intentions
- substantiation of the predicates with real phenomena
- consistency between report and protocol

On the above criteria the reports and the protocols of the case were evaluated. Even if there were several criteria for one level, only one of them was required to be met to qualify an expression for the level. The cognitive levels were cross-tabulated with the approaches to the meaning of 'cause' (Table 16)

Table 16. Frequencies of Causalist, Intentionalist and Inconsistent Adolescent Approaches to 'cause' on the Different Cognitive Levels

N=51

	causal.	intent.	inconsistent*	Total
1st level	1	2	12	15
2nd level	8	2	13	23
3rd level	8	3	2	13
Total	17	7	27	51

*inconsistent = approach differs from report to protocol

7.3.2. How far Does Cognitive Level Account for Different Approaches to 'cause'

In the research case all the cognitive levels occurred both with causalist and intentionalist approaches. In order to study the logical connection between the cognitive performance and the approach to the meaning of 'cause', the following most illustrative combinations were analysed:

low cognitive level connected to causalist approach

low cognitive level connected to intentionalist approach

high cognitive level connected to causalist approach

high cognitive level connected to intentionalist approach

Low Cognitive Level - Causalist Approach

Respondent 41 used in her **report** a covering law of 'religious beliefs caused killings of people' to deduce the cause of the event: the Tollund man was killed by force; ergo: he was sacrificed. The inferencing was not very evidential and thus lacked any wider explanatory context. The inferencing reminded of a physical causalism: if a certain pressure causes an explosion as a rule, this will apply in all cases.

In the **protocol** she could not make an explicit distinction between intentional and causal explanations.

Even though the causalist approach was not consciously acknowledged by the respondent in the protocol, it was too well established in the report to be just casual. For her, 'cause' had a causalist meaning. The requirements of causalism could be satisfied on a low level of consciousness.

Low Cognitive Level - Intentionalist Approach

Respondent 43 quoted previously (p.189), with her insanity-theory and her notion of the decisive role of personal doings in one's destiny, was judged low to the cognitive level of her expression. Her explanation in the **report** was not contextual, presenting a simple structure 'feeling ----> act'. Simple personalisation instead of a thoughtful contextualisation was easy. The respondent also left her proposition of 'cause' in the **protocol** unpredicated.

Thus a low level conceptualisation accounts for an intentionalist approach in this case.

High Cognitive Level - Causalist Approach

Respondent 42, quoted on p. 190 proved able of a hierarchic chain of causation and of making an explicit proposition of 'cause' with a tentative argument for it.

In the **report** the respondent used the historical context to predicate 'cause' hierarchically, with the last link in causation being a manipulated will of the subject. In the **protocol** the respondent managed to make his causalist predication tentative by considering the intentional alternative. The causalism of this respondent was not simple stereotyping of phenomena but a contextually elaborated covering law approach.

In this case a high cognitive level was ontologically connected to a causalist approach. The differentiated structure of thinking produced a causalist explanation of the historical case.

High Cognitive Level - Intentionalist Approach

Respondent 16 based her **report** on the personality of the Tollund man, judging him to be a scoundrel. This judgment was logically linked to a chain of factors in her narrative, all of them evidentially based. The narrative thus carried a plenty of organised contextual information in it, as a rich predication of 'intention'. The narrative made sense of the Tollund case in a coherent way.

In the **protocol** the respondent made an explicit proposition of 'cause' as intention, attributing two predicates to 'intention':

> 'cause' ((is intention which (is a product of personality; is a product of what a person did before))

In this case a conscious pursuit of making sense of the problem

produced an intentionalist approach to 'cause'.

Conclusion

In the analysed example of a low cognitive level the subject could not produce an intentional account of any historical relevance. Only simplistic quasi-intentionalism was presented. In the second example of low cognitive level, a causalist approach was used, and, even though historically thin, the causalist statements were still formally proper.

Thus the intentional mode required high cognitive consciousness, whereas a causalist mode did not. Only causalist explanations worked properly on a low level.

On the other hand, a conscious, differentiated conceptualisation was in the examples connected both to intentionalist and to causalist explanation. Both modes appeared on the high level of thinking.

7.4. The Cognitive Levels of 'Evidence'

7.4.1. The Criteria and Occurrence of the Cognitive Levels of 'evidence'

'Evidence' together with 'interpretation' are epistemological concepts which constitute the 'how do we know' of history. The student conception of the nature of 'evidence', as it was studied in chapter 6, varied from an analytical approach ('evidence' as facts) to a reconstructive ('evidence' as meaning).

The cognitive level of the juvenile conception of 'evidence' was studied in order to find out whether it would be accountable for an

approach a person takes to a concept.

Both **Piaget** (1965/1928, 23; 1933, passim) and **Vygotsky** (1987/1934, 18-19) rejected a pre-adolescent critical sense. Piaget considered that a need to verify statements by evidence emerged relatively late, at post 10-12 years of age. Until that a child was immune to contradictory information, as long as facts satisfied his juvenile curiosity. A child was also devoid of objectivity, because of his egocentrism, and thus unable to rationally handle historical material. Vygotsky, on his part, maintained that a child constructed his spontaneous concepts imaginatively instead of verificatively.

More recent developmentalists acknowledged the roots of evidential abilities already in childhood. **Bruner** (1977/1960, 151) stated that critical thinking could be fostered long before the age of 10-12, and as a whole it was not bound to age but to individual cognition. **Donaldson** (1983/1978, 80-83) found in his tests that pre-school children already tried to work out hidden meanings behind adult words, and thus practised reconstructive interpretation.

Shemilt (1987, 42-61) studied 14-15 year-olds working at historical evidence and found four stages of understanding 'evidence' present among them. The stages ranged from an unquestionig acceptance of information of any kind as facts, to an awareness of the historical contextuality of evidence. Shemilt identified the high level of 'evidence' with a reconstructive approach. In this study, on the contrary, different approaches to meanings of concepts were 'a priori' assumed not to indicate levels of cognition.

The student reports and protocols were preliminarily judged on the general levels of consciousness, ranging from the recognition of a concepts (the 1st level) to conscious tentative propositions about the concept (the 3rd level; see p.98). The elaboration of the concept-specific level-criteria was conducted by deducing from the general levels of consciousness such components that would meet juvenile expressions.

The first level. Respondent 17 was judged to present a low level of conceptualisation, as he merely managed to recognise the concept of 'evidence', but not to consciously differentiate it. In his **report** of the Tollund man, he did not explicitly refer to any evidence, but nevertheless produced a theory, stating that the Tollund man had committed suicide. Most probably he had the idea from the rope in the picture of the mummy. The evidential basis of his theory was weak:

rope in the picture ----> death by own will

In the **protocol** the respondent made one proposition about 'evidence', attributing to 'evidence' only one predicate 'is second-hand sources'.

Deduced from the general level-criteria, and elaborated by means of the above example, the criteria of the 1st level of 'evidence' are as follows:

report:	protocol:
elementary reference to evidence to verify indicia or meaning	proposition about 'evidence' with at least one predicate

The second level. The general criterion of the 2nd level of conceptualisation was differentiation. Respondent 19 in his **report** differentiated his idea of evidence by referring to different pieces of evidence like to the doctor's report, to Tacitus and to comparative findings:

doctor's report ---> a sacrifice

Tacitus ----------> a criminal

other findings ----> not a criminal

The structure of 'evidence' was thus multiple but not hierarchic. The

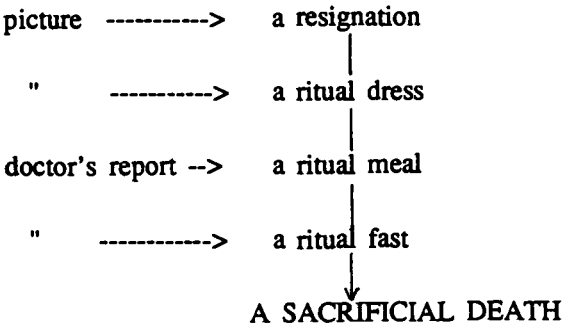
respondent did not differentiate between the first and the second hand evidence. He did not cope with contradictory evidence by either eliminating parts of it, or reconciling it.

In the **protocol** the respondent predicated 'evidence' with second hand evidence only. An added remark on "old books" as a priority proved, however, that he had a vague idea of authenticity as a predicate of evidence.

The elaborated criteria of the 2nd level of 'evidence', as illustrated by the example of respondent 19, were as follows:

report:	protocol:
use of multiple evidence; systematic verification of indicia or meaning	differentiation of predicates; explicit discrimination of evidence from interpretation; proposition of a method (e.g. "inferencing", "imagining")

The third level. The main criterion of the high level cognition in general was a hierarchy in predication. Respondent 29 in her **report** studied the picture of the mummy, interpreted the expression on its face to mean a happy resignation to the destiny, and subjected hierarchically the meaning of the rest of the evidence to the evidence of the face. The structure of the evidential reasoning was as below:



In her protocol the respondent explicitly differentiated the concept of 'evidence' by several predicates which indicated the extension and the meaning of the concept:

> evidence ((is tradition; is documents; is with meaning which (is to be interpreted))

The elaborated criteria for the 3rd level of 'evidence' were as follows:

report:	protocol:
hierarchic use of evidence; a coherent theory or story	discrimination of the first and second hand evidence on a propositional level; instantiation of those

To sum up, the criteria of the three concept-specific levels for 'evidence' were elaborated as in Table 17.

Using the criteria, the individual responses were evaluated, each both on the report and on the protocol. The cognitive levels were then cross-tabulated together with the approaches to 'evidence'. (Table 18)

Table 17. Criteria of The Cognitive Levels of 'Evidence'

REPORT	PROTOCOL
level 1	
elementary reference to evidence to verify indicia or meaning	proposition about evidence with at least one predicate
level 2	
use of multiple evidence; systematic verification of indicia or meaning	differentiation of predicates; explicit discrimination of evidence from interpretation; proposition of method (e.g. "inferencing", "imagining")
level 3	
hierarchic use of evidence; a coherent theory or story	discrimination of the first and the second hand evidence on a propositional level; instantiation of those

The following criteria further indicate an ascent from the 1. level upwards:

- priority of the first hand evidence
- different treatment of the first and the second hand evidence
- in reports: tentative inferences from evidence, shown by metalanguage like "maybe", "I assume", "opinion"
- methodological ideas of comparing, hypothetising, eliminating or re-enacting

Table 18. Frequencies of Analytical, Reconstructive and Inconsistent Adolescent Approaches to 'evidence' on the Different Cognitive Levels

N=51

	anal.	reconstr.	inconsistent*	Total
1st level	1	2	2	5
2nd level	7	7	12	26
3rd level	7	4	9	20
Total	15	13	22	51

* inconsistent = the approach differs from report to protocol

7.4.2. How Far Does Cognitive Level Account for Different Approaches to 'evidence'?

In the research case the both main approaches occurred together with all cognitive levels. The logical connection of a certain cognitive level and a certain approach was studied, by analysing the following existing (see Table 18) and illuminating combinations in student expressions:

low cognitive level - analytical approach

low cognitive level - reconstructive approach

high cognitive level - analytical approach

high cognitive level - reconstructive approach

Low positive level - analytical approach

Respondent 33 in his **report** merely listed two pieces of evidence, the bog and the soup, without making any inferences to make them into indicia of a theory. Neither did he consider the context of the evidence to make sense of it. His only method thus was combination.

He also used only one source of evidence, the doctor's report.

In the **protocol** he refused to make any propositions about his method. 'Evidence' meant for him facts from books.

In this case an undifferentiated conceptualisation,without any conscious attempt to structure 'evidence', left the respondent with nothing but 'evidence as facts', which indicates an analytical approach in its simple kind. It is easy to conduct observation and compilation and produce a simple, but still valid analysis. Thus, analytical work did not in this case require a higher cognitive level.

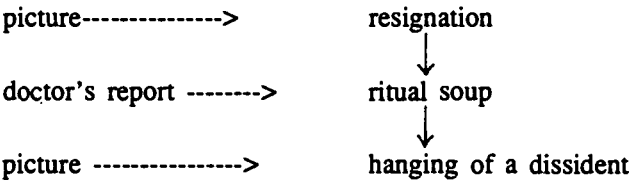
Low Cognitive Level - Reconstructive Approach

Respondent 17, previously analysed as an example of the 1st level on page 198, produced a theory, based on reconstructed thought, of the Tollund man as a suicidal person. He did not, however, make any conscious effort to found the theory on some evidence. Also his protocol showed a lack of awareness of a function of primary evidence in constructing a historical report.

A reconstructive approach is 'a priori' bound to be contextual. This criterion was virtually missing in the report. It is hard to conduct a broad contextual interpretation. The lack of consciousness and differentiation of 'evidence' in the case resulted in a quasi-reconstruction, i.e. in a use of imagination without a concern of evidence. In the case of respondent 17, her level of consciousness of 'evidence' did not suffice for a proper reconstructive activity.

High Cognitive Level - Analytical Approach

Respondent 30 in his **report** based his theory of the Tollund man as a victim of religious persecution on a number of indicia, which he derived by inferencing from the first hand evidence:



The crucial inference of resignation, made on the face of the mummy, was made tentative. The rest of the indicia hang together and formed a coherent theory.

In the **protocol** the respondent showed an awareness of different standards of evidence, substantiating his claim of the priority of the first hand evidence. He also made a critical proposition about imagination as a method, defying re-enactment.

Thus, expressions both in report and protocol indicated an analytical approach. In this case the analytical expression was a result of a conscious, differentiated conceptualisation of 'evidence'. A comparison to the previous analytical expression (respondent 33, **p.** 202) suggests that an analytical approach would not as such require a high cognitive level, but, on the other hand, would gain in critical rationality when applied on the high cognitive level.

High Cognitive Level - Reconstructive Approach

Respondent 29 (p. 199) performed at 'evidence' in her **report** in much the same way as in the previous, analytical expression 30. She also used evidence selectively - only first hand sources - and hierarchically, the face of the mummy being the paramount testimony of a devoted believer who willingly let himself be sacrificed. Both respondents made good sense of the diffuse evidence, the first by analysing indicia, the second by reconstructing meaning of it.

In the **protocol** the respondent made propositions both of the standards of the first and second hand evidence and of the nature of re-enactment. She advocated re-enactment as a method to catch the meaning

of an evidence, but critically held information as its prerequisite. Consistently, she re-enacted the agent's thoughts in her report with a careful regard to the evidence.

In the case of respondent 29 a consciousness of 'evidence' as a differentiable concept produced a reconstructive approach, where the special nature of human evidence was acknowledged.

Comparison with the previous reconstructive expression (17, p.198) suggests that a reconstructive approach requires s high-level grasp of 'evidence' in order to qualify for a true historical reconstruction of past thought.

Conclusion

Concerning 'evidence' in the cases of low cognitive level, an undifferentiated conceptualisation could produce a simple analytical approach. There was a logical connection between the very elementary conceptualisation and the straightforward idea of 'evidence' as facts. On the other hand, also a high cognitive level produced thinking with an analytical approach, now of a high quality. Thus an analytical approach could be connected to, but did not necessarily require, a high cognitive level.

The reconstructive approach seemed to require a differentiated conceptual consciousness to produce historically valid work. On a low cognitive level a reconstructive approach to 'evidence', if attempted, lost the rational touch of evidence.

7.5. The Cognitive Levels of 'Interpretation'

7.5.1. The Criteria and Occurrence of the Cognitive Levels of 'Interpretation'

Historical 'interpretation' is an epistemological concept referring to the process of deriving facts from evidence. An approach to 'evidence' by a person is logically linked to his approach to 'interpretation', as if seeing evidence in a certain way implies processing it in an equivalent way. The approach to both concepts was accordingly judged integratedly at one time (Table 11, Appendix 3). The closer analysis of predicate-attribution was conducted separatedly. Thus also the cognitive level of 'interpretation' was judgable in its own right apart from 'evidence'.

Previously, in the context of 'evidence', the Piagetian doubts concerning a child's ability to take another person's position and interprete his meanings were discussed. The concept of 'empathy' has been empirically studied by **Ashby** and **Lee** (1987, 68-84), who established the following levels of 'empathy' for the purposes of evaluation of history studies :

I The silly past: past is unintelligible, people silly. The further back we go, the sillier people are expected to be.

II Generalised stereotypes: the actions and institutions are understood by referring to conventional stereotyped accounts.

III Everyday empathy: actions and institutions are understood by means of one's own life experience and situation ("What I would have done").

IV Restricted historical empathy: an awareness of people thinking in different terms in the past. The actions are understood against reconstructed wants.

V Contextual historical empathy: a wider historical context is used to make past intelligible. Tentative accounts of what people in certain circumstances were likely to think.

The categories of Ashby and Lee were based on the acknowledgement of the reconstructive approach as the 'right' one, which is not the case in this study. Thus, as with the previous concepts, the cognitive level of a student report or protocol was preliminary judged on the general levels of consciousness, ranging from an elementary recognition of the concept to a hierarchic predication of it (see Table 1.). Then the concept-specific levels were elaborated and compared to the two approaches.

The first level. Respondent 12 satisfied the main criterion of the lowest cognitive level of a concept by recognising the concept in his **report**. He used the evidence of the rope to reconstruct a thought by the agents:

rope ----------> the comrades decided to drag a tired soldier ahead

His reconstructive interpretation was, however, not nuanced enough to be credible. The interpretation was thus not a historical process in the sense of being based on evidence.

In the **protocol** the respondent attributed 'interpretation' with the predicate 'is imagination', denying, however, that imagination could be based on evidence and critical:

I: (referring to the question-sheet) You chose "One has to use imagination..." Do you find it easy or difficult to catch the thoughts of past people?
R: Difficult.
I: How could it possibly succeed?
R: One just can't know what they thought. As one can't conclude on the artefacts, what they thought.
I: Did you ever try?
R: No.
.....
I: How much do you think there is imagined stuff in history

books?
R: Quite a lot. They can't be true, all what they say.

The respondent's idea of reconstructive 'interpretation' was vague and only elementary, when compared to the 'a priori' criteria of the concept (chapter 4.3.3.).

The concept-specific criteria of the 1st level of 'interpretation', as deduced from the general level-criteria and illuminated by the above example, are as follows:

report:	protocol:
inferencing on evidence towards indicia or an agent's thoughts	proposition of interpretation (as analysis or re-enactment) with at least one predicate

The second level. The main criterion of the 2nd level of general conceptualisation was differentiation. Respondent 20 based in the **report** his theory of the Tollund man as a spring sacrifice on four indicia:

what Tacitus wrote of the Nordic cult--> sacrifice

ritual soup ----------> "

ritual dress----------> "

position of the body ----------> "

The inferencing was piecemeal and the indicia not hierarchically organised. The theory was taken as such from the second hand source. The notion of 'interpretation' included, however, both accumulating evidence and inferencing on it, and thus presented the 2nd level.

In the **protocol** the explicit proposition by the respondent included three predicates to 'interpretation', which was thus portrayed as a broad differentiated process:

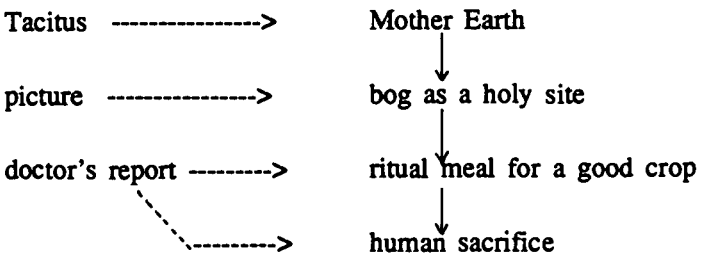
interpretation (is by imagination; is by information; is by contact)

The predicates were merely listed, not hierarchically considered. The concept-specific criteria of the 2nd level of 'interpretation', illuminated by this example, are as follows:

report:
multiple indicia or re-enacted thoughts; systematically evidential interpretation; contextual interpretation

protocol:
methodological consciousness (awareness of the critical nature of interpretation) shown in predicates

The third level. The main criterion of a high level conceptualisation in general was a hierarchy in the predicate-attribution to a concept. Respondent 2 in her **report** set the religious beliefs of the tribe of the Tollund man as the paramount clue, which she derived from Tacitus. She subjected a few selected pieces of evidence to it:



To the beliefs of the agent "tribe" the rest of the interpretation was subjected. Conscious interpretation was also shown in numerous "they thought" or "they believed" statements. By the hierarchy of the interpretation the respondent was also able to eliminate irrelevant evidence.

In the protocol the respondent made explicit propositions of a hermeneutist method of interpretation and of its prerequisites, predicating 'interpretation' hierarchically:

interpretation ((is imagination which (is based on information))

The elaborated criteria of the 3rd level of 'interpretation' are as follows:

report:	protocol:
hierarchic inferencing, with a leading indicium or thought; coherence of a theory; elimination or reconciliation of evidence	methodological consciousness shown in explicit statements of a method; tentative arguments

To sum up, on the basis of the general criteria and the analyses of the above examples, the concept-specific levels for 'interpretation' were as in Table 19.

Table 19. Criteria of the Cognitive Levels of 'interpretation'

REPORT	PROTOCOL
level 1	
inferencing on evidence towards indicia or thoughts of an agent	proposition of interpretation (as re-enactment or analysis), with at least one predicate
level 2	
multiple indicia or thoughts; systematically evidential interpretation; contextual interpretation	methodological consciousness (awareness of the critical nature of interpretation) shown in predicates
level 3	
hierarchic inferencing with a leading indicium or thought; coherence of a theory; elimination or reconciliation of evidence	methodological consciousness shown in explicit statements of a method; tentative arguments

Further indications of an ascent to the higher levels of concept-attainment are as follows:

- metalanguage, e.g. "one can conclude..", "probably", "comparing..."
- consistency in approach between the report and the protocol

On the basis of the above criteria the cognitive levels of 'interpretation' by the subjects of the research case were judged and cross-

tabulated with the alternative approaches. (Table 20.)

Table 20. Frequencies of Analytical, Reconstructive and Inconsistent Approaches to 'interpretation' on Different Cognitive Levels

N=51

	anal.	reconstr.	inconsist.*	Total
1st level	3	1	3	7
2nd level	9	3	11	23
3rd level	3	9	9	21
Total	15	13	23	51

* inconsistent = report and protocol present different approaches

7.5.2. How far does Cognitive Level Account for Different Approaches to 'interpretation'

In the research case all the cognitive levels occurred together with both the analytical and reconstructive approaches. To find out, whether a certain approach is accountable to a certain cognitive level, on the basis of their logical connection, the following illustrative combinations were analysed:

low cognitive level - analytical approach

low cognitive level - reconstructive approach

high cognitive level - analytical approach

high cognitive level - reconstructive approach

Low cognitive level - analytical approach

Respondent 51 in her analytical **report** produced a few unconnected indicia, based on the comparison of findings, for her theory of Tollund man as a victim of religious persecution:

In the **protocol** she could only predicate 'interpretation' by "checking facts in the library". She did not manage to make any propositions of the nature or of the prerequisites of the method.

Her lack of conceptual consciousness led to a reduced control over the process of inquiry. She was not able to consider the strength of the evidential basis of her theory, or to organise the evidence under a main clue. The theory was left loose from the indicia, which were served piecemeal.

The lack of hierarchy and differentiation in the concept of 'interpretation' did not prevent the analytical approach from working, in simple but still valid terms.

Low Cognitive Level - Reconstructive Approach

Respondent 12 (see p. 207) produced in her **report** a gripping narrative, which, however, was based on only two evidential thoughts of an agent. The rest of the narrative depended on fantasy.

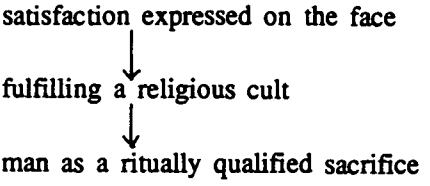
In the **protocol** the respondent made no distinction between informed imagination and fantasy.

As on the propositional level the respondent proved avoid of conscious conceptualisation, she could not exercise conceptual rigour in her

work. In this case an undifferentiated, uncontextual interpretation lead to a quasi-reconstructive approach. The cognitive level did not meet the requirements of the true approach.

High Cognitive Level - Analytical Approach

Respondent 11 in her report based her theory of Tollund man as a sacrifice hierarchically on three indicia. The satisfaction observed on the man's face was the main indicium. The theory was based on it, and the rest of indicia were inferenced on it. Some contradictory evidence was eliminated on the premise of it. The hierarchic chain of indicia was as below:



In the protocol the respondent showed conscious conceptualisation by refusing 'imagination' and advocating 'inferencing' as an element of 'interpretation'. She made an explicit proposition of a positivist 'interpretation':

> "Of such small pieces [of evidence] they [facts] are put together"

adding to that another proposition about contextual information as a prerequisite of inferencing. Thus her predicate-attribution was triple:

> interpretation (is inferencing; is collecting pieces; is information-based)

In this case an analytical approach resulted from a differentiated and hierarchic concept of 'interpretation'.

A comparison to the previous analytical expression (51, p. 213) suggests that analytical interpretation did not require a high conceptual level, but when conducted on a high level, gains in theory-content.

High Cognitive Level - a Reconstructive Approach

Respondent 2, portrayed previously (p. 209), demostrated a rich differentiated thought-of-agent structure in her **report** of the Tollund case. On the propositional level in the **protocol** she gave a well-organised, adequately predicated description of reconstructive 'interpretation'.

A reconstructive interpretation is 'a priori' contextual and thus requires a differentiated understanding and use of 'interpretation'. In order for a reconstructive interpretation not to be carried away by fantasy and to lose historicity, a methodological consciousness is needed. In the examples (respondents 17 and 12 on p. 198 and 207), where this was missing, quasi-reconstructive historiography was produced.

In the case of respondent 2 (p.209), the high levelled conceptualisation in the report and the protocol, implying a methodological consciousness, was possibly accountable for his reconstructive approach.

A comparison to the reconstructive expression 12 (p. 207) suggests that reconstructive interpretation required a relatively differentiated level of conceptualisation.

Conclusion

In the cases of an analytical approach connected to a low conceptual performance, the adolescent expressions concerning 'interpretation' were still truly analytical, though lacking in in depth. On the other hand, the cognitively poor reconstructive interpretation in the examples was judged only quasi-reconstructive. Thus, analytical approach to 'interpretation' was in the case not as sensitive to the standard of cognition as reconstructive approach.

An analytical approach was not, however, bound to a low level of cognition, but appeared as an advanced, hierarchic and critical form, where the level of conceptualisation was high.

A true reconstructive historical 'interpretation', which would meet the 'a priori' criteria of rationality and critical evidentiality, seemed in the case to require an advanced consciousness of the concept.

7.6. Conclusion: The Role of Theory-Like Approaches in Historical Conceptualisation

The question set for this study, whether a cognitive level would be logically connected to a choice of individual approach to history, and thus explanatory for it, had its origin in a presumption that causalism might be characteristic to adolescent conceptions in their early stages. **Shemilt's** research findings (1980, 12; 1983, passim) indicated, that simple causal relations, of the type 'high pressure leads to an explosion', might be applied by young history students to human affairs as an easy way of explanation. Concerning the ontological concept of 'change', the analogous assumption was, that a determinist view would attract young minds as it is a simple way to organise the world.

On the epistemological field, the preliminary assumption, based on **Ashby's** and **Lee's** (1987a) findings was that children would regard evidence as facts, like one is used to do with the physical world, where, as a rule, observation, measurement and inferencing are adequate, and no qualitative interpretation is required.

Looking first at the **epistemological** concepts, in three cases, analysed in previous chapters, the method of objective observation, fostered by physical sciences, was adopted by persons with a low level of conceptualisation of both 'evidence' and 'interpretation'. The result was very elementary analytical thinking, which was rather technical than critically analytical, but still to be counted as true analytical approach, when compared to the 'a priori' criteria.

A reconstructive approach, when presented on a low level of consciousness, did not work out properly, according to the 'a priori' criteria of 'reconstruction'. Interpretation lacked evidentiality and, thus, historicity.

At the **ontological** concept of 'cause' a low level of conceptualisation resulted in deriving causes randomly from some historically inadequate 'covering laws'. Still the expressions fulfilled the elementary 'a priori' criteria of causalism, like the criterion of the search of some kind of a rule to organise cause and effect. The same can not be said of respective intentionalist expressions; on a low level they did not meet the 'a priori' criteria.

No connection of a level and an approach could be established around the concept 'change'. The expressions were of different level, but still none of the approaches, determinism or indeterminism, could be fully discredited on the basis of a level. In the case it did not depend on one's cognitive level, what meaning of 'change' one held.

As a whole, no rule could be established in the research case, of an approach being necessarily connected to a certain level. "Soft" approaches, intentionalism and reconstructivism, seemed in the case to require more differentiation of conceptualisation than the respective "hard" approaches, in order to work in authentic historical terms. Differentiated and hierarchic thinking, however, did not exclude "hard" approaches. Well organised, argumented expressions were produced with "hard" approaches as well.

If intentionalism or reconstructivism were considered domain-specific historical modes, the suggestion by **Carey** (1985) or **Shemilt** (1987) of conceptual development leading towards domain-specific modes, could be applied. However, as in this research both "soft" and "hard" modes are acknowledged historical, the appearance of both in the juvenile expressions on the high level of conceptualisation is to be acknowledged.

The conclusion, on the basis of the analysed high level expressions, is that the young students in those cases took their approaches as conscious agents of their own thinking, not compelled by the standard of their thinking. The origins of adopting an approach were possibly in experience of life, in participation in the media culture and in the preliminary academic experience, but the choice took place in a conscious mind. Only few subjects in the case study were not able of argumenting for their approaches. The question of the significance of the external contexts in the process was excluded from this study, which concentrated on the internal connections of conceptualisation.

It was proved in the research case that there were preliminarily established concepts constituting the form of historical knowledge among the young students in the research case. The concepts were linked to theory-like approaches. Through the approaches the traditional historico-philosophical schools of thought had their parallelisms in the ways the research persons spontaneously made sense of the world. Expert and spontaneous concepts were akin. This conclusion is equivalent with what Vygotsky (1987/1934) and Carey (1985) found in their studies of children's concepts.

Causalist, intentionalist etc. approaches were present in the research group. Referring, for instance, to the philosophers of history Atkinson, Veyne, White and Dahl, the intentional and the reconstructive approaches to history could be considered more appropriate than their assimilationist counterparts. In that case, the findings of this research, suggesting a relatively strong support for causalism and analyticism, would suggest a need of educating consciousness of formal concepts towards the truly domain-specific modes in the classroom.

If, on the other hand, a variation of approaches would be preferred, an awareness of the differing meanings of concepts should be fostered.

8. THE VALIDITY AND THE RELIABILITY OF THE STUDY

The Implications of the Qualitative and Singular Nature of the Study to its Reliability

The data-retrieval in this study was qualitative. The interviews and the projective exercise were relatively open and elastic for the subjects to express their thoughts in their own terms.

The handling of the data was qualitative in the sense that data were analysed interpretatively, as holistic "chunks of meaning" instead of atomic indicia.

To enable the judging of the reliability of both the retrieval and the interpretation of data, a detailed report of what happened in the re-seach situation was provided, and the results of the analyses were instantialised with examples (see Grönfors 1982, 178).

As the study confined itself to a pursuit of a singular theory of a certain case, the issue of reliability, in the sense of the generalisability of the results, has here only a restricted role. The results of a singular study are rather meant to be hypotheses of the investigatability of the area than generalisable statemens concerning phenomena (see Heikkinen 1988, 37).

The role of 'a priori' theories was crucial in the design of this

research, unlike in those qualitative studies which are based on the idea of grounded theories (see Eneroth 1984, Uljens 1989). The phenomenon of adolescent thinking was here studied from the angle of 'a priori' theories. Therefore the theoretical and conceptual validity of the study has to be discussed.

Theoretical validity

By theoretical validity the researcher means here a congruence between the theoretical concepts and the categories of the empirical study (Jones 1985). There were two kinds of categories in this study: categories of the meanings of history concepts, and categories of cognitive levels.

The validity of the categories depends on how far the category-criteria meet the theories of the concepts: for instance, how far the criteria of a determinist approach to 'change' correspond and saturate the actual theory of determinist 'change'.

The category criteria were deduced from the theories by breaking the theoretical concepts, e.g. 'determinist change', into components of meaning. Concepts were not operationalised, i.e. translated into behavioral observable terms. That way the risks of alienating and narrowing the concept, implied in operational definitions, were avoided (Koort 1975, 31; Lehtinen 1988; Rosing 1988, 64-68). To reduce the risk of a 'wrong translation', the researcher pursued, by preliminary theoretical studies, a 'connoisseurship' of the historical and educational theory, in the sense Eisner (1981) considers the connoisseurship of the investigator to contribute to the validity of the research.

Conceptual validity

By conceptual validity the researcher means the question how far the categories, used in the study, describe the young persons' historical thinking. This question rises, when, like in this study, external

concepts were used to study persons' cognitive world, and, further, when research settings were artificial.

If the main focus of the study had been adolescent thinking as such, the most appropriate categories would have been likely to be formed on phenomenographic principles (Marton 1988) of the student expressions in their own right. In this study there, however, was a concern of the "intellectual honesty" - to use Bruner's term - of history education, i.e. how far the adolescent conceptions of history are related to the form of historical knowledge as it appears in the present intellectual tradition. The categories deduced from expert concepts were appropriate in studying this question, even if they left areas of adolescent thinking aside.

To ensure an intersubjective understanding of terms, presenting the research concepts, used in the interviews, the interview situations were made interactive and open for the respondents to express their own meanings of the concepts. Interviews were attempted to be made discussive, not investigative. Despite of the attempt, the nature of the interaction appeared different to single respondents: some seemed to fear to be 'wrong' and were therefore cautious in their responses, whereas some felt free to question what the interviewer meant and generate individual thinking. Thus the standard of conceptual validity varied at single responses, a variation which is, however, not measurable in the qualitative research setting, where the main principle was to take what persons said as true meanings instead of externally dependent variables. (see chapter 3.2; Silverman 161-164).

Intersubjective understanding was enhanced by the interviewer asking, in the cases of an ambigous or short answer, again what the person really meant, often modifying the question, until the meaning was perceivable (see Eneroth 1984, 88).

Concerning the data from the student reports, a certain amount of the Hawthorne effect probably took place: the nature of the projective research tool (the Tollund exercise) affected the student approaches to

the concepts, even if the tool was planned and tested to prompt different approaches. The interview data were to balance this effect, as in the interviews the context of the data was widened from that of the exercise. In fact the two sets of data revealed an inconsistency in approach by a number of subjects, an inconsistency which was, however, not interpreted as unreliable data but as a quality of spontaneous thinking. This interpretation was based on the research principle, stated in chapter 3, of acknowledging the subjects as active agents in control of their thinking (also: Silverman 1985, 156).

Reliability

The question of reliability in a case of a singular study concerns the reproducibility of the empirical research, using the same category criteria and the same evidence, in this case the reports and interviews. Another person should with the same method get the same data (Eneroth 1984, 68, 86-89; Jones 1985, 192; Uljens 1989, 52-57).

To study the reliability, an additional judge was let to do a categorisation of the evidence, concerning both the approaches and the cognitive levels. The nature of the data set prerequisites to this procedure. The data pursued in the study were qualitative, i.e. containing meaning. To catch that meaning an investigator needs to have a theoretical understanding of the concepts which are studied. This requirement is equivalent with the Eisnerian (1981) 'connoisseurship'.

To meet the requirement of shared 'connoisseurship' between the researcher and the additional judge, a graduate of education and history was chosen to make the second categorisation. He was in a lengthy process introduced to the theory and the concepts of the research, and was to do the work reflectively.

The reliability was evaluated by the percentages of the unanimous categorisations of all the categorisations. The additional judgment showed an inter-judge agreement of 89,3 % of the data (Appendix 4.). The most reliable data were those derived from the student reports

and concerning the approaches to history. The inter-judge agreement concerning them was 94,1 %. The least reliable were the data concerning the cognitive level of the interviews. The reason might be in the thinness of the interview material; it was at many instances hard to make the evidence of the interviews to meet the heavily theory-loaded category criteria.

Of the research concepts the most difficult to achieve unanimousity about was 'cause'. The agreement concerning the report-based data was 81 %, and of the data concerning the cognitive level only 76,2 %. The reason, suggested by the additional judge, was in the vagueness of the category criteria.

A low unanimousity (81 %) concerned also the protocol-based data of approach to 'change'. The projective exercise of the Tollund man obviously provided too scarce evidence on the concept.

The overall unanimousity figure, 89,3 %. was big enough to show a sufficient intersubjective reliablity. A qualitative inquiry with a heavy theory-frame is prone to produce intersubjective differences in categorisation, as concepts are not operationalisable. When meanings of evidence are being interpreted, and the interpretation is dependent on the individual contents of mind of the interpreter, a full intersubjectivity is theoretically unlikely to be achieved.

The following risks of reliability in a qualitative analysis of content became obvious in the present study:

- the lack of clarity in the description of category criteria. This risk was true about the concept 'cause', even though the category descriptions had been preliminarily once tested on a judge and subsequently clarified.

- the thinness of many interviews. Interviewees were at times too short in expressing their ideas to convince a judge of their actual meanings. As there was a fairly wide area of concepts

to be discussed, an intersubjective depth was not always easy to achieve.

Further Remarks on the Nature of Qualitative Study

The qualitative analysis of the student expressions meant a continuous, constant and repeated **interaction** between the researcher and the material. The handling of the research material, the expressions in the reports and interviews, could at no point be considered to be accomplished. Instead, the material was negotiated continuously, as new ideas emerged from the material and new questions were set by the researcher.

According to the nature of a qualitative study, the conclusions of an analysis were verified by **instancies**, not by frequencies. The proofs of findings about juvenile thinking were to be found and shown in real instancies of it.

The continuous interaction of the researcher and the material, and the instantiation of the findings were the practical essence of the qualitative method.

9. DISCUSSION

A singular theory of an individual case, if based on an adequate theoretical foundation, can provide, first, analytical knowledge of the starting points of a research in a new area, secondly, hypothetical knowledge on the basis of the findings, and thirdly, reflective knowledge about the methodological avenues.

In the present study both the theory of knowledge and developmental psychology were used as the starting point to study thinking. The recent findings in both areas convinced the researcher of the purposefulness of a domain-specific approach. The form of knowledge varied from one domain to another, according to **Hirst** (1972) in educational philosophy, and **Bruner** (1984), **Egan** (1985 a), and **Carey** (1985) in psychology of cognition. Thus a commitment to one mode could only mislead a research, as happened with the first empirical studies of a juvenile historical thinking in Britain, where at a time a Piagetian fixation to deductive-hypothetical mode of thinking made the researchers ignore other adequate modes of making sense of the human world. More recent findings pointed towards an acknowledgement of plural forms of knowledge. To study concept-attainment in its different modes, the concepts have to be analysed first.

In philosophy of history the meaning of human concepts depended on the theory that had been adopted. In historical literature causalist and intentionalist explanations, as well as analytical and reconstructive interpretations were found to live side by side. Thus no stipulative definitions of the concepts were possible. Instead concepts were analysed by looking at their theory connections and portrayed as dimensions of approach. The content and the extension, i.e. the

meaning, of the concepts depended on the choice of approach and varied. Therefore a question was set, whether the same pluralist situation would be present in the juvenile thinking as well, on a spontaneous or semispontaneous level of conceptualisation.

The study of philosophy of history showed that the form of historical knowledge was constituted by concepts which were 'a priori' elastic. Thus the concepts were left open to different approaches in the empirical study.

The study of the developmental psychology lead to a rejection of the Piagetian age-bound developmental stages in the study of conceptualisation. Instead conceptualisation was seen as domain- and experience-dependent. Developmental psychologists, from Bruner (1960) to Carey (1985) have acknowledged the different criteria of e.g. physical and historical knowledge, instead of considering different modes as developmental stages. The true criteria of cognitive stages were sought by Campbell and Bickhard (1989) or by Resnick (in Schrag 1989) in the consciousness of a person of his thinking. In a certain age, like at 12 - 13 in this research, different levels of consciousness were presumed to be present, as young students naturally would present their individual experiences and orientations in various domains.

A study of psychology of cognition suggested that a narrative mode of knowledge was an alternative to an analytical mode, not being inferior to the latter, but instead a valid way of making sense of the world.

The conception of historical 'change', 'cause', 'evidence' and 'interpretation' was studied by analysing the attribution of predicates to the concepts by the persons. The predicates revealed the theory-assumptions at the background of the concepts. For instance, if a person attributed "social circumstances" to 'cause', his expression was analysed to be a causalist explanation of history.

The predicate-analysis indicated, that adolescent developing concepts are already integrated parts of theory-like constructions.

Theories license certain predicates. Adolescent approaches were found to be parallel to the 'a priori' theory-approaches.

"Hard" determinist and causalist approaches thrived side by side with "soft" indeterminist and intentionalist approaches in the research case, concerning the ontological nature of history. In regard to historical epistemology, both analytical and reconstructive approaches were present. If an educator would consider one approach more adequate than another, or would like to emphasize the special nature of human studies at the side of sciences, he should make this approach into a special curricular concern. Otherways, if left spontaneous, the conceptualisation seemed to take varying approaches.

As the concepts studied in this case were adolescent and developing, the question naturally rose, whether the varying developmental levels of conceptualisation affected the approach to the meaning of a concept. An analysis of **functional** connection between a certain cognitive level and a certain approach showed, that in the research case neither reconstructive nor analytical approach, neither intentionalist nor causalist expressions as such presupposed a certain cognitive level. There were examples in the case of combinations of all levels and approaches.

But when studied in their internal **logical** connections, the adolescent expressions of the "soft", i.e. intentionalist and reconstructive approaches, presented adequate historical knowledge only on the higher, differentiated level of thinking. Only arbitrary interpretation and historically inauthentic intentions resulted from those approaches, when the consciouness of the process of thinking in a person was low. On this finding an educational conclusion can be tentatively drawn:

If intentional explanation and reconstructive interpretation are to be fostered as special modes of human and social knowledge, the prerequisite is a practice of reflective abstraction in classrooms. A conceptual consciousness and differentiation is required to make those modes of thinking other than quasi-history.

The statement is parallelled by what Jerome Bruner wrote about

teaching subjects in their "intellectually honest form". It means according to him not just presenting the knowledge in an adequate form to the pupils, but fostering active participation in the actual historical inquiry among them. A practice of inquiry learning is the prerequisite of a maturing conception of the nature of knowledge.

The statement also presupposes teacher-student interaction, i.e. meeting of organised adult and spontaneous juvenile concepts. This meeting was considered necessary for conceptualisation by Vygotsky (1934). More recently American authors Nickerson (1988) as well as Campbell and Bickhard (1986) have advocated the idea of "a strategic teacher", who would focus both on the cognition of a learner and on the structure of learning.

The data in this research was derived in an artificial setting, the researcher intervening the natural course of school education with a projective exercise and interview questions. Though answers to the fundamental questions of this research about the adequacy of formal historical knowledge were achieved in regard to the case, an alternative setting, like phenomenographic study or action research, would provide more sensitive data of conceptualisation as a broad developmental phenomenon. Also the impact of school education on the conception of history could be studied in a setting of action research.

The knowledge derived in the case-study was static in the sense that it concerned the conception of knowledge at one point in the adolescent development of individuals. The future research interest should be focussed on the development of the concepts.

Actual educational implications of the adolescent form of historical knowledge can be considered only after developmental research thereon has been conducted. The present study revealed a few aspects of appropriate methods to study qualitative properties of concepts in the domain of human knowledge. The formation and description of qualitative categories proved possible though somewhat precarious, concluding from the figures of inter-judge agreement. The study of

predicate-attribution to the concepts provided nuanced data of concepts.

The properties of study-of-man concepts can be qualitatively analysed. The attribution of predicates to concepts tells both about the meaning and the cognitive level of the concepts.

Cognitive level, if judgable, would provide a new basis for the educational evaluation of the learning of history at school. Instead of just material knowledge, also the formal grasp of the subject-matter would be judged in a pupil performance. This approach to evaluation has recently been introduced, for instance, to the British educational system, where the focus has been changed from material contents or skills as such to the concepts behind the both. Further, concept-based evaluation is required, if the form of knowledge is being considered essential in the process of teaching and learning.

Concerning further **curricular implications** of this study, the form of knowledge could be considered as a possible key to the accessibility of a curriculum to a young learner. Assuming that the focus, eventually the substance of curriculum design are the learner's developing ideas, the formal concepts could be included as tools for the learner to organise the content at school, and further, his experience of the world.

A curriculum can be structured around formal concepts. L. Stenhouse (1975) called such an idea a "process model", and compared it favourably to the "objectives model", current in the 70's. When the "objectives model" reflected a concern for the achievement of socially approved goals, the "process model" would not predefine the products of learning but would sustain individual expanding work and thought. The concepts would be the focus, not the object of mastery.

In the Finnish national curricula of the secondary education in the 80's the form of knowledge is only implicitly, not explicitly present. The curricula have traditionally emphasized material contents as assets of socialisation of children. With an anticipation of an expanding formation-society, one can ask, whether a new emphasis on formal

education would eventually in an essential way help to cope with the growing flow of information.

Conscious reflection together with rich substantial connections is required for the spontaneous juvenile concepts to get established as true cultural concepts. Without rejecting the socialising function of the material content of the curriculum, the use of formal cognitive tools could be extended in the classrooms.

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Appendix 1/1
Material of the Projective Exercise "The Tollund Man"

LÄÄKÄRIN JA KEMISTIN TUTKIMUSRAPORTTI TOLLUNDIN MIEHESTÄ

Hautauksen ajankohta: Ruumiin alla oli ohut sammalkerros. Tiedemiesten mukaan sen tyyppinen kerros oli peräisin ajanlaskumme alusta, varhaiselta rautakaudelta. Ruumis oli siis joutunut suohon noin 2000 vuotta sitten.

Kuolinsyy: Röntgenkuvien mukaan miehen kallo oli ehjä ja hänen sydämensä, keuhkonsa ja maksansa kunnossa. Hän ei ollut vanha, mutta oli yli 20 vuotta, sillä hänen viisaudenhampaansa olivat jo tulleet esiin.

Hänen kaulansa ympäri oli kuristunut köysi. Sen jälkiä oli kaulassa ja korvien alla mutta ei niskassa, missä solmu oli. Oli mahdotonta saada selville, oliko hänen niskansa murtunut, koska niskanikamat olivat pahasti lahonneet.

Viimeinen ateria: Miehen vatsa ja suolisto tutkittiin. Tiedemiehet saivat selville, että miehen vimeinen ateria oli ollut vihanneksista ja siemenistä tehty keitto. Siinä oli ohraa, pellavansiemeniä, kamomillaa ja muiden luonnonyrttien siemeniä.

Aterian sulamispisteestä pääteltiin, että mies oli elänyt noin 12 - 24 tuntia aterian jälkeen. Toisin sanoen hän ei ollut syönyt mitään päivää ennen kuolemaansa.

Ateriassa kiinnitti huomiota kaksi asiaa:

1. keitto sisälsi harvinaisten luonnonkasvien siemeniä, jotka oli kerätty varta vasten tätä ateriaa varten. Keitto oli luultavasti tehty erityiseen tarkoitukseen.

2. siemenet liittyivät kevääseen

JOHTOLANKOJA

Rautakauden ihmisten elintavoista:

Johtolanka 1. "Germaanit kuulustelevat syytettyä heimoneuvoston edessä. Rangaistus riippuu rikoksesta. Petturit ja sotakarkurit hirtetään puihin. Pelkurit, huonot soturit ja suuret pahantekijät hukutetaan suohon oksapeiton alle."

Tacitus, roomalainen, 97-98 jKr.

Johtolanka, 2. "Reudognit, avionit, anglit ja nuitonit palvovat Maaäitiä, kevään ja kylvön jumalaa. Joka kevät he juhlivat uutta satoa.

Maaäiti asuu salaisessa järvessä olevassa saaressa. Siellä hänellä on pyhät kankailla verhoillut vaunut. Vain yksi pappi saa koskea vaunuihin. Tämä pappi vie jumalan joka kevät matkalle lehmien vetämisssä vaunuissa.

He menevät ihmisten kyliin. Kun jumala saapuu kylään, pidetään juhlat. Kun jumala väsyy, hän palaa saarelleen ja ja vaunut pestään salaisessa järvessä. Pesun suorittavat orjat, jotka sitten hukutetaan järveen."

Tacitus, roomalainen, 97-98 jKr.

Muita löytöjä:

Johtolanka 3. Borren suosta Tanskasta on löytynyt ruumis köysi kaulassa. Hänen viimeinen ateriansa oli kevätsiemenistä tehty keitto. Hänen päällään oli metrin pituinen koivunoksa.

Johtolanka 4. Grauballen suosta Tanskasta on löydetty ruumis, joka on haudattu 1650 vuotta sitten. Se on mies, jonka kaula on katkaistu ja jonka vatsassa on kevätsiemenkeitto.

Appendix 1/2

THE DOCTOR'S AND THE CHEMIST'S REPORT ON THE TOLLUND MAN

Date of burial: Underneath the body was a thin layer of moss. Scientists know that this was formed in the early Iron Age, about the time when Christ was born. The body must, therefore, have been put in the bog roughly 2000 years ago.

Cause of death: X-rays showed that the man's scull was undamaged, and his heart, lungs and liver also in order. He was not old though he must have been over 20 years old because his wisdom teeth had grown.

Round his neck there was a tight rope. It had left marks at the sides of his neck and under the chin but there was no mark at the back of the neck where the knot was. It was impossible to tell if his neck had been broken because the bones were very crumbly.

Hist last meal: The stomach and the intestines were examined. The scientists discovered that the man's last meal had been a soup made of vegetables and seeds. It contained barley, linseed, camomile etc.

From the stage of digestion it was obvious that the man had lived for 12-24 hours after his meal. In other words he had not eaten for a day before his death. Two interesting things were noted:

1. the soup contained seeds of rare wild plants, which must have been gathered deliberately for this meal. The soup was, therefore, probably for a special occasion.
2. The seeds were connected only with the spring.

CLUES

Clue 1: "The German tribes hold trials of accused men before their tribal council. The punishment varies according to the crime. Traitors and deserters are hung from trees. Cowards, poor fighters and evil men are drowned in swamps under a cover of sticks." (Tacitus, a Roman, 97-98 A.D.)

Clue 2: "The Reudigni, the Aviones, the Anglii and the Nuitones worship Mother Earth, the Goddess of Spring and growing crops. Each spring they celebrate the new crop.

Mother Earth lives on an island in a secret lake. There she has holy chariot covered with cloth. Only one priest may touch it. Each spring this priest takes the Goddess away in the chariot drawn by cows.

They go to people in villages. Wherever she arrives, fun and merrymaking takes place. When the Goddes grows tired, she returns to the island and her chariot is washed clean in the hidden lake. This task is done by slaves who are then drowned in the lake. (Tacitus 97-98 A.D.)

Clue 3: A body was found with a noose around the neck in a bog in Borre, Denmark. His last meal had been a vegetable soup made from Spring seeds. Across his body was a birch branch 1 m long.

Clue 4: A body, buried 1650 years ago, was found in a bog in Grauballe, Denmark. It was a man, and his throat had been cut. He had Spring seed soup in his stomach.

Appendix 2/1

KYSYMYKSIÄ HISTORIANTUTKIJALLE

Alla on joukko väitteitä historiantutkimuksesta.
RASTI AINA SE VAIHTOEHTO, JOTA ENITEN KANNATAT.

1. Miten historian tieto yleensä syntyy?

   Menneen ajan ihmiset kirjoittivat tapahtumat kirjoihin, joista ne voi lukea.

   Löytyy esineitä ja asiakirjoja, jotka todistavat, mitä ennen tapahtui.

   Voi kysyä ihmisiltä ja lukea kirjoista, mitä tapahtui.

   Historiantutkijat keräävät vanhoja esineitä ja asiakirjoja ja päättelevät niistä, mitä tapahtui.

2. Voiko todella tietää, mitä menneen ajan ihmiset ajattelivat ja tunsivat?

   Kun kerää kaikki menneen ajan jäänteet, saa tietää mitä ihmiset ajattelivat.

   Yleisen ihmistuntemuksen avulla voi arvata, mitä ihmiset ennen ajattelivat ja tunsivat.

   Pitää käyttää mielikuvitusta, jos haluaa saada selville, mitä ihmiset ennen ajattelivat.

   Historian jäänteet panevat tutkijan mielikuvituksen liikkeelle.

3. Mikä alla olevista tekijöistä vaikutti eniten Tollundin miehen kohtaloon?

   Hänen yhteiskunnallinen asemansa

   Ajan uskonnolliset käsitykset ja tavat

   Hänen oma luonteensa ja käytöksensä

   Se mitä sattui juuri ennen hänen kuolemaansa

4. Enää ei Tanskassa ihmisille käy niinkuin Tollundin miehelle. Mistä se johtuu?

   Maailma kehittyy aina turvallisemmaksi.

   Tuomari ei enää anna kuolemantuomiota eikä pappi vaadi kevätuhria.

   Suot ovat vähissä Tanskassa

   Kyllä joku voi joutuakin Tollundin miehen asemaan.

THE QUESTION SHEET IN ENGLISH
Questions for a historian

Below there are some statements about the study of history.
Choose the alternative that you most support and tick it.

1. How is historical knowledge derived in general?

The past people write events down in books, where they can be read.

Objects and documents are found, and they bear testimony of what happened.

One can ask people and read in books about what happened.

The historians collect old objects and documents and use them to make conclusions of what happened.

2. Can one actually know, what the past people thought and felt?

If you collect all the remains of the past, you gather what people thought.

Using your general knowledge of people, you can guess what people thought and felt before.

You must use your imagination, if you want to know, what people in the past thought.

Historical remains help your imagination.

3. Which of the factors below, most effected the destiny of the Tollund man?

His social status

The religious beliefs and customs of the time

His own character and doings

Things which happened just before his death

4. How come that such things as the death of the Tollund man, no more happen to us?

The world keeps getting more secure

A judge no more sentences to death, nor does a priest require a spring offering

There are very few bogs left in Denmark

Similar things, in fact, can still happen to people

The data of the categorisation of the student approaches and levels of the conceptualisation of historical 'change' etc.

A = approach in report, B = appr. in protocol, C = cognitive level in both
d = determinist, i = indeterminist, c = causalist, n = intentionalist,
a = analytical, r = reconstructive
di = determinist with an assumption of impersonal forces,
dp = determinist with an assumption of personal agents of change,
ii = indeterminist with an assumption of impersonal forces,
ip = indeterminist with an assumption of personal agents of change
Cognitive level (C): 1 - low, 2 - medium, 3 - high

concept -->	change							cause					evidence					interpretation				
student	A		B				C	A		B		C	A		B		C	A		B		C
	d	i	di	dp	ii	ip		c	n	c	n		a	r	a	r		a	r	a	r	
01.		x	x				3		x		x	2		x	x		2		x	x		2
02.	x			x			3	x		x		3		x		x	2		x		x	3
03.		x		x			1		x	x		2		x		x	2		x		x	2
04.	x			x			1	x		x		2	x			x	3	x			x	3
05.	x			x			3	x		x		2	x			x	2	x			x	1
06.		x	x				2		x		x	3		x	x		3		x	x		2
07.	x				x		3	x		x		3		x	x		2		x	x		2
08.	x			x			3	x			x	2	x			x	2	x			x	2
09.	x			x			2		x	x		3		x	x		2		x	x		1
10.	x					x	2		x		x	3		x		x	2		x		x	3
11.	x				x		2	x		x		3	x		x		2	x		x		3
12.		x	x				2	x			x	1		x		x	1		x		x	1
13.		x				x	2		x	x		2		x		x	2		x		x	3
14.		x				x	2		x	x		2	x			x	3	x			x	3
15.	x			x			2	x		x		3	x			x	3	x			x	3
16.		x		x			2		x		x	3	x			x	2	x			x	3
17.		x				x	1		x		x	2		x		x	1		x		x	2
18.	x			x			3	x		x		3	x			x	3	x			x	3
19.	x					x	1	x			x	1	x			x	2	x			x	3
20.	x					x	2	x			x	1	x			x	3	x			x	2

(cont.)

21.	x					x	2	x			x	2	x			x	3	x			x	3
22.		x	x				2	x		x		2	x		x		2	x		x		1
23.		x	x				2		x	x		2		x		x	3		x		x	3
24.	x				x		3	x		x		2	x			x	2	x			x	2
25.	x					x	2	x			x	2	x			x	3	x			x	3
26.		x				x	2		x	x		2		x	x		2		x	x		2
27.	x				x		2	x		x		3		x		x	2		x		x	2
28.	x			x			2	x		x		2		x	x		2		x	x		3
29.	x		x				3	x			x	2		x		x	3		x		x	3
30.	x					x	2	x		x		2	x		x		3	x		x		2
31.		x		x			3		x	x		2		x		x	3		x		x	3
32.		x				x	2	x			x	2	x		x		2	x		x		2
33.		x	x				1		x		x	1	x		x		1	x		x		1
34.	x			x			1	x		x		2	x		x		2	x		x		2
35.	x		x				1	x			x	1	x			x	1	x			x	2
36.	x		x				3	x		x		3	x			x	3	x			x	3
37.	x				x		2	x			x	3		x		x	3		x		x	3
38.	x			x			3	x			x	1	x		x		3	x		x		2
39.		x		x			3	x			x	1	x		x		2	x		x		3
40.	x					x	2	x			x	2	x		x		3	x		x		2
41.	x		x				3	x		x		1	x		x		2	x		x		2
42.	x					x	2	x		x		3	x		x		3	x		x		3
43.		x		x			1		x		x	1	x		x		3	x		x		2
44.	x				x		1	x			x	1		x		x	2		x		x	2
45.	x			x			3	x			x	2		x		x	2		x		x	3
46.		x		x			1	x			x	1	x		x		3	x		x		2
47.	x		x				1	x			x	1	x			x	2	x			x	1
48.	x			x			2	x		x		2	x			x	2	x			x	2
49.	x				x		1	x			x	1	x			x	3	x			x	2
50.		x	x				1		x	x		1		x	x		1		x	x		2
51.	x		x				1	x			x	1	x		x		2	x		x		1
	33	18	13	18	7	13		36	15	15	26		31	20	21	30		31	20	21	30	

The data and percentages of inter-judge agreement in categorisation of the approaches and levels of the student conceptualisation of historical 'change'etc.

unit of judgment -->
concept categorised
judge

↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	%
						Approaches in Reports																
1A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	95,2
2A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	81,0
3A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
4A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
																			Total			94,1
						Approaches in Protocols																
1A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	81,0
2A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	95,2
3A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	90,5
4A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	90,5
																			Total			89,3

(cont.)

	Cognitive Levels in Reports and Protocols																				
1A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	90,5
2A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	0	1	1	1	0	1	0	1	1	0	1	1	1	1	1	0	1	1	76,2
3A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	85,7
4A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
B	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	85,7

Total 84,5

Overall Total 89,3

Unit of judgment (1-21): item/person. Item = report as a whole or a theme (what was said about a concept) in an interview

Concept categorised (1 - 4): 1 = change; 2 = cause; 3 = evidence; 4 = interpretation

Judge: A = the researcher; B = the additional judge

1 = category judgment by the researcher or in agreement with her
0 = " " in disagreement with the researcher

$$\% = \frac{\text{number of unanimous category judgments} \times 100}{\text{number of all category judgments}}$$

Appendix 4/2

Helsingin yliopiston opettajankoulutuslaitoksen julkaisuja

1. Hytönen, Juhani. 1982. Opettajankoulutuksen teoria-aineksia. Käytännön sovellutuksena Helsingin yliopiston luokanopettajan koulutusohjelma.
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15. Sarmavuori, Katri. 1983. Seitsemäsluokkalaisten persoonallisuus ja äidinkielen tavoitteiden saavuttaminen. ABC-projektin raportti 9.
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ISBN 951-45-5358-6
ISSN 0359-4203
Helsinki 1990
Yliopistopaino

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Office of Educational Research and Improvement (OERI)
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