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Adolescents' Ideas About Provisional Historical Explanation

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ADOLESCENTS' IDEAS ABOUT PROVISIONAL HISTORICAL EXPLANATION

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ABSTRACT

Adolescents' ideas about provisional historical explanation were analysed in a sample of Portuguese 12 to 20 year-old students attending the 7th, 9th and 11th grade. In the light of a theoretical framework considering criteria for the assessment of explanatory validity, students' ideas were categorized in a model of five levels of logical progression, generated through a systematic, qualitative analysis. At Level 1 (the story), students' ideas appear mainly related to description. At Level 2 (the right explanation), there is a focus on the correct explanation, explanations are assessed in everyday terms, and the direct observation paradigm tends to be valued in history. At Level 3 (the more factors the better), students' concerns appear linked to an ideal of aggregation of factors, and memories are overvalued. At Level 4 (a consensual explanation?), there is a preoccupation about a perspectiveless neutrality, and verification of an explanatory narrative (explanations tend to take a narrative form) is a central criterion. An objectivist trend defends the search for a consensual explanation whilst a relativist view denies its possibility due to existing different perspectives. At Level 5 (perspective), neutrality and perspective are recognised as genuine features of historical explanation, these appearing in conflict with ideas of perspectiveless neutrality. Criteria for explanatory assessment are tentatively conceptualized in terms of evidential confirmation and refutation. The frequency distribution of responses by level raises the hypothesis that a majority of Portuguese adolescents might have an idea of provisionality of explanations tied to aggregation of information (Level 3). A very few (16-19 year-old eleventh graders) seem to apply more elaborate notions as confirmation/non refutation and perspectiveful neutrality (Level 5) as criteria for assessing explanations. The process of data analysis brought up some other observations leading to the formulation of particular hypotheses concerning social cognition. These findings suggest that many students tend to reason in history based on everyday assumptions about the social world, and they convert substantive information in an operational scheme which is often misunderstood by the teacher.

ADOLESCENTS' IDEAS ABOUT PROVISIONAL HISTORICAL EXPLANATION

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A BRIEF RATIONALE

Debates about the provisional nature of explanation have emerged in various fields of knowledge. As far as history is concerned, philosophers and some historians and educationalists have all contributed to making explicit the idea that historical explanation is always provisional. School curricula are beginning to propose some kind of approach to this idea in history class. And, even when students are not challenged to think about this issue, they tacitly assume some notion of provisionality or definitiveness of explanations in history. At a commonsense level one may remain at the surface of such an assumption when trying to explain the past. One may either take a dogmatic attitude and assert that the most convenient explanation will be the only truth, or rest on an easy-going position stating that explanations are just a matter of personal opinion. The history curriculum in Portugal might provide an example of a nearly dogmatic (scientific) approach. A deconstructive approach to history in the social studies curriculum in the USA might give an example of the second kind, such as Barth (1992) stated:

Ask high school juniors and seniors if their opinions are as valid as yours and most will respond with an emphatic, 'Yes!' The logical conclusion to this divergent inquiry line of thinking is: 'History is just someone's opinion of what is important... History is not important.'

(p. 13)

These thoughts may raise some pertinent questions: What views do historically literate adolescents actually take about the idea of provisional historical explanation? Do some of them express a critical view beyond a commonsense level? Such questions led to the problem to be investigated:

To what extent do adolescent students operate with a notion of provisionality in historical explanation and, when they employ a notion of this kind, what meanings do they assign to it?

In the line of research conducted in UK by Dickinson and Lee (1978, 1984), Shemilt (1987), Lee, Dickinson and Ashby (Project Chata, 1991-1996), it is assumed that a) children and adolescents reveal tacit ideas of second-order historical concepts (e.g., explanation, evidence, account) and, b) these ideas can be traced from less coherent to more sophisticated patterns, in a model of logical progression irrespective of the notion of developmental stages.

THE IDEA OF PROVISIONAL EXPLANATION

A theoretical exploration of the assumption that historical explanation is provisional makes us understand that it is not an obvious, single-track conception.

Hempel (1959) would say that historical explanation is provisional because it is statistically probable like most scientific explanations; and it must be considered as an explanation sketch only, since it is more vaguely construed, logically more incomplete than most of those in other sciences. Such a condition is due to its characteristic non-testability, experimentally speaking: historical explanation can only be filled out by more specific evidential statements to be confirmed or disconfirmed.

Popper (1980, Chapter I) explicitly asserted that scientific explanation is provisional; it is a hypothesis permanently open to refutation. The search for truth remains the major scientific aim, but it is always tentative, since we can never attain truth or even probability - 'we do not know: we can only guess' (p. 278). Popper opposed the notion of verisimilitude to that of probability, the former involving degrees of approximation to truth, open to critical examination. In spite of this conceptualization, he assumed an objectivist approach by asserting the need for intersubjective criticism. In 1961, Popper claimed that historical explanation is much more provisional than explanation in other sciences because it cannot be confirmed or refuted, since it is considered just as an interpretation relative to a certain point of view (pp. 150-2). It can be said that its verisimilitude is much more arguable than that of natural sciences.

Dray (1964a, 1980, 1991) argued that historical explanation is intrinsically evaluative - the object of history itself is value-laden. The selection of questions and answers, questions of causal importance, facts themselves, imply a moral evaluation. Historical explanation is always relative to a value-judgement, but it is still objective, because it is a re-construction of a real past. It can be said that historical explanation is partial, in the sense that it explains part of the reality; it explains from a specific standpoint, and this is a genuine feature in history, not a methodological weakness - it is logically tied to the very notion of historical understanding.

Lloyd (1993) insisted that historical explanation is partial in the sense that it implies a progressive discovery of the total reality with its causal powers. It is a realist position in the sense asserted by Bhaskar (1975). Lloyd defended a convergence between coherence and correspondence ideas of truth, a combination of social knowledge and empirical evidence.

Entangled in ideas above are notions about access to truth and the nature of objectivity in historical explanation. In the light of this theoretical framework, a major presupposition here is that there are some criteria employed in history to permit the assessment of more or less valid explanations. *Consistency with evidence, plausibility, and methodological detachment* were identified as three main criteria in explanatory assessment. For the purpose of this paper, a working conceptualization of provisional historical explanation was tried in order to give meaning to ideas expressed by students:

Historical explanation is taken to be an answer to a why-type question about the human past. Different explanations over time, and alternative explanations at any given time can be found about the same past situation. Criteria for determining the degree of acceptability of an explanation can be systematized as referring to principles of consistency and methodological detachment.

The notion of consistency may refer to evidential confirmation and nonrefutation, to apply the Popperian logic of theory assessment, or to the plausibility of the situation. The operational concept applied in this study discriminates:

1. Evidential consistency , concerning the extent to which an explanation is accepted in the light of 'the' evidence, through confirmation and nonrefutation.

2. Logical consistency, in terms of plausibility, concerning the extent to which an explanation is consistent with knowledge of real or imagined events in the real world.

The notion of methodological detachment entails the recognition of perspective. A recent relativist view, postmodernism, emphasises the context and contingency of knowledge, while objectivists claim that it is possible to find some methodological standards inter-subjectively shared, like those stated above. The latter stress a positive link between provisionality and fruitfulness of knowledge. As suggested by Hawthorn (1991), the more satisfactory an historical explanation appears the more provisional it will be, since more questions and of a wider scope it might raise.

These notions, applied to explanatory assessment, were considered as the conceptual framework for analysis of students' ideas about provisional historical explanation.

METHOD

Sample - A sample of 270 students ranging from 12 to 20 years old, attending the 7th to 11th grades, was drawn from 8 schools in northern Portugal. These schools were selected according to criteria of cultural setting and SES: they are located in different cultural environments (city, rural or industrial town) and have an heterogeneous population as far as socio-economic status is concerned. From this sample, 150 students from 7th to 11th grades participated in the pilot phase, and their responses were qualitatively analysed. In the 'final' phase, responses of 119 students attending the 7th, 9th and 11th grades in two schools (urban/rural), from classes randomly selected, provided data for qualitative and statistical analysis. For this last phase the sampling design was:

2 schools X 3 intact classes from grades 7, 9, 11 = 6 classes

Instruments - A set of historical materials, and a set of tasks based on those materials, were devised. The historical materials were designed for purposes of answering a central question: 'Why did the Portuguese manage to establish a maritime empire in the Indian Ocean during the sixteenth century?' Four

historical versions were selected and adapted (see Appendix). Two versions conveying different perspectives (A and B) may be seen as competing explanations; another (version C) is a nationalistic explanation written in 1946; the last version (D) is a descriptive account. A set of historical sources to justify mainly versions A and B were also selected.

A paper-and-pencil task-set was devised. Among these tasks, students were asked:

- to answer the central question,
- to state why explanations vary,
- to rank the four versions by order of importance and justify their ranking,
- to choose which among an agent, a witness, a neutral author or a recent author is able best to explain a given past.

An interview-guide oriented to clarify or better justify written answers was also devised.

Method of analysis - The model of grounded theory (Strauss and Corbin, 1991) provided the tools (analytical procedures) for inspiring a set of 'rules of thumb' to make sense of data in terms of students' conceptions. Grounded theory is defined as a style of qualitative research 'that is inductively derived from the study of the phenomenon it represents ... it is discovered, developed, and provisionally verified through systematic data collection and analysis of data' (Strauss and Corbin, 1991, p. 23).

Procedures - In the pilot, the tasks were administered to three sets of students of different grades and schools on three different occasions (three phases, in two years) in order to progressively build the model for analysis and to reformulate the instruments. A week after the paper-and-pencil task administration, students were individually interviewed. In the final data collection, the paper and pencil task-set was administered to each classroom within a period of one month. Ten percent of this subsample was subsequently interviewed within an individually arranged schedule, during the same month.

THE MODEL

Responses from the last subsample (N=119) were categorized by levels of progression in ideas about provisional historical explanation, according to the model progressively generated.

Level 1: The story

Explanations are mainly construed as a story but a restricted explanatory mode may be apparent as well. A major concern for substantive information is suggested and any second-order reasoning, when it emerges, is related to description rather than to explanation.

Example: Claudia, 12 years old, 7th grade

Claudia explained the Portuguese domination of the Indian Ocean by giving a story:

In 1488 Bartolomeu Dias rounded the Cape of Good Hope giving the chance to Vasco da Gama to reach India through the Indian Ocean, they settled there controlling all the people who were their worst enemies, managing to settle there and conquering other people to trade in the Indian Ocean.

She looked at the evidence and plausibility of explanations as factual information rather than in terms of factorial relevance:

Version D (is better). It says that the Portuguese were discovering the maritime route to India, by conquering ... while in version A it was the Moslem challenge against the Portuguese. Versions B and C are worst because the Portuguese were somehow bad to the Moslems when these were good since they let the Portuguese settle there.

As far as methodological detachment is concerned, Claudia saw differences among historical versions as different ways of telling the same thing. She valued direct observation to know all the facts:

Writers have different ways of explaining an event. Versions are the same but told ... by other words...

A witness who wrote on that is better because ... that man or woman would write everything s/he saw at the time.

Level 2: The right explanation

Explanations - or descriptions, as these concepts may be not clearly distinct - are considered right if proved by real facts. The major concern is about the most correct explanation instead of description of the story. Different historical explanations tend to be considered non-proved explanations by contrast with those produced by witnesses/agents, since the former are based on facts not directly experienced (by observation or memory).

Example: Herminio, 13 years old, 7th grade

Herminio focused his explanation on one explicit, but manifold factor:

Because King John had information about the Indian Ocean and about a strong spice trade which would give much help to the economy.

He discriminated between evidence and explanation, and argued for the plausibility of one factor he favoured:

Version D is better justified by records of those who navigated and who used to write about them.

The Portuguese wouldn't go fighting due to their great leaders' morale only, but also due to the spice route and trade.

Herminio appeared to see methodological detachment in terms of factual proofs for a truthful explanation. He defended the direct observation paradigm in order to have access to truth:

A witness gives a more truthful explanation because s/he saw; the Portuguese could have lied or enlarged the story. An author nowadays can be wrong on facts because s/he didn't live on that epoch and doesn't know how it really was.

Level 3: The more factors the better

Students operate with the concept of explanation. All factors are seen as necessary to explain the situation, as a mere sum, or as an interrelationship. Antecedent steps may be added and sometimes preferred to conditions for explaining an occurrence. Ideas of evidential consistency and plausibility are discussed as related to explanation. The provisional nature of explanation emerges, mainly related to the notion of quantity of factors. The memory paradigm tends to be overvalued, as the historical agent is seen as better knowing the situation s/he lived.

Example: Carla, 13 years old, 7th grade

Carla constructed a short explanatory narrative, operating with several factors:

Great sacrifices were made by everyone participating in the action of confidently confronting the Moslems who were not a big obstacle to be overcome, after all.

As the Chinese 'gave up' the control of the Indian Ocean, it was even easy for the Portuguese to get control of the spice trade and to conquer the main essential ports.

She distinguished the role of evidence in the construction of an explanation, and valued the quantity of factors for a plausible explanation:

Historians try to fit things together and justify... by documents they find...

Version D explains better because it explains better the steps done by the Portuguese and conditions...

Version A is too summarized and it only narrates the enemies encountered by the Portuguese. Version C speaks only of the moral correctness and the sacrifices made.... That is not enough for explaining, more things are necessary.

Concerning methodological detachment, Carla appeared to relate perspective to a notion of empathetic reconstruction of the past. This suggests an overlapping of description and explanation, which also led to the memory ideal:

There are different explanations because several people can have different opinions based on facts which may be thought more important for some and than for others. Authors must put themselves into the sailors' position and think of how they would take certain attitudes. A Portuguese who lived those events could easily explain why things happened that way. A historian might give an explanation because s/he thinks that it was like that, but the Portuguese know because they lived through it.

Level 4: A consensual explanation?

The concept of provisional explanation appears linked to the ideal of a multi-causal explanation to grasp the total past, and more elaborate ideas are developed in relation to the concept of neutrality. Consistency with evidence tends to be understood at the level of verification, that is, in terms of proofs. The existence of different explanations from different points of view is clearly recognised, but a perspectiveless neutrality is also emphasised as an ideal which can be fulfilled or not. Two trends emerge:

1. Some students claim that factors must be discovered by applying an absolute (perspectiveless) neutrality. With this assumption, memory and direct observation cease to be valued over recent historical work. Perspective is recognised but not admitted as a valid criterion for an historical explanation. As a consequence of this view, the search for a consensus is considered as a necessary and attainable aspiration in history. At one pole of this spectrum, a definitive and final conclusion is defended as *the* explanation.

2. Some students stress that all the true factors are not attainable, since a point of view is inescapable, and limits ways of looking at reality. As historical explanations are relative to personal or cultural presuppositions, the direct observation paradigm may offer a better means of partially controlling for neutrality, and reducing subjective interference.

Example: Rui, 17 years old, 9th grade

Rui gave a list of factors in his explanation:

One of the reasons is due to the fact of the Portuguese not having met any resistance from people who used to trade on spices before. Another reason was that the Portuguese were technically advanced at the time, as far as their naval equipment is concerned. I also think that their morale was boosted due to that very profitable trade.

Rui suggested a central concern for a plausible explanation consistent with evidence about a multicausal situation:

We aren't immediately allowed to think: that's because of those people there; first we have to see what made possible the creation of such an empire. The Portuguese had a really advanced technology, will-power, so all these factors contributed to the empire which we possessed in the Indian Ocean.

Some explanations are more credible because they are based on all facts.

Rui defended a perspectiveless neutrality in order to reach a final, or a consensual, explanation, and evidence was conceptualized at the level of verification:

Each person thinks in her/his own way forming her/his own opinions, thus different explanations occur. All these explanations should be joined together and after being conveniently analysed and proven a final explanation would be formulated. I think that such a study should be done to teach real things, not mere hypotheses...

The best person for explaining this domain would be an important author. He would analyse a whole set of factors which others certainly would leave aside, because they are not able enough to explain them or because they don't give the importance that those facts deserve.

Level 5: Perspective

Historical explanations are considered under specific methodological criteria pointing to ideas connected with confirmation and refutation as well as plausibility in relation to the historical context. The idea of perspectiveful neutrality tentatively emerges, still conflicting with the idea of a perspectiveless neutrality. Those criteria bring a more critical and grounded view to the notion of objectivity than in previous levels, even when an oscillation between objectivism and relativism appears.

Example: Filipa, 16 years old, 11th grade

Filipa construed her explanation under a narrative pattern, in the sense that causes are intertwined within an account, instead of being merely listed:

Since the fifteenth century naval techniques and equipment had been improved, which permitted a better knowledge and development for the country. Thus during the sixteenth century the Portuguese set sail into unknown lands which supplied a wide and profitable trade that would enrich the country, enlarging the Portuguese domains.

We can conclude that with the help of the Portuguese strong resources - with strong fleets - the unknown lands were dominated.

Filipa related evidence and explanation suggesting notions of confirmation/refutation (although she also suggested the notion of verification). She discussed the plausibility of the explanation in terms of relative importance of factors:

When something is explained in history we are not capable of doubting it, since there are really some data. As I mention here, a good historical explanation will be put under research... It can be put into question by other historical authors! ... Proofs really give a certain explanation...

Some data are more important and more logical in order to explain... For example, in version D, which I chose, they give us a goal, the goal of the Portuguese, and several conditions which really explain ...

Version B only explains the Portuguese conquest in India without transmitting to us any Portuguese goal concerning the Indian seas. [However] that historical explanation [versions A and D] doesn't manage to explain the why of the other people's failure.

Filipa explicitly distinguished between an objective and subjective explanation under criteria of evidential consistency. She seemed to recognise the notion of perspective without conflicting with that of methodological detachment:

Each author can have her/his own opinion, but neutrality is not exactly that, because neutrality is not tied to her/his opinion...Version C [quoting]: This is an explanation precisely based on the nationalistic mentality of a Portuguese author....The others want to be more objective, maybe this is somewhat subjective.

For me, a recent author would be the person who could explain the Portuguese domination of the Indian Ocean better, because s/he can compare facts, having a larger number of proofs, better resources, with deeper studies on the several issues.

LEVELS OF PROGRESSION BY AGE

A statistical analysis of the last subsample was viewed as desirable to illuminate some possible major trends in the population studied. Responses were coded in order to analyse, among other tendencies, the frequency distribution of levels of progression in ideas about provisional historical explanation (PHE), and differences of PHE by age (see table).

Table: PHE levels of progression by age

Level	Age-groups				Total
	12-14	14-16	16-19	19-20	
1	12	11	-	-	23
2	10	10	4	1	25
3	14	24	14	3	55
4	2	2	6	2	12
5	-	4	-	4	
	38	47	28	6	119

chi-square = 31.46, df = 15, * p < 0.05

The most popular pattern of ideas was the aggregationist level 3. However, the chi-square test revealed that there were significant differences among the age-groups at the 5% level. An overall progression from the 12-14 to the 16-19 age-group may be suggested. The 12-14 age-group mainly suggested ideas from a descriptive pattern (level 1) to a concern for the right explanation (level 2) and for a quantity of factors (level 3). Two pupils of this age-group suggested more elaborate ideas related to neutrality (level 4). The 14-16 age-group also ranged mainly through levels 1, 2 and 3, but their responses were concentrated (15%) around level 3. As in the former age-group, two pupils suggested more elaborate ideas at level 4. The 16-19 age-group appeared to show the most sophisticated ideas: no overall responses were categorized at level 1, only a few pupils suggested level 2, some (the highest frequency, by age-group) suggested ideas of

level 4, and it provided the only responses (N=4) at Level 5. Fifty per cent of this age-group appeared to give responses at Level 3. The restricted 19-20 age-group ranged between level 2 and level 4.

A BRIEF DISCUSSION AND SUGGESTIONS

The results of this study suggest that adolescent students argue for and against explanations by applying, at various levels of sophistication, criteria of consistency and methodological detachment. The informal process of education in a pluralist society, where controversial issues are publicly discussed (e.g., on tv), probably makes the handling of alternative views not very alien from experience of young people. Only students focusing on information may find it too confusing. Adolescents may be encouraged to think about several explanations of the past rather than following a question-and-answer routine about *the* historical explanation provided by their textbook. However, a gradual implementation of this approach is therefore required. Any approach to the development of a critical reasoning must be progressively carried out in accordance with the conceptual levels observed.

During the process of data analysis, some perplexities concerning data interpretation led to the formulation of several hypotheses about specific trends in strategies developed by students. Adolescent students tend to reason in history - it appears - on substantive grounds, according to everyday assumptions, and they convert substantive information in an operational scheme which is often misunderstood by the teacher. As examples taken from this study:

(a) Nationalistic ideas (such as 'the moral correctness of the Portuguese leaders' in Antonio Matoso's version) may at a first glance appear popular among young people; an in-depth analysis showed that such values were re-elaborated by several students in terms of mere everyday assumptions (morale or will-power).

(b) Students may take concrete decisions which appear to indicate a not very elaborate reasoning in history (at all levels, the descriptive version was a popular 'explanation'; some students who argued for and against explanations in terms of neutrality assumed a preference for a given version as an emotional choice); the in-depth analysis revealed that there were different reasons, and *more* or *less* sophisticated arguments, for this ranking. To explore - even informally -

the students' tacit meanings of whatever is at issue in class may be crucial to understanding how they reason and to help them progress beyond their initial conceptual levels.

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APPENDIX

VERSION A

Openly defying the Moslem domain and combating the Moslem faith, the Portuguese had to meet as their main enemies in Asia the Egyptians and the Turks. It helped the Portuguese considerably that none of these major Moslem countries based its power upon the sea.

O. Marques (Portuguese historian), *H. de Portugal*, 1980

VERSION B

The Islamic naval challenge to the Portuguese, when it came, was ineffective ... Had the Chinese still been present in the Indian Ocean when the Portuguese arrived, one can only speculate what might have happened. The decision to withdraw the Chinese fleet 60 years before was a momentous one, leaving the 'door left open' (to the Europeans) into the Indian Ocean.

A. Pacey (English researcher), *Technology in World Civilization*, 1990

VERSION C

This large domain quickly conquered with a few human and financial resources can only be explained by the moral correctness of the Portuguese great leaders, by the sacrifices for the country made by all the people.

A. Matoso (textbook author), *Compêndio de História Universal*, 1946

VERSION D

The sailors of Prince Henry were those who took the first and most difficult steps into the unknown lands for the Europeans ... The western African coast was progressively explored. The Portuguese caravels brought back gold, spices, furs, ivory and slaves from those regions.

Meanwhile, between 1405 and 1433, the emperors of China sent seven expeditions to explore the Indian Ocean, commanded by Cheng Ho, bringing back to China spices and unusual animals, including lions and giraffes.

Upon Bartolomeu Dias having rounded the Cape of Good Hope, a new expedition, commanded by Vasco da Gama, arrived in India, in 1498. After that, the Portuguese quickly took control of the lucrative spice trade, for almost a century by forbidding other people to trade in the Indian Ocean and seizing the main ports through which the spice route passed.

Based on *Explorers*, 1991 and *Exploration & Empire*, 1990

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