

# What Are Analytic Narratives?

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# Introduction

- **Analytic narratives** (AN) purport to explain specific historical states of affairs by combining the usual narrative approach of historians with the analytic approach that is familiar to economists and political scientists.
- **Two main principles:** (1) To join the forces of narration and analysis should result in better solutions to problems in historical explanation than if either technique were used in isolation.
- (2) The analytic component is drawn from the theories of rational decision-making, prominently game theory; the tools they offer should fit the purpose of combining narration and analysis effectively.

# Introduction

- In *Analytic narratives* (1998), Bates, Greif, Levi, Rosenthal and Weingast defend this genre and illustrate it by five case studies.
- They create the term and clarify principles (1) and (2), but they are not unprecedented.
- In the second half of the 20th century, the field of **security studies** developed, as a result of the historical development of the cold war and the conceptual problems raised by nuclear dissuasion. E.g., the Cuban Missile Crisis (Allison, 1971; Brams, 1975, 1985).
- This already involved some combination of narrative and analysis, especially game-theoretic analysis.

# Introduction

- Today, analytic narratives are slowly gaining ground in political science (mostly), in economics (occasionally), but not really in history despite some propaganda efforts (by this writer among others).
- An exception: economic historians of the **cliometric** (or **new economic history**) branch are supportive. Cf Diebolt & Hauptert, *Handbook of Cliometrics* (2<sup>nd</sup> ed forthcoming).
- Common theme: models used to answer historical questions. But two differences: cliometrics borrows models from neoclassical economics and macroeconomics, not theories of rational decision making; and deals with large-scale phenomena (the Industrial Revolution, slavery, railways, etc), not specific events of a relatively transient sort.

# Introduction

- There are roughly **two existing branches** of AN, one that investigates how certain (historically defined) institutions functioned, while the other investigates how certain (historically defined) strategic interactions were resolved.
- *Analytic Narratives* exemplifies the 1st branch and claims a neo-institutionalist connection (further clarified in Greif, *Institutions and the Path to Modern Economics*, 2006).
- The 2<sup>nd</sup> branch is best exemplified by up-to-date security studies, esp. Zagare, *The Games of July*, 2011.

# Introduction

- We will not present a new AN, but rely on the existing literature, with a view of delineating the AN genre more precisely, and resolving some methodological questions it raises.
- Three such questions. (i) *How do AN improve on existing historical explanations?* (ii) *What modes of exposition fit them best?* (iii) *How do AN overcome the apparent contradiction between narrating and modelling?*
- We begin with a sample of AN, two studies from *Analytic Narratives* and one outside study (by this writer).

A sample of analytic narratives

# Case 1: Greif's study of Medieval Genoa

- Greif investigates the political organization of Genoa from 1096 to 1334 and addresses the following historical problem: why and how did Genoa go from civil peace and prosperity (1096-1164) to civil war (1164-1194), and to civil peace and prosperity again (1194-1334)?
- Genoa's civil life depended on the interactions between the clans. In the first two periods, *elected consuls* ruled, and the clans first cooperated, and then fought each other. In the third period, a designated administrator, the *podestà*, replaced the consuls, and the clans cooperated again.



## Genoa (cntd)

- Traditional history does not explain the occurrence of civil war under the consulate and is unclear about the role of *podesteria*.
- Greif constructs two **extensive-form games of perfect information** and investigate their equilibria (in the *subgame perfect equilibrium* sense).
- Both games are elaborate variants of the basic *deterrence model* of security studies: 1 decides whether or not to challenge 2, who decides to fight or concede. Payment values determine which issue is an equilibrium.

## Genoa (end)

- Game I has two players, each representing a clan, and their payments vary with the presence or the absence of an external threat (by the German Emperor). This variable parameter changes the equilibrium (from deterrence to fight).
- A trade-off between the gains from ruling the city and the losses connected with military responsibility.
- Game II adds the *podestà* as a third player and the equilibrium here is one of deterrence.

## Case 2: Levi's study of conscription in 19th century

- Levi investigates the 19th century patterns of conscription and addresses the following historical problem: why and how did conscription become universal in all countries that had made the choice of conscription instead of a professional army? (The various exemptions - commutation, replacement, substitution – had all disappeared by the end of the century.)
- Standard hypotheses are the progress of democracy (esp. in France and the USA) and the search for military efficiency (esp. in Prussia).
- Not entirely satisfactory.

# Conscription (end)

- Levi proposes an *informal model* in the spirit of *formal* political economy, whereby three influential actors (the government, the army and the legislator) contribute to decisions on institutional change.
- This delivers an arguably improved explanation of the patterns of change in the three countries under consideration (France, the USA and Prussia).
- The explanation subsumes the existing ones as well as others, e.g., a change in the dominant political coalition (the middle class eventually siding with the workers instead of the traditional elites).

## Case 3: Mongin's study of the Waterloo campaign

- Mongin revisits Napoleon's last military campaign in June 1815 and tries to answer the following historical question. On 16 June, N. defeated Blücher at Ligny; on 17 June, N. sent part of his army under Grouchy against Blücher; on 18 June, N. was defeated by Wellington and Blücher at Waterloo. Was it rational for N. to divide his army as he did on 17 June?
- Military historians do not agree on the sense of this decision. The study evaluates the explanatory capacity of the two main accounts ("proNapoleonic" and "antiNapoleonic") in terms of a simple game.

## Waterloo (cntd)

- This is a *normal form game with incomplete information* between Napoleon and Blücher. N. can keep the army united, send out Grouchy for pursuit against B., or send him out for interposition between B. and Wellington. B. can retreat to Prussia or join Wellington for the next battle.
- The (zero sum) game has a (pure strategy) solution in which N. chooses interposition and B. chooses joining W. This suggests a rationale for N, hence supporting the "proNapoleonic" position.

# Waterloo (end)

- The study does not aim at offering a new explanation, but rather at *arbitrating* between extant coarse explanations after refining them.
- There was no written record of Napoleon's instructions to Grouchy. In effect, the model serves to fill this factual gap by providing a reasonable conjecture on these missing instructions.
- This paradoxically connects the AN approach with the *hermeneutical* viewpoint. When empirical data are missing, an interpretation can help one to recover them hypothetically, and this can be achieved by using a *formal* model.

How analytic narratives explain



# Explanation

- The cases define their explanatory problems from the failures or limitations of traditional history, and their answers are given in terms of a model. The AN approach connects with **problem-oriented history** (cf the *Annales* school).
- Cases 1 and 3 include a **formal** model and case 2 an **informal** one. Case 2 potentially exploits a richer rational choice theory than the other cases - but only potentially.
- We take the view that AN *require formal models and can borrow them from all formal branches of rational choice theory*. These also include individual decision theory, social choice theory, and some microeconomics and political economy.

# Explanation (cntd)

- All cases can be likened to the **hypothetico-deductive** scheme of scientific explanation. Following this scheme, an explanation is an explicit deductive argument, with theoretical hypotheses playing the role of *premisses* and testable consequences the role of *conclusions*.
- If empirical data match the consequences, theoretical hypotheses can serve as an explanation, provided that some other deductions from the same hypotheses match some other facts (*independent testing condition*).
- In, say, a game-theoretic AN, the definition of the game and the statement of equilibrium properties are like the premisses and conclusions, resp., of a formal argument.

# Explanation (cntd)

- *The independent testing condition is the Achille's heel of AN.* Greif's and Levi's independent testing is loose for lack of data, and more crucially, because their theoretical assumptions do not embody proper regularities.
- This is why AN cannot claim the **deductive-nomological** scheme of scientific explanation (Hempel, Popper). The DN scheme adds to the HD scheme that there should be at least one statement of law among the premisses of the deductive argument.
- AN writers hesitate to give up the (classic and well established) DN scheme. This writer is willing to accept the loss.

# Explanation (end)

- The Waterloo study has both a completely **specific explanandum** (Napoleon's decision) but also a completely **specific explanans** (the model is non-generalizable).
- No pretence of finding out approximate generalities, and a limited admission of the independent testing condition. Assumptions are checked on the case itself, by resorting to the contextual data – again, an hermeneutic principle.
- Thus, despite the formalism, a study in the **traditional style of history**. Are not AN better suited to this style than the more recent and ambitious ones?

Analytic narrative as a mode of  
exposition

# Conscription

- The conscription study consists of a *theoretical statement* of the model and a *factual assessment* of its hypotheses. The narrative enters the assessment to bring out the relevant facts, and a comparison with the logical consequences of the hypotheses ensues.
- This is the classic exposition for **hypothetis testing**, with only one special feature, i.e., the use of *narration* (instead of description or other discursive forms) to report the facts.
- Not a sufficiently original exposition to specify the AN genre.

# Genoa

- The Genoa AN follows an **alternation** pattern, with (i) an *initial narrative* stating some of the facts and leading to an explanatory question, (ii) a *theoretical part* with the formal model, and (iii) a *new narrative* using some of the theoretical language and bringing out more facts and conclusions.
- See how Greif handles the first two periods.
- An original exposition adapted to the AN genre.

## Genoa (end)

- *Alternation* differs from *hypothesis testing* in that:
  - the theoretical hypotheses are not posed abstractly, but justified (by the initial narrative).
  - they are not properly tested on the data, but rather combined with them (by the final narrative).
  - the narrative has explanatory value (even the initial one).
- Thus, alternation entrusts the narrative with richer functions than hypothesis testing does.



# Waterloo

- The Waterloo AN follows a **local supplementation** pattern. The model takes precedence over the narrative only locally, i.e., to fill a gap in a narrative that is normally sufficient to provide explanations.
- See how the Napoleon-Blücher game enters the record of successive events.
- This non-standard exposition is also adapted to the AN genre.

## Waterloo (end)

- Each contrast between *alternation* and *hypothesis testing* can be repeated for *local supplementation*. Both interweave the narrative and the model instead of relating them externally.
- The difference with *alternation* concerns what comes after the modelling part. *Local supplementation* picks up the thread of the initial narrative but *alternation* follows a revised narrative.
- In sum, among the three modes of exposition, *local supplementation* trusts standard narration maximally.

The discursive consistency of  
analytic narratives

# Discursive consistency

- We need the basic distinction between a narrative **text** and the narrative **form of discourse**.
- As such, a narrative text can include parts that are not narrative in the form of discourse sense, but rather *descriptive, informative, explanatory, argumentative*. These forms are in general acceptable within narrative texts, especially of a factual (nonfictional) sort.
- By contrast, narrative texts cannot accommodate some other received forms, such as the injunctive or demonstrative ones.

## Discursive consistency (cntd)

- The acceptable forms of discourse must obey **restrictions** for the text still to be a narrative text. Length matters, but also the informational interchanges between the narrative and non-narrative parts, as well as their syntactic and semantic mutual compatibility.
- How does this apply to AN? For simplicity, we only consider the Waterloo study.
- The model belongs to a non-narrative part in the narrative text on the Waterloo campaign.

## Discursive consistency (cntd)

- *Which forms of discourse for this intermede?* The explanatory and argumentative forms. It has a minor informational role (what is a 2-person 0-sum game?) but no demonstrative role (proofs are for another text).
- *Which restrictions for this intermede?* Informational interchanges with the rest of the narrative text are regulated by a reference to time. Avoid anticipations, extended retrospectives or atemporal summaries.
- There are also *semantic* (i.e., meaning-related) restrictions.

# Discursive consistency (cntd)

- *Syntactically*, formal models use an artificial language, while narration primarily uses natural language. However only "primarily"; see how maps, tables and diagrams enter non-fictional and even sometimes fictional narrative texts.
- *Semantically*, **there might be discrepant interpretations** of the formal and informal expressions applied to related ideas, e.g., "strategy". This is a major problem for AN and it can be solved only by broadening the discussion to the semantics of rational choice theory.

# Brief conclusions

- We have somewhat restricted AN, requiring formal models, broadening the formal apparatus beyond game theory, proposing conditions for « discursive consistency ».
- We have coarsely sketched the explanatory possibilities of AN.
- Many more details in forthcoming chapter of *Handbook of Cliometrics*, « Analytic Narratives: What They Are and How They Contribute to Historical Explanation ».