Private First Class Raymond Rumpa, C Company, 3rd Battalion, 47th Infantry, 9th Division, with 90mm recoilless rifle, walks by as Viet Cong base camp burns, My Tho, Vietnam, April 5, 1968 (U.S. Army/National Archives and Records Administration/Dennis Kurpius)

The Integrated "Nonwar" in Vietnam

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The failure of U.S.-led forces to forge a stable Afghan state with robust security forces in a two-decades-long civil-military effort is only the most recent of a series of foreign policy failures that include the invasion and occupation of Iraq, intervention in Somalia, and reach back to the Vietnam War. A recurrent issue across time and geography is the discrepancy between American preconceptions of the operating environment and local reality. The inevitable result is that resources are misdirected. As one province chief in the Vietnam War, Tran Ngoc Chau, recalled, "Give me a budget that equals the cost of one American helicopter, and I'll give you a pacified province. With that much money, I can raise the standard of living of the rice farmers and government officials can be paid enough so they won't think it is necessary to steal."[1]

Such a systemic shortcoming requires reassessment of our modeling of the operating environment. Models are a simplification of reality used as a tool to aid planning. The contemporary operating environment is subject to such simplification and is analyzed through the PMESII-PT framework of eight constituent variables: political, military, economic, social, information, infrastructure, physical environment, and time.[2] These variables are interrelated, meaning that change in one constituent part affects others, complicating the ability to understand the local area. When a system such as the operating environment functions in this way, it can be described as nonlinear. The two principal characteristics of nonlinear systems are the absence of additivity and proportionality: the whole does not equal the addition of the separate variables, and inputs are not proportional to outputs. The topic, though obscure, is critical to the effectiveness of military missions because failure to address the nonlinear character of the operating environment perpetuates a gulf between concept and reality.

This article asks how strategic planners should conceptualize the nonlinear nature of the operating environment. It explores how it has been analyzed in the past by examining one U.S. attempt to derive actionable insights from the operating environment in Vietnam, the 1966 "Program for the Pacification and Long-Term Development of Vietnam" (PROVN) study. Identifying shortcomings in current doctrine, this article subsequently uses the PROVN study to assess the implications of nonlinearity for contemporary warfighting. It finds that planners must address the nonlinear character of the operating environment to generate an effective qualitative understanding of the local area.

Contemporary doctrine identifies the presence of interrelating variables in the operating environment but does not consider the implications of nonlinearity. Joint Publication (JP) 3-0, *Joint Operations*, identifies the operating environment as a "system," a "functionally, physically, or behaviorally related group of regularly interacting or interdependent elements forming a unified whole" where the operating environment is "a set of complex and constantly interacting . . . PMESII systems" from which a "commonly shared understanding among stakeholders" can "promote a unified approach to achieve objectives."[3] These aspects of JP 3-0 encapsulate both the necessity to consider interrelations between variables and the importance of a commonly shared unified objective.

Nonlinearity is referenced in JP 3-03, *Joint Interdiction*, used in analyses of efforts to deleteriously impact enemy capability prior to military engagement. In it, nonlinear operations arise when "forces orient on objectives without geographic reference to adjacent forces" and "emphasize simultaneous operations along multiple lines of operation from selected bases."[4] This assessment only identifies that interdiction operations will involve multiple orchestrated pathways of compellence applied in parallel. It does not, however, identify the two pertinent aspects of nonlinearity: that inputs are not proportional to outputs and that the sum of the pathways will not be equal to the overall effect of the operation because of the interrelations between variables. Nonlinearity therefore affects planning in ways beyond its current articulation in doctrine.

Origins of PROVN

The PROVN study's description of conflict as a set of interrelated variables is remarkable in approximating the behavior of a nonlinear system. PROVN was commissioned in the summer of 1965 by U.S. Army Chief of Staff General Harold K. Johnson, who doubted the efficacy of ongoing large-scale search and destroy missions in Vietnam in bringing stability to the region.[5] The authors of the PROVN study were tasked with developing new courses of action taken by South Vietnam forces, the United States, and its allies to achieve stated objectives.[6] The two-volume report published the following year called for a unification of effort aligned to a clearly articulated single objective in the country and was widely briefed to senior officials in the Pentagon. Its impact was complex. The American historian Andrew Birtle noted that the report "fell into obscurity" but nevertheless asserted PROVN to be an "important document" that "accurately catalogued the many problems that had bedeviled the war effort, offered solutions, and influenced several key decisionmakers."[7]

At the heart of PROVN was the identification of a "nonwar" being fought in Vietnam. U.S. planners, the authors argued, had failed to grasp the complexities of the broader societal struggle being fought to the extent that "assistance techniques and support organization have proved to be only marginally effective in coping with the military, political, economic, and psychological components of the 'nonwar' being waged."[8] This term was to be an innovative aspect of the study, describing a form of confrontation in which "successful attainment of immediate military objectives still will leave political, economic, and social-psychological conflicts that initiated the 'nonwar' unresolved" and in which success "requires broad-gauge application of national power; its parameters exceed[ing] the purview of any single U.S. executive agency."[9]

The PROVN authors in their analysis of the dynamics of the Vietnam War were articulating behavior that corresponds to that of nonlinear systems. As the American anthropologist Montgomery McFate noted in her assessment of PROVN, the "authors believed that strategy and operations had to conceptualize Vietnamese society as a whole society—an integrated system composed of interrelated, interdependent elements," much as Clausewitz, more than a century before, had understood that "in war more than in any other subject we must begin by looking at the nature of the whole: for here more than elsewhere the part and the whole must always be thought of together."[10] To understand the operating environment in its entirety, it was necessary to first identify the single objective in the theater, and to that end the study referenced a sentence from the defining U.S. Government position, National Security Action Memorandum 55, *Relations of the Joint Chiefs of Staff to the President in Cold War Operations*, published in 1961,

Army Major Bruce Crandall flies UH-1D helicopter after discharging infantrymen on search and destroy mission, November 14, 1965, during Battle of Ia Drang, Vietnam (U.S. Army)

which stated that "the most difficult problem in Government is to combine all assets in a unified, effective pattern."[11]

The conflict could only be understood by analyzing the linkages between constituent variables. Citing a misguided preoccupation with the "kill" ratio, measuring friendly versus enemy deaths in action, that ignored important aspects of development such as rural construction, the PROVN authors observed, "Varying a single factor may influence some of the other factors, but such manipulation cannot assure control over sufficient numbers of them to achieve an objective."[12] Although the study did not hinge analysis to the concept of nonlinearity, it nevertheless identified behaviors of the social system that are hallmarks of nonlinearity: "This very interrelatedness is what makes the development of solutions so difficult. If the factors

were independent variables, it would be relatively easy to resolve the situation by addressing each problem with a separate program for solution."[13]

The anthropologist Gerald Hickey, who had conducted ethnographic research in Vietnam in the 1950s and 1960s, later captured the nonlinear essence of the conflict:

American planners and decisionmakers in Washington and Saigon failed to understand that the social, political, economic, religious, and military aspects of Vietnamese society were intrinsically interrelated and had to be understood that way. A decision regarding one aspect had to be based on its effect, its impact, on all other aspects. Making military decisions without considering what effects they would have on the society as a whole resulted in ever spreading disruption that weakened social order and structure.[14]

This evident interconnectedness complicates planning. The PROVN authors concluded that for "staging and phasing" operations, "[e]ven the subcompletion times of subprogram projects cannot be forecast with accuracy. Programs are too interrelated, and situational factors are far too complex, to permit such prediction."[15]

The evident inability of the Army to achieve effective integration of effort was identified by senior military staff. As General William Westmoreland, commander of U.S. forces in Vietnam, noted in a January 1966 meeting in Washington, DC, "Probably the fundamental issue is the question of the coordination of mission activities in Saigon. It is abundantly clear that all political, military, economic and security (police) programs must be completely integrated in order to attain any kind of

success."[16] That aspirational observation at the strategic level nevertheless required granular and actionable processes at the operational level, posing significant difficulties for the multiple U.S. agencies in the field at that time. It proved impossible to execute at the tactical level as commanders received orders for operations that focused on attrition of the North Vietnamese Army and irregular forces, which left little capacity or appetite for population engagement designed to diminish support for the adversary.

The authors of PROVN argued that this level of coordination would require development of a deep institutional memory to capture variables and their linkages. A proposal was made for a Blueprint for National Action that would explicitly integrate the military, political, social, and economic factors of the conflict. The authors argued that the complexity of the social system would be only adequately captured by qualitative assessment: "An integrated, current body of knowledge describing the Vietnamese society and identifying those elements within its political, economic, military, and other subsystems which must be stabilized through induced social change."[17]

The Problem of the "Forest of Fractions"

The PROVN authors' assertion of the primacy of narrative analysis was part of a broader duel being conducted in the Pentagon between advocates of qualitative and quantitative methods to capture aspects of the operating environment. There was a prevailing trend in the Department of Defense (DOD) for quantitative data that it derisively termed a *forest of fractions*, yet the PROVN authors were vociferous in maintaining that the

intense U.S. emphasis on demonstrable and measurable results must be abandoned. The reporting system is excessively preoccupied with the quantitative evaluation of dubious measures of success. Little credence is attached to the subjective assessments of experienced people on the ground. Somehow, a form of "metering philosophy" dominates both planning and operations. The

demand for facts has created unreliable statistical inputs from Vietnamese and has established an orientation toward demonstrating U.S. advisory success at the expense of Vietnamese reality.[18]

For the PROVN authors, this approach generated a quantitative corpus of illusory progress and "many of the more important indicators—particularly those concerned with the nonmilitary aspects of the conflict—are not subject to precise quantification."[19]

Concern was evident on the ground. One Army advisor noted in retrospect of the kill ratio: "The problem with the war, as it often is, are the metrics. It is a situation where if you can't count what is important, you make what you can count important. So, in this case, what you could count is dead enemy bodies" and in such statistics, the context is absent.[20] The body count evolved as a primary yardstick of progress across all three levels of war. It allowed military and civilian leaders to become convinced that the war in Vietnam was being won—when the war was in actuality being lost. As an approximation of reality, the body count proved a particularly egregious metric. There was difficulty in distinguishing between enemy combatants and civilians killed, which meant that counts were often too high. The issue was compounded by the centrality of search and destroy missions to the war effort, under which the body count metric inevitably emerged as an easily measurable component of each engagement and through which commanders in the field could offer a measure of their tactical achievements.

Indicators that may have more import for the commander, however—such as loyalty, allegiance, kinship, leadership—typically resist quantification. Carl von Clausewitz had conceptualized a friction in war more than a century before the Vietnam intervention: the aggregating incidents of chance that haunt the theater of conflict, bringing about "effects that cannot be measured" and that intelligence, "unreliable and transient," makes war "a flimsy structure that can easily collapse and bury us in its ruins."[21] It is a problem that remains unresolved.

In the contemporary era, the strategist and counterinsurgency expert David Kilcullen has asserted that the "unpredictability of a chaotic system lies not in the formulation or solution of the differential equations that describe the rates of processes, but in our ability to relate those solutions to the practical system of interest given the inherent imprecision of experimental observations."[22] From Clausewitz to Kilcullen, the fidelity of data has been identified as a core issue that complicates the ability of a commander to develop a robust and reliable picture of the operating environment. The degree to which a commander utilizes qualitative or quantitative indicators to create an operating picture ultimately determines courses of action. The American historian Alan Beyerchen in his landmark study of Clausewitzian friction has argued that in understanding conflict, "Statistical laws of probability alone will never suffice, because moral factors always enter into real war."[23]

Qualitative data throw up a specific challenge: planners must select and develop categories for this unstructured data and feed them into the common operating picture. This was a central problem with PROVN because in asserting the primacy of qualitative analyses to map the social system of South Vietnam, there were problems in defining categories in such a geographically and ethnically diverse setting. The PROVN authors themselves referenced the challenges, chief among them the different languages and dialects.[24] Differences overlapped commonalities. Variations could be identified between urban and rural, illiterate and educated, but linkages were observed in different groupings, such as languages and value sets.

This lack of uniformity drove analytical uncertainty in Vietnam. Allegiances varied by geography, kinship, and time. Heterogeneity hampered effective orchestration of operations to achieve a unified objective because different geographic areas provided unique security and development challenges. The PROVN authors repeated a well-worn phrase lifted from the field: "There is not one war, there are 43 wars [corresponding to the then 43

"Huey" UH-1Ds airlift members of 2nd Battalion, 14th Infantry Regiment, from rubber plantation area to new staging area during search and destroy mission conducted northeast of Cu Chi, South Vietnam, 1966 (CPA Media)

Private First Class Fred L. Greenleaf, C Company, 3rd Battalion, 7th Infantry, 199th Light Infantry Brigade, crosses deep irrigation canal along with other members of company en route to Viet Cong–controlled village, November 21, 1967 (U.S. Army/National Archives and Records Administration/Robert C. Lafoon)

provinces] in South Vietnam."[25] This was to generate a paradox of categorization that would hinder analyses—in some ways provinces possessed similarities, but in other ways, they stood in marked contrast to one other.

Made to Measure

Absence of social uniformity precipitated the introduction of an array of subnational metrics to attempt to understand the effects of operations on security. The war in Vietnam, enabled by the nascent computational era, "pioneered the use of quantitative analysis for operational purposes."[26] At stake was the quest for explanatory and predictive behaviors.

Seymour Deitchman managed insurgency modeling at the Advanced Research Projects Agency during this period. In a candid account of social science research at that time, Deitchman wrote in retrospect that the "problem of knowing *how* one was doing against the adversary in the counterinsurgency conflict and of obtaining data for evaluation and planning loomed very large in all these discussions" and that the fidelity of data was often complicated by the difficulty of performing robust social science research in areas characterized by a marked absence of physical security.[27]

Such difficulties with qualitative data contributed to the prevalence of quantitative indicators used by DOD as American involvement in Vietnam escalated. Quantitative indicators held promise because the behavior of a social

system beset by insurgency, in the view of contemporary political scientists Stathis Kalyvas and Matthew Adam Kocher, is so complex that it resists adequate characterization by narrative methods.[28] In pathbreaking research, Kalyvas and Kocher analyzed a narrow period of one of the core data collection and analysis programs of the Vietnam War, the Hamlet Evaluation System (HES), which arose from a DOD requirement to better gauge reporting on progress. They concluded that "most of the objections to HES turn on the inability of blunt quantitative indicators to capture complex social phenomena. We disagree, judging the HES to be remarkably sophisticated relative to measurement standards in the field of conflict studies *today*."[29]

Despite the strength of this assertion, the broad methodology of HES merits appraisal as a program that included logging incidents by American advisors to provide numerical assessments of security. Even though iterations moved away from subjective coding to the ostensible recording of facts, rating HES indicators was still a judgmental process that required estimation for many indicators and the opinion of experts to determine the weighting afforded each indicator upon aggregation. HES was, as Deitchman noted more generally of collection efforts at the time, a program hostage to the permissiveness of the reporting environment and the reporter. Indeed, after the withdrawal of American advisors in 1972, the program continued but by utilizing reports from Vietnamese officials, a change in methodology that asks questions of attempts to ascertain trends in the data across the transition from American to Vietnamese reporting.

Kalyvas and Kocher, in studying the relationship between territorial control and violence, by design limit their study to behavior as opposed to sentiment.[30] Therefore, while offering an important corrective to scholarship by highlighting the sophistication of HES, there nevertheless remains additional requirement for explanatory, qualitative analyses that can identify interrelations of variables. The objective is to identify commonly held behaviors and attitudes that can

yield actionable insights. Nicholas Krohley conducted social science research for the U.S. Army during the Surge in Iraq and noted of his team's work: "Observations and comparisons of attitudes toward issues or events from one geographic area or identity group to the next helped illuminate both commonalities and fault lines in the human terrain, enabling researchers to trace patterns and trends."[31]

Implications

The issues identified in PROVN have implications for contemporary military operations, particularly in PROVN's practical assessment of effective courses of action. One way to accommodate these principles of nonlinearity is first to communicate the unified objective. Second, deductively nest those required taskings ascertained necessary to achieve mission success. By doing so, the most important variables of the operating environment can be gauged, and a crude understanding can be gained of the ways in which these variables are affecting, and are affected by, other elements in theater. Planners must recognize and therefore anticipate the lack of proportionality between system inputs and output, striving to identify and prioritize the factors most able to affect output in the field.

There were two aspects of the conflict in Vietnam that the authors of PROVN could not readily solve but for which the principle of nonlinearity has important implications. First, there is the optimal distribution of finite resources in theater. When attrition equals resupply, there is a set volume of resources that could be utilized across the spectrum of operations in a zero-sum arrangement: increasing one necessarily reduces another—for instance, amplifying combat resources may decrease advisory support. Nonlinearity, however, means that inputs are not proportional to outputs and, consequently, improvement in one constituent element of the social system may have disproportionate effect overall.

Engagement with the host population offers an opportunity to assess the optimum arrangement of resources.

The Vietnam War proved a lengthy and visceral lesson in resource allocation. In Tran Ngoc Chau's statement regarding the budget of one U.S. helicopter, he argued powerfully for the granular application of development aid to raise living standards to address the actual needs of the local population rather than American conceptions of societal needs to lessen collective grievances. Tran Ngoc Chau's stark belief in the primacy of dissuasion through development indicates the power in giving voice to local actors to generate a granular, qualitative understanding as to where resources can best be utilized in an operating environment.

The second unresolved aspect of the PROVN study is the level of intrusion to which U.S. forces and partners commit in cooperation with the host government. War is always a violation of society. In Vietnam, the U.S. command did not take control of the South Vietnamese army or "insert personnel into the Vietnamese bureaucracy"—an approach that Birtle notes "failed to transform the South Vietnamese political, military, or social systems in the way PROVN's authors had hoped."[32] One reason was identified in PROVN as a cultural limitation: that "Americans appear to draw back from its complexity in practice and gravitate toward a faulty premise for its resolution—military destruction of the [Viet Cong]" and in that, failure to address political and social reform may well be a tragic blunder.[33] The concern is justifiable; legitimate grievance could be amplified by expanded, intrusive operations and hence create a powerful narrative of resistance girded by popular resentment of the exact activities intended to develop security. It is the culture of planners to prefer simplicity, but that tendency obscures the reality of the operating environment.

The primacy of the military component of U.S. involvement in Vietnam throughout the war meant that population-centered activities to develop security were continually overshadowed by combat operations and body counts. Justifiable concern at the inadequacy of civilian engagement initiatives was buried beneath the weight of military action and

Navy McDonnell F-4B Phantom II of Fighter Squadron VF-111 Sundowners drops 500-pound Mark 82 bombs over Vietnam, November 25, 1971 (U.S. Navy)

the quantitative indicators that charted progress.[34] Despite the obviously nonlinear character of social systems, deriving actionable insights from theory is understandably hindered by evident complexity. Planners prefer simplicity. There is a tendency to settle on easily articulated but ultimately unviable strategies. The two characteristics of nonlinear systems should therefore be considered by planners, no matter how crudely. The first is that a change in input will not generate a proportional outcome. The second is that in

assessing the constituent variables of the operating environment independently, the behavior of the social system as a whole is not equal to the summation of these constituents. Interrelationships between variables will always exert effects on the system in fundamentally important ways.

Finally, the relevance of nonlinearity can also be seen in contemporary conflicts. The insurgency in Afghanistan after the ousting of the Taliban was exacerbated by corruption in the Hamid Karzai government. This corruption

eroded loyalties between the population and the state by perpetuating legitimate grievances and complicating efficient and effective administration at both the national and local levels. In turn, corruption was catalyzed by the relatively enormous influx of foreign aid. Corruption on this scale affects the social, economic, political, and military variables in the PMESII-PT framework—the latter because an institution as large as the Afghan National Army, and especially its procurement contracts, were susceptible to the specter

of misconduct. The pervasiveness of corruption meant that significant expenditure of resources on equipping the Afghan National Army only increased the scale of corruption, amplifying political grievances that played into the hands of antigovernment forces. It cannot therefore be assumed that greater expenditure leads to greater overall security. In the examinations to come of the U.S. withdrawal from Afghanistan and subsequent collapse of the Afghan National Army, it is therefore necessary to examine the "nonwar" in Afghanistan and the deleterious impact of corruption on social cohesion.

Another nonlinear relationship is observed in the U.S. troop surge in Afghanistan authorized by President Barack Obama. An increase of 50,000 U.S. troops up to a peak of 90,000 in 2011 was accompanied by a tripling of civilian advisors in the 2 years up to 2011 to approximately 1,000 working in the country. The relative sizes give an indication that force was still the primary instrument of U.S. policy in the country to combat the insurgency. Combat operations were prioritized to provide security, despite increasing engagement of civilians, particularly from 2009 as a result of enhanced integration of civilian and military effort intended to focus efforts on the population. The troop surge and tripling of civilian advisors—that is, the input—in a nonlinear system does not carry a proportional increase in security—that is, the output. What is observed is that Afghan civilian fatalities at the hands of antigovernment forces reached a high in 2010 and then remained near-constant despite the troop surge.[35]

The principal conflict in Afghanistan, as in Vietnam, was a "nonwar" being fought in the country that began in late 2001. This was a battle for popular allegiances and credible government that reflected legitimate concerns of the people and that, if won, would prevent an ever-expanding recruitment pool for the insurgency. Evident failure produced systemic fissures in the social, political, and economic variables that proved impossible to surmount through simple arithmetic addition of conventional resources. Nonlinearity not only underscores the obstacles in effective integration of civilian and military effort and the appropriate distribution of resources but also points to methods of effective conceptualization and action.

This article has addressed a disquieting issue: the need for strategic planners to conceptualize the nonlinear character of the operating environment. This is not a facile endeavor, as it is necessary to acknowledge the complexity of conflict, the limitations of the application of force, and the difficulties inherent in coordinating an interagency mission. History is awash with examples of these difficulties. The PROVN study is one bold attempt to address identified shortcomings in a complex mission to push back against existing methods and as such has enormous value to contemporary practitioners. At its heart, PROVN consistently identifies the nonlinear character of conflict and as such remains an important reference to commanders engaged in complex interagency deployments. **JFQ**

Notes

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[3] Joint Publication (JP) 3-0, *Joint Operations* (Washington, DC: The Joint Staff, 2017), IV-3.

[4] JP 3-03, *Joint Interdiction* (Washington, DC: The Joint Staff, 2016), V-4.

[5] Lewis Sorley, "To Change a War: General Harold K. Johnson and the PROVN Study," *Parameters* 28, no. 1 (1998), available at <https://press.armywarcollege.edu/parameters/vol28/iss1/9>.

[6] Andrew J. Birtle, "PROVN, Westmoreland, and the Historians: A Reappraisal," *The Journal of Military History* 72, no. 4 (2008), 1216.

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[10] Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 75, cited in Montgomery McFate, *Military Anthropology: Soldiers, Scholars and Subjects at the Margins of Empire* (London: Hurst and Company, 2018), 307.

[11] National Security Action Memorandum 55, *Relations of the Joint Chiefs of Staff to the President in Cold War Operations* (Washington, DC: The White House, 1961), in PROVN, 111.

[12] PROVN, 1-72.

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[14] Gerald C. Hickey, *Window on a War: An Anthropologist in the Vietnam Conflict* (Lubbock: Texas Tech University Press, 2002), 127, cited in McFate, *Military Anthropology*, 3.

[15] PROVN, 2-30–2-31.

[16] Quoted in Birtle, "PROVN, Westmoreland, and the Historians," 1239.

[17] PROVN, 55.

[18] Ibid., 2-42.

[19] Ibid., 9.

[20] Quoted in "Resolve," episode 4, *The Vietnam War*, September 20, 2017.

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[22] David Kilcullen, *Out of the Mountains: The Coming Age of the Urban Guerrilla* (London: Hurst and Company, 2013), 17.

[23] Alan Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," *International Security* 17, no. 3 (1992), 79.

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[29] Ibid., 341.

[30] Ibid.

[31] Nicholas Krohley, *The Death of the Mehdi Army: The Rise, Fall, and Revival of Iraq's Most Powerful Militia* (London: Hurst and Company, 2015), 190.

[32] Birtle, "PROVN, Westmoreland, and the Historians," 1243.

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