

ANALYTIC NARRATIVE*

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Abstract. Since Bates, Greif, Levi, Rosenthal and Weingast's 1998 collection *Analytic Narratives*, historians and political scientists have argued about their method, which essentially amounts to constructing case studies in economic and political history by using game theory. The present article describes their contribution before expanding on the methodological problems of "analytic narratives" more broadly.

Résumé. Depuis que Bates, Greif, Levi, Rosenthal and Weingast ont collectivement publié *Analytic Narratives* en 1998, les politologues et les historiens ont débattu de leur méthode, qui consiste pour l'essentiel à se servir de la théorie des jeux pour construire des études de cas en histoire économique et politique. L'article décrit leur contribution avant de développer les problèmes méthodologiques du "récit analytique" plus largement.

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Mots-clefs: récit analytique, histoire et théorie des jeux, théories du choix rationnel

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The expression "analytic narrative" sounds like an oxymoron. A narrative can be defined as a report of human actions and resulting events that makes the temporal order of these actions and events clear, with the primary purpose of making them intelligible to the public. There seems to be no concept of analysis that fits narratives; if anything, they are syntheses (of description and account, art and knowledge, entertainment and instruction). Still, the above expression has become a tag in today's social sciences, especially in the "political economy" literature that flourishes at the crossroads of economics, politics, and history. Usually, it means little more than story-telling with significant theoretical underpinnings (for an example in this vein, see Rodrick's 2003 collection of "analytic narratives on economic growth"). But a few users of the expression are keenly aware of the paradox it raises, and for them, it means no less than a new approach to history, one which would be capable of reconciling the narrative mode of this discipline with the model-building activity of theoretical economics and politics. Prominent in this group are Bates, Greif, Levi, Rosenthal and Weingast, whose 1998 collection *Analytic Narratives* (henceforth *AN*) is the most sustained attempt to make sense of the tag, both in terms of methodological theorizing and concrete applications. This article will restate this double contribution before expanding on the issues more broadly.

In the Middle Ages, the city-state of Genoa underwent a succession of peaceful consulate system, civil war between the leading families, and civil peace under a new political system,

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the *podesteria*. The historians' best narratives fail to explain this sequence satisfactorily, and furthermore, to discern all the relevant questions; for instance, the first period was accompanied with a variable pattern of maritime activity in terms of raids and conquered possessions that also needs explaining. Greif responds by constructing two extensive form games of perfect information involving the clans as strategic players. The first explores their trade-off between maintaining mutual deterrence and participating in maritime operations. It accounts both for the variability within the first period and - using external threat as the variable parameter - its collapse into civil war. The second game, which the *podestà* enters as a player, rationalizes his stabilizing effect in the third period. Subgame perfect equilibrium is used to solve both games. Each period is first described in a pretheoretic narrative to clarify the open problems, second analyzed in a corresponding model, and third discussed and checked in another narrative that uses the theoretical language of the second stage.

A classic historians' problem is to understand why France and England followed such different paces of institutional change in the 17th and 18th century, one country keeping the absolutist monarchy throughout, while the other gradually established representative government. Rosenthal's answer emphasizes the two countries' difference in fiscal structure. Given that the product of taxes was mostly spent on wars, this leads him to investigate how a country's style of warfare relates to its political regime. His argument combines standard narrative parts with the use of an extensive form game that is formalized in an appendix. The two players, the King and the elite (an abstraction representing the French and English parliaments, and the provincial estates where they existed in France) enjoy separate fiscal resources and try to make the best of them in fighting profitable wars. The King alone has the power of launching a war, and if he exerts it, the elite decides whether or not to participate financially. Since most wars need joint funding, there is a free rider problem which is more acute when the fiscal resources are shared than when they are in one player's hands; whence the prediction that wars are the more frequent, the higher the King's share of fiscal resources. For Rosenthal, France's absolutism was a case of sharing, whereas England's representative government was one of near control by the elite. So his model can be tested on the two countries, and if confirmed, it will illuminate the connection between their warfare and political regimes. However, it is unclear what it contributes to the initial question of their different paces of political change.

In the 19th century, there was a trend in western states to reform military service in the direction of more or less universal conscription. Standard histories emphasize democratization and military efficiency, but the latter factor is unclear, and against the former, reforms took place either before (in Prussia) or later (in France and the USA) than universal suffrage prevailed. Starting from these objections, Levi narrates the changes in French and American regulations, attending not only to the chronological problem, but also to the technical forms of buying out one's military duty (substitution, replacement, commutation). Her narrative is analytic to the extent that it relies on an informal model in the spirit of formal political economy. The main actors are the government, which strives to employ the population efficiently, the constituents, who are divided into social classes with distinctive preferences, and a pivotal legislator, who aligns himself on the coalition prevailing among the classes. Hypothesized changes in the government's and the middle classes' preferences account for the observed change in regulations that is sensitive to its fine-grained features.

Historians of the USA have long been puzzled by the relative stability of the federation through the decades before the Civil War. Classically, they argue that slavery became a divisive issue only after a while, and that the democratic party after Jackson managed a

successful coalition of southerner and northerner interests. Others put forward local political issues and changing economic conditions. Weingast combine these factors into a narrative that stresses explicit political arrangements, especially the "rule of balance" between slave and free states (they should remain equal in number to preserve the South's veto power in the Senate). Crises typically occurred when a new state was admitted. The first brought about a compromise that helped resolve the second, but did not work with the third. To keep an effective balance despite the continuing expansion to the West, the slave economy should have developed beyond its feasible limits; this is why conflict became unavoidable. Weingast's explanatory narrative accommodates three formal models, one of the spatial brand of mathematical politics, and the other two of the extensive form brand of game theory. They fully clarify his claim that the rule of balance was necessary to maintain federal stability.

From 1962 to 1989, the International Coffee Organization regulated coffee prices by setting export quotas to its members, notably Brazil and Colombia, which were the main producers. The birth of ICO raises strategic issues that Bates addresses in an original format of narrative. He recounts the same event three times: Brazil and Colombia unsuccessfully tried to gather other coffee-producers; they brandished the communist threat to trap their main consumer, the USA, into their cartel organization; despite congressional reservations, the USA accepted the deal when their large coffee-selling companies supported it. Each partial narrative is followed by a formal argument – actually not a proper model – which supports it, but leaves an explanatory residual that motivates the next narrative step. Bates's discussion of the operations of ICO involves the same alternation.

There is much common ground between the previous five studies. They begin with a set of historical problems that generally emerge from a critique of the extant literature; only the ICO case is too recent for such a reflective start. The problems often concern fine temporal patterns and variations that previous scholarship simply took for granted. A clear answer is finally given, which a modeling effort has contributed to shape. The authors' methodology emphasizes not only explanation, but also empirical testing. This is because their explanatory hypotheses, especially when they are duly formalized, deductively entail more than just the chosen explanandum. So there is room for independent testing, ideally by varying parameters such as Rosenthal's fiscal sharing ratio, but also less formally, as when Greif supports his account of *podesteria* in Genoa by discussing the form it took elsewhere. It is evident from the authors' related contributions that they believe to have uncovered theoretical patterns that can be transferred successfully; see e.g. Greif's (2006, ch. 6) "theory of endogenous institutional change" in which he fits Genoa as a particular case. Still, it is dubious that the studies rely on genuine law-like regularities, and *AN* explicitly distances them from Hempel's "covering laws" theory of explanation. An unresolved methodological issue is to locate the new genre between this extreme construal and its alternatives, as in Dray (see Gardiner's 1974 collection on the Dray-Hempel debate), or put more simply, to decide what the generality of the suggested explanations really consists of.

The dissimilarities between the studies are no less striking, as they relate to the very concept that supposedly unites them. Greif and Bates develop a clear scheme of alternation between narration and analysis, with a ternary rhythm in Greif and more iterations in Bates (and correspondingly, more modelling in the former than the latter). In this conception, "analytic narrative" cannot mean a narrative that is also analytic, but a dual genre in which narratives and analyses cooperate for a common explanatory purpose while keeping their distinct identities. The two components exchange positions - the problems stemming sometimes from one, sometimes from the other, and similarly with the solutions – and influence each other

linguistically, but are never blurred. What conceptions the other contributors promote is not so explicit. Levi and Rosenthal introduce their technical concepts and hypotheses before proceeding to the narrative, whose foremost function seems to provide empirical evidence to check the hypotheses. Faithful to this hypothesis-testing conception, Levi carefully states the historical facts separately from the explanation they contribute to, but Rosenthal blurs the limits between the two, as if he were after the integrated form that Greif and Bates precisely exclude, i.e., a narrative made analytic. Exemplifying still another conception, Weingast introduces his hypotheses at the outset, but without technicalities, and his later models serve only to clarify part of them; in a sense, they confirm the narrative rather than the other way round. From this overview, one can distinguish four ideal-types of analytic narratives: alternation, hybridation, hypothesis-testing, supplementation.

This classification is new to the methodology of analytic narratives. It is conceptually unrelated to, and arguably more significant than, the form and intensity of the modeling effort, which are also quite variable in *AN*. As comparisons across the book show, the formalized model may be solved to variable degrees of detail, depending on its inner complexity and, more subtly, the way it is used. The mathematical demands are not the same if the account is targeted at one or more historical situations, and at few or many selected features of these situations. Also, the model may be constructed for the purpose, as in Greif, Rosenthal and Weingast, or borrowed from the shelf, as in Bates. Levi's study does not involve a formal modeling stage, and critics like Elster (2000) have complained that such borderline cases were little more than standard narratives. Arguably, only modeling in principle, not actual modeling - this proposed distinction parallels a classic one in the philosophy of explanation - is essential to analytic narratives. In politics, international relations, military strategy, the new genre was predated by heuristic sketches rather than mathematical applications. Many of these sketches can be filled out, and it would seem arbitrary to keep them outside the door; see, e.g., Ferejohn (1991), Maurer (1992), Myerson (2004). Some topics have already gone through two stages of technicalities. Thus, the 1914 diplomatic crisis was analyzed strategically first at a semi-formal level by Levy (1990-91), and second within a full-fledged model by Zagare (2009).

To return to the *AN* contributors, their most obvious common ground is perhaps their involvement with game theory. Granting the plan of subjecting history to some theoretical framework, this one recommended itself to Greif, Levi, Weingast and Rosenthal, given their chosen cases. Empirical existence can be claimed for the collectives - clans, states, countries, social classes or interests - they deal with; furthermore, in the historical circumstances, these collectives could plausibly be endowed with feasible sets of actions, preferences, and strategic calculations. Game theory was perhaps not so appropriate for Rosenthal's wide-ranging explananda; he can employ it only after lumping together - e.g., in the "elite" - a large number of very different actors. Within game theory, *AN* claims a special status for extensive forms of perfect information and subgame perfection. Granting that the latter is a powerful equilibrium concept for the former, the two contentious issues are, how would analytic narrators solve extensive forms under imperfect information and why should they not sometimes employ normal forms? To see these alternative forms at work, take Haywood's (1954) penetrating analysis of World War II battles in terms of two-person zero-sum games - actually, the first application ever made of a game-theoretic technique to history.

The *AN* contributors make occasional use of social choice theory, and they could have resorted more to decision theory, at least in the basic form of an expected utility apparatus. These two blocks are integral parts of the mathematical corpus of rational choice theory

(RCT), so it is appropriate that the debate over analytic narratives has centered on their association with the compound rather than just game theory. Elster (2000) claims that they fail because the standard, already telling objections to RCT become absolutely irresistible in their case. For instance, the problem of checking for the actors' motivations, given that they are not observed, but conjectured from overt behavior, is dramatized by the information lacunae that are the historians' lot. Bates, Greif, Levi, Rosenthal and Weingast (2000) respond both by defending RCT for lack of better alternatives and by arguing that their applications do not worsen its case.

The present writer tends to agree with them, but would emphasize more than they do the relativity of success and failure. In social sciences generally, RCT has preferential explananda: human actions and their proximate consequences, when the actors are individuals or can be regarded as such, perform some deliberation or calculation, and their desires can be disentangled from their beliefs. The closer its case stands to this ideal point, the more promising the analytic narrative, and conversely, cases that depart on too many dimensions are bound to failure. A paradoxical consequence is that analytic narratives perform well in those areas in which ordinary narratives already do; this is because RCT and ordinary narratives share roughly the same preferential explananda (a thesis defended by Dray and other philosophers of history).

These are the objective conditions, as it were, and there are others relative to the intellectual context. A convincing analytic narrative needs rooting into traditional history. There should be a problem neglected by the historians, but this problem, once brought to light, should attract them, and their inadequate records should be adequate enough for the solution arrived at analytically to be double-checked. This is a knife's edge, and there could be few candidates that survive in the end.

Mongin's (2009) analytic narrative of the Waterloo campaign in June 1815 is meant to provide a decently favorable case along these stringent lines. (Campaign narratives, and military applications generally, appear to be a fertile area for the new genre; compare with Brams, 1975, and O'Neill, 1994.) Mongin starts from a gap in the extant narratives: they do not properly explain why Napoleon weakened himself before his decisive battle against Wellington by sending Grouchy's detachment against Blücher. This failure at answering a major historical question by ordinary means suggests trying a RCT model. Beside the contextual condition, the objective conditions are met paradigmatically – the explanandum being a single man's action, taken deliberately in a limited context of uncertainty, in order to achieve a seemingly transparent objective of victory. Mongin introduces a zero-sum game of incomplete information in normal form. At the unique equilibrium, Napoleon's strategy consists in dividing his army, sending out Grouchy to prevent Blücher from joining Wellington. Eventually, nature played against Napoleon, and Grouchy messed up the orders, so the ex post failure is compatible with ex ante rationality. This is the claim of the pro-Napoleonic literature, but rejuvenated by the technical apparatus. Here, the analytic narrative plays an arbitration role between historians, but elsewhere, it will provide them with new conclusions and, most importantly, new explananda to consider.

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