



Mountain Passes as Connective Infrastructure: Highland-Lowland Relations in Central Vietnam



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[*Abstract*]

This article examines the role of mountain passes as connective infrastructure linking highland and lowland zones in Central Vietnam, situating this case within the broader spatial framework of the Southern Indochinese Highlands. In contrast to conventional approaches that portray highland areas as fragmented or structurally dependent spaces, the article approaches mountain passes not as natural barriers but as infrastructural corridors through which multidirectional flows of people, goods, and power were historically organized. By focusing on the infrastructural organization of routes and corridors, the article highlights the polycentric character of highland connectivity, in which multiple nodes of transit and route control interacted within a flexible and adaptive networked order. From this perspective, the Southern Indochinese Highlands may be understood as a form of “flattened highlands”—not in terms of physical topography, but in terms of functional connectivity produced through mobility and circulation. Within this network, centers could rise,

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decline, or redirect flows in response to changing political and commercial conditions. Rather than displacing existing interpretations of highland-lowland relations, this infrastructure-oriented reading complements them by clarifying the spatial mechanisms through which relative parity, contingency, and interregional integration were historically made possible. While grounded in Central Vietnam, the analysis suggests comparative avenues for the study of other highland regions in mainland Southeast Asia.

Keywords: mountain passes, connective infrastructure, Central Vietnam, flattened highlands, Flat Plateau

I . Introduction

Highland spaces in mainland Southeast Asia have often been overlooked or marginalized in the political discourses of lowland-centered states. When they do appear, highlands are typically cast in a supporting role, serving mainly to highlight the more visible political, historical, and social dynamics of the lowlands—areas characterized by strong central states, elite groups, and economies based on agriculture or maritime trade (Michaud et al. 2016: 21–22). Over the past two decades, an increasing number of studies have sought to reassess the role of highland regions in Southeast Asian societies (Dove et al. 2011; Jonsson 2010; Lieberman 2010; Michaud et al. 2016). These new approaches call for a reconsideration of the position of the highlands in relation to the lowlands, as well as their role as connective corridors linking mainland and insular Southeast Asia. Cumulatively, these studies have challenged earlier perspectives that treated highland regions primarily as isolated, peripheral, or state-resistant spaces by emphasizing instead mobility, interregional interaction, and historical forms of upland-lowland integration. Despite this shift, a significant gap remains: existing studies continue to treat mountain passes primarily as elements of landscape context rather than as interregional infrastructure. Therefore, they tend to understate the importance of overland corridors in facilitating circulation across environments where river navigation remained limited by

topography.

Taking the highlands of Central Vietnam as a historical case study for the broader Southern Indochinese Highlands, this study contends that mountain passes function as connective elements rather than as barriers. By extension, the dense networks of mountain passes spanning large parts of mainland Southeast Asia constituted vital corridors of movement. In this article, the notion of “flattened highlands” is used in close dialogue with the concept of the “Flat Plateau” introduced in this issue, not to describe geomorphological flatness, but to capture how connectivity, infrastructure, and mobility render highland spaces functionally connected through mobility and infrastructural circulation. Rather than proposing a comprehensive model for all upland regions of mainland Southeast Asia, this article advances an infrastructure-oriented reading grounded in Central Vietnam, using this case to clarify spatial mechanisms that are often obscured in territorially or state-centered accounts. By focusing on mountain passes as connective infrastructure, the article contributes to ongoing discussions of highland-lowland relations by shifting attention from patterns of dependence to the organization of routes, corridors, and circulation. Historical cases such as Cam Lộ and Bản Đôn illustrate how these corridors linked coastal ports, upland trading zones, and Mekong-oriented exchange systems across different historical periods.

II. Methodological Approach and Sources

This article employs a historical-spatial approach to examine highland-lowland relations in Central Vietnam, with a primary focus on the period from the sixteenth to the early twentieth centuries, when overland routes linking the central coast and the western highlands were most extensively documented. Situating the region within the broader spatial context of the Southern Indochinese Highlands, the analysis conceptualizes infrastructure not as a fixed material substrate but as a historically produced set of practices through which mobility, exchange, and control were organized.

Following approaches that treat infrastructure as a social and political practice (Larkin 2013), mountain passes are examined here as corridors shaped through recurrent practices of travel, trade, military movement, and local mediation. Rather than assuming the primacy of territorially bounded or state-centered spatial units, this study approaches routes and corridors as analytical entry points for understanding interregional connectivity across upland and lowland zones.

The source base of the article consists of four interrelated corpora. *First*, it draws on Vietnamese textual sources dating primarily from the sixteenth to nineteenth centuries, including court chronicles and administrative records produced by officials of the Đại Việt and Nguyễn courts stationed in the central provinces. These texts provide insight into how lowland states perceived, categorized, and interacted with highland regions, while also reflecting the epistemic and political limitations of lowland-centered knowledge production. *Second*, the article engages with archaeological and historical studies of Central Vietnam and adjacent highland regions, particularly scholarship addressing the late prehistoric to early historic periods (from the first millennium BCE to the early first millennium CE). This body of work includes regional archaeological syntheses and site-based studies produced by Vietnamese and international scholars working within archaeological traditions concerned with early upland-lowland interaction in Central Vietnam. Although these studies rarely reconstruct specific overland routes, they offer crucial contextual information on patterns of mobility, exchange, and circulation, including constraints related to river navigability, topography, and seasonal conditions. *Third*, colonial-era exploratory and administrative reports produced in the late nineteenth and early twentieth centuries—primarily in French and available through published and archival collections—are used selectively to illuminate infrastructural practices, the organization of overland routes, and the role of local intermediaries in facilitating travel. These materials are not treated as objective cartographic representations, but as situated accounts that reveal how mobility depended on local knowledge, negotiation, and mediation within upland environments. *Finally*, the article situates its argument in

dialogue with late twentieth—and early twenty-first-century scholarship on highland-lowland relations and regional connectivity in Southeast Asia. Rather than rejecting existing models that privilege river systems or territorial units, the study proposes an infrastructure-oriented reading as a complementary perspective that foregrounds corridors, routes, and practices of circulation that remain underexplored in earlier frameworks. On the basis of this rereading of diverse sources, this article treats routes, markets, military posts, and historically documented practices of travel as indicators of infrastructural organization. Particular attention is paid to sites where multiple routes converged, as such locations reveal the intersection of connectivity, political negotiation, and economic activity in upland contexts. Within this analytical framework, the discussion of Cam Lộ and Bán Đôn functions as illustrative cases. Cam Lộ is selected because its documentation across successive historical contexts, from sixteenth- to nineteenth-century court records to late nineteenth- and early twentieth-century colonial reports, allows the infrastructural logic of mountain passes and corridor-based connectivity to be observed with particular clarity. Bán Đôn, by contrast, illustrates a different but complementary dimension of highland circulation, especially through its connections to elephant transport systems, caravan movement, indigenous guiding networks, and westward routes oriented toward the Mekong basin and the interior spaces of peninsular Southeast Asia. Through these cases, the article demonstrates how an infrastructure-oriented approach can contribute to a more relational understanding of highland spaces in mainland Southeast Asia.

III. Literature Review and Analytical Framework

Bennett Bronson (1978) was among the first scholars to model highland-lowland trade relations in Southeast Asia. According to Bronson, such exchange networks were formed along river systems, which enabled interregional trade to take place. In this model, the highlands functioned primarily as sources of goods and raw materials supplying the needs of lowland states and populations, and, more importantly, feeding into maritime trade through port

systems. A key contribution of Bronson's model lies in its identification of a directional flow in highland-lowland trade relations, an insight that has exerted considerable influence on the historiography of Southeast Asian trade.

While Bronson's model remains highly influential in explaining riverine exchange systems, its emphasis on downstream-oriented circulation leaves unresolved the question of how mobility operated across mountainous environments where river navigation was limited or discontinuous. Central Vietnam represents one such case. Building critically upon Bronson's framework, C. Wheeler, in his study of Central Vietnam between 1550 and 1830, argues that highland-lowland trade relations did not operate in a single, fixed direction but were instead bidirectional. This implies that highland societies during this period were not necessarily dependent on lowland markets for the circulation of their goods, but had access to alternative inland trading circuits. He further emphasizes that commodities from the Vietnamese highlands bordering Laos and Cambodia could be transported deep into the mainland, toward Laos, Thailand, and beyond, rather than being conveyed exclusively downriver to the coast (Wheeler 2003). This interpretation suggests that highland regions functioned not as passive peripheries, but as active participants in interregional exchange networks. Support for such multidirectional patterns of movement can be found in archaeological evidence from earlier periods. Archaeological findings from central Vietnam—including jewelry of Indian origin dating to the third millennium BCE, burial artifacts associated with the Western Han dynasty (202 BC-9 AD), and jar burials practiced among coastal communities during the first millennium BCE—suggest the circulation of goods and cultural forms across regions. These materials are consistent with Wheeler's emphasis on interregional exchange networks, without presuming any single mode of transport, and suggest that overland corridors linking coastal and upland zones formed part of broader patterns of connectivity across different historical periods (Lâm 2017: 301-328; Nguyễn 2025: 126-128, 206).

Wheeler's intervention thus represents an important modification of Bronson's model when applied to Southeast Asia in

the period under discussion, rendering it more flexible in regions characterized by considerable topographical diversity. At the same time, the core arguments of both scholars continue to privilege river systems as the primary channels of trade, despite the fact that river navigability and the movement of watercraft were themselves historically constrained by topographical conditions. Under such conditions, circulation often depended upon the ability of traders and upland communities to redirect movement through alternative overland corridors.

Evidence from later historical contexts suggests similar limitations. Within the same line of inquiry into highland-lowland trade, Tana (2012) demonstrates that during the nineteenth century, north-south commerce between the uplands of northern Vietnam and Guangxi (China) flourished, in some cases more vigorously than west-east exchanges with the Red River Delta. Highland towns that developed along river courses during this period may have been less prosperous than major commercial centers such as Thăng Long or Phố Hiến, but they were far more numerous. Rather than suppressing trade, the rugged terrain of northern Vietnam's uplands facilitated sustained commercial interaction with southern China. According to Tana, the relative prosperity of these nineteenth-century highland economies rendered their inhabitants seemingly more "civilized" than contemporary lowland representations tended to suggest.

In a similar vein, Oscar Salemink proposes adopting a "view from the mountains" in the study of highland-lowland relations in Vietnam, based primarily on his research on the Central Vietnamese Highlands from the seventeenth century through the colonial period. Salemink (2011) argues that highland ethnic groups in this region functioned as key controllers of west-east trade routes linking the central Vietnamese coast with inland mainland Southeast Asia. Within this historical and spatial context, highland chiefs are depicted as figures who possessed the knowledge and organizational capacity to coordinate interregional trading networks along overland corridors, often supported by dependent labor forces. Wealth—and the interregional, interethnic power that accompanied it—thus emerged not from spatial isolation, but from the ability to regulate

movement and connectivity across upland-lowland interfaces.

While most of the scholars discussed above (with the exception of Bronson) focus primarily on mainland Southeast Asia, John Miksic turns his attention to intraregional trade in Indonesia over a long historical span, from the sixteenth century to the mid-twentieth century, a setting whose geography differs markedly from much of the region. As an archipelagic environment, Indonesia has often been portrayed as an economy dependent on maritime trade, particularly on its larger islands such as Sumatra. Drawing on archaeological and historical evidence from this period, Miksic (1985) argues that inland trade must also be taken into account and that, in certain cases—most notably Java—it constituted a dominant factor. Even on Sumatra, where the Bukit Barisan range creates a pronounced north-south divide, major ports during this period were often located inland rather than along the coast. Commodities from the highlands were transported to these ports via river routes as well as overland pathways.

Taken together, these studies reveal the multidirectional and polycentric nature of commercial flows across different parts of Southeast Asia. Nevertheless, they continue to privilege rivers as the principal axes of trade, mobility, and exchange, while largely overlooking the role of mountain passes. Among these scholars, Miksic is the only one to acknowledge the importance of overland routes in linking inland commercial centers; however, such routes are generally treated as elements of landscape or movement rather than as infrastructural systems shaping circulation. As Reid (2015: 57-59) notes, Southeast Asia has long been structured by overlapping maritime and overland routes, a point that invites closer attention to upland corridors alongside riverine and coastal networks. Addressing this gap, the present article turns to an infrastructure-oriented perspective. Such an approach makes it possible to examine how movement and exchange were historically organized across mountainous environments beyond the limits imposed by river navigation.

Within this infrastructure-oriented perspective, mountain passes are approached as a central element in the formation of

trans-regional transportation networks across Central Vietnam and mainland Southeast Asia. In this perspective, passes are not immutable natural features; rather, they are continuously organized, exploited, and maintained through human knowledge within specific historical and social contexts (Harvey et al. 2017: 1-5). In state-centered geographical and historiographical accounts concerned with territorial control and administrative space, mountain passes are often portrayed as natural obstacles that impede movement across mountainous terrain. By contrast, this article argues, on the basis of historical evidence discussed above, that human societies not only confronted such obstacles but also developed effective means to traverse even the most dangerous passes.

Through a rereading of travel accounts and administrative documentation alongside evidence of locally mediated practices, this analysis suggests that local knowledge—such as the ability to identify viable routes—combined with organizational capacity and the selective modification of terrain, constituted key resources enabling movement across mountain passes. Through these historically attested practices, passes came to function as connective corridors linking regions of differing elevation, even when traversal remained difficult and risky.

On this analytical basis, this article conceptualizes mountain passes as “rivers on land”: corridors capable of organizing and directing flows of people and goods across diverse spaces. Approaching mountain passes in this way, as connective infrastructure, allows the analytical focus to shift from the question of how passes hinder trade and mobility to how human societies have historically organized and utilized them as corridors in order to meet their needs for movement and exchange. Because movement across mountainous environments rarely depended upon a single route, individual passes operated in relation to one another within broader systems of circulation.

This article approaches mountain passes not as isolated entities, but as elements embedded within extensive and interlaced networks that traverse mainland Southeast Asia. In this perspective,

passes operate in succession, linking inland, highland, and coastal spaces along both north-south and east-west axes. Within these networks, each pass functions simultaneously as a corridor of movement and as a network node, where goods, people, and information converge and are coordinated.

This analytical approach makes it possible to move beyond linear perspectives that privilege rivers as the sole channels of trade. Rather than envisioning commercial flows as strictly aligned with river courses—from upstream to downstream—this analysis opens up new ways of reading the landscape. Commodities could be redistributed flexibly in multiple directions through the strategic use of mountain passes. As routes shifted in response to changing political or commercial conditions, circulation could also be redirected through alternative corridors and intermediary centers. In this context, the organization and control of a pass could contribute to the relocation of centers of power and the reshaping of relationships among communities.

When viewed as connective infrastructure, highland-lowland relations are reconfigured in more multidirectional terms. This perspective resonates with existing scholarship that has emphasized mobility, interregional exchange, and the relational character of upland spaces, rather than treating highland regions as structurally dependent on lowland centers (Reid 2015: 57-73; Schendel 2005: 21-25). Building on these insights, the present study highlights how the infrastructural organization of routes and corridors enabled highland regions not only to circulate their products through lowland markets, but also to mobilize alternative connections. As a result, relations of dependence could, under certain conditions, be reversed. Highland regions can thus be understood not merely as sources of commodities, but as actors capable of guiding, regulating, and benefiting from interregional trade networks. By foregrounding infrastructural connectivity as a historically organized system of circulation, this article further demonstrates how, in certain historical periods, lowland societies themselves depended on highland regions to sustain internal resources and maintain connections with other ecological zones—an aspect that remains underexplored in territorially oriented or state-centered accounts.

This analytical framework provides the foundation for examining the Central Vietnamese Highlands as a representative case of how mountain passes in mainland Southeast Asia functioned as connective infrastructure. Focusing on passes allows the article to supplement prevailing river-based models, which often overlook the organization and exploitation of spatial diversity. Rather than rejecting these models, the article introduces an infrastructure-oriented perspective that clarifies the connective and polycentric nature of highland spaces in mainland Southeast Asia, in line with the concept of *flattened highlands* that underpins this issue. The following sections demonstrate how different highland centers and corridors interacted, adapted, and redirected circulation across changing historical conditions.

IV. From the Upstream-Downstream Ends Exchange Model to an Infrastructure Approach: Rereading Bronson in the Spatial Context of Central Vietnam

From a geographical perspective, Bronson's model exhibits a number of points of compatibility when applied to Central Vietnam. A strong state located at a river mouth often functioned simultaneously as the political and economic center of a kingdom, where commercial flows from the western highlands converged (Nguyễn and Nguyễn 2018: 59-83). Historically, the economy of the Champa polities in Central Vietnam relied on three principal pillars: *highland forest products*, *coastal agriculture*, and *maritime trade* (Lâm 2017: 308). These three pillars were closely interconnected. Maritime trade facilitated the export of agricultural products—albeit on a limited scale due to the narrow coastal plains of the region—as well as forest products from the highlands. As a result, forest resources played a crucial role in the prosperity of the Champa kingdom and of the coastal port cities of Central Vietnam over many centuries.

Nevertheless, when reconsidered within the historical and geographical context of Central Vietnam, Bronson's model also reveals several limitations, which may be summarized in three main

points.

First, the concept of “upstream” in Bronson’s model confines the reader’s spatial imagination to the highland areas immediately adjacent to Central Vietnam. Medieval Vietnamese historiographical practice illustrates this constraint clearly. When Vietnamese scholars of the period—such as Dương Văn An, Lê Quý Đôn, and Nguyễn Tấn—encountered the highland spaces west of the Central Vietnamese coastal provinces, their descriptions were necessarily limited to the fringes of that vast region. The broader highlands of Central Vietnam, and even more so areas extending into present-day Laos, Cambodia, and Thailand, remained largely beyond their cognitive horizon. As a result, the spatial extent of exchange networks tended to be compressed into the immediate western margins of the coastal provinces.

Second, Bronson’s model is fundamentally linear and unidirectional, privileging the flow of goods from west (highlands) to east (lowlands), following the course of rivers. This perspective foregrounds the centripetal pull of lowland states and port cities in Central Vietnam, while overlooking the capacity of highland populations to redirect circulation through alternative routes and markets in their commercial interactions with both lowland societies and inland trading networks. Consequently, the model is insufficient for explaining the multidirectional and polycentric trade networks characteristic of Central Vietnam.

Third, Bronson’s model overlooks the role of mountain passes in the east-west trade networks of Central Vietnam. Commercial exchanges between highland and lowland regions in this area could not rely solely on river systems, particularly in regions where river navigation was seasonal, discontinuous, or topographically constrained. Alongside, and in complement to rivers, mountain passes played a crucial role. These passes functioned as corridors connecting the western highlands of Vietnam with the interior of mainland Southeast Asia, reaching areas beyond the limits of river navigation. Recognizing this role requires, as this article argues, reconsidering mountain passes as vital connective corridors within east-west trade networks.

Collectively, the limitations of Bronson's model when applied to Central Vietnam suggest that the issue lies not in the mechanisms of exchange themselves, but in the ways geographical landscapes are interpreted and highland spaces are defined. Conceptualizing highlands as spaces bounded by natural obstacles or contemporary national borders tends to obscure key segments of interregional transport. The discussion below therefore approaches highland spaces as integral components of interregional infrastructure in Central Vietnam.

V. The "Upstream" Space as a Component of Interregional Infrastructure Networks

In studies of highland-lowland relations, the concept of the "upstream" has often been taken for granted as referring to the western mountainous areas of the coastal provinces of Central Vietnam, understood primarily as zones supplying forest products to meet lowland demand. Although widespread, this understanding tends to narrow the actual spatial scope within which trade networks operated. The historiographical practices of Vietnamese scholars in the medieval period clearly illustrate this limitation.

Early records of the Central Vietnamese highlands appeared in the sixteenth and eighteenth centuries, authored by officials dispatched by the Đại Việt court to administer the region (Dương 2021; Lê 2007). These accounts tended to describe only the fringes of the highlands, referred to as *nguồn/sách*, that lay within the cognitive and administrative reach of the Đại Việt state, primarily through trade and exchange with the inhabitants of these marginal zones. Owing to the vastness of the highlands, however, different ethnic groups controlled different segments of trade routes, with no single group monopolizing the entire east-west axis of exchange. Hardy (2008) has identified at least five communities that each controlled portions of the trading routes extending from the Central Vietnamese coast to Myanmar. Limited contact with only a few communities along these routes limited contemporary Vietnamese historians from apprehending the full extent of the trade networks,

and consequently from describing regions farther along the axis. From the seventeenth century onward, the formation of national borders further reinforced the perception of the “upstream” as a fragmented space confined within individual state territories, rather than as a connected interregional space.

When reinterpreted through an infrastructure perspective, the “upstream” emerges not merely as a zone of resource extraction, but as an integral component of interregional trade networks. Historically, these networks were constituted by mountain passes, transshipment points such as markets, and accumulated practices of mobility developed over generations. Together, these elements ensured the continuity of exchange even under conditions in which river transport was constrained by topography or climate.

From this analytical standpoint, the “upstream” can be situated within the broader spatial framework of the Southern Indochinese Highlands, characterized by interregional and transregional routes of movement. Rather than the abstract or loosely defined space often depicted in historical records (National History Office of the Nguyễn Dynasty 2006a, 2006b), the “upstream” appears here as a concrete geographical area shaped by practice. Highland communities, merchant groups, guides, interpreters, and means of transport (such as elephants, buffaloes, and cattle) collectively organized routes of movement and points of connection across different spaces. Through repeated practices of travel and exchange, these actors accumulated knowledge of terrain, travel time, and route exploitation, thereby transforming the “upstream” into an operational space of trade networks rather than a static geographical concept.

Reconceptualizing the “upstream” in this manner leads to a reappraisal of highland-lowland relations by clarifying the spatial mechanisms through which exchange was organized. When situated within the infrastructure networks of the Southern Indochinese Highlands, these relations no longer appear as a unidirectional dependency of one side upon the other, but rather as contingent and negotiated relationships shaped by access to routes, nodes, and alternative connections.

In this configuration, the highlands did not simply supply resources to lowland markets, but actively shaped the direction, timing, and channels of commercial circulation by mobilizing multiple trajectories across upland corridors. It is in this infrastructural sense that the highlands can be understood as spaces of agency: not because they stood outside lowland influence, but because their position within interconnected route systems enabled them to redirect flows and recalibrate relations of dependence.

VI. The Southern Indochinese Highlands as a Polycentric Space of Interregional Connectivity

In contrast to exclusive spatial models dominated by a single center, the Southern Indochinese Highlands were organized polycentrically, with multiple nodes regulating flows of people and trade. Rather than operating in isolation, these centers were linked through overlapping corridors of circulation that connected different ecological and commercial zones across the Southern Indochinese Highlands. Emerging in different historical contexts, these centers performed distinct functions, ranging from hubs of transshipment and aggregation to sites of political control at strategic transport points.

In the northern highlands, descriptions dating back to the seventeenth century by Lê Quý Đôn (2007: 141) refer to Cam Lộ (Quảng Trị Province) as a place where Lao traders regularly used elephants to transport goods for exchange with Kinh merchants coming up from the coast. The Kon Trang area (Quảng Ngãi Province) was described by Hickey (1993: 178) as a center for the trade in slaves and livestock. Playing a similar role farther south was Bản Đôn (Đắk Lắk Province), a well-known center for the domestication and supply of elephants throughout Southeast Asia (Salemink 2011). Together, these centers formed interconnected yet differentiated nodes within a broader highland network extending from the coast toward the Mekong basin. Meanwhile, An Khê (Gia Lai Province), in addition to functioning as a commercial hub, served as one of the largest military bases in Indochina from the

late nineteenth century through the late twentieth century (Hardy 2025: 32-37; Hickey 1982: 435-437). It was precisely this functional differentiation that endowed the network of highland centers with flexibility, with each node performing a specific role within the broader system. Relations among these centers were characterized not only by competition but also by mutual complementarity, generating a high degree of adaptability within highland trade networks in response to fluctuations in the lowlands.

Based on the historical cases discussed above, this functional differentiation suggests that polycentricity should not be understood as a static spatial condition, but rather as a dynamic configuration shaped by shifting routes, economic demands, and political circumstances. As observed in several upland trading corridors, highland centers could rise, decline, or change function over time in response to alterations in trade routes, security conditions, or patterns of resource extraction. As routes shifted or became disrupted, commercial flows could be redirected through alternative corridors and intermediary centers. Rather than forming a rigid hierarchy, the networks examined here operated through flexible alignments, in which the prominence of any given center was contingent upon its position within broader circuits of movement rather than its capacity to dominate surrounding territories. This pattern is evident in cases where disruptions to particular routes or nodes did not lead to systemic collapse, but instead redirected flows toward alternative pathways.

In this analytical sense, polycentricity generated redundancy and resilience: when one route or center was disrupted, other nodes and pathways could absorb and redirect circulation. This capacity for rerouting reduced dependence upon any single corridor and enabled the broader network to remain operational despite localized disruptions. Such structural flexibility, documented across the cases discussed in this article, helps explain the long-term continuity of highland trade networks despite episodic disruptions caused by warfare, state intervention, or environmental constraints. Polycentric organization, therefore, constituted not a weakness but a structural advantage within geographically fragmented highland environments. It was precisely this structural redundancy and flexibility that

exposed the limits of lowland states' capacity for control, even where those states monopolized major seaports and export gateways for forest products. Highland centers operated according to their own logics and maintained networks that extended beyond the political authority of lowland states. This was manifested in the need for lowland political forces and states to negotiate, form alliances, cooperate with, or even make concessions to highland centers, rather than imposing unilateral control. Historical episodes of political mobilization further reveal the strategic significance of these interconnected highland corridors. The Tây Sơn uprising (1771-1789) provides a clear illustration of this dynamic (Dutton 2008: 2-6).

From this analytical perspective, the Southern Indochinese Highlands emerge as an open space in which centers continually interacted and were reconfigured through interregional routes of connection. Viewed in a *longue durée* perspective, such patterns of overland connectivity resonate with broader integrative processes observed across mainland Southeast Asia (Lieberman 2009: 21-23). This spatial configuration shifts attention away from hierarchical models of territorial control toward the infrastructural elements that sustained circulation over time, namely, mountain passes.

In a polycentric space such as the Southern Indochinese Highlands, the role of each center can only be fully understood when situated within its connections to other centers. It is the routes of movement that made interconnectivity among centers possible. In Central Vietnam, alongside the role of river systems, mountain passes crossing the Trường Sơn range functioned as critical infrastructure, linking the highlands with the coast and, more broadly, connecting the mainland with the sea.

In the late 1990s, Trần Quốc Vượng (1998: 317) drew attention to the need to reconsider prevailing perceptions of mountain passes in Central Vietnam. He argued that mountains, hills, and passes should be understood in a manner analogous to rivers and seas, that is, not only in terms of their divisive qualities, but also in terms of their capacity to connect space. Although this insight received limited attention at the time, when placed within an infrastructure-and network-oriented approach, mountain passes

emerge not as obstacles, but as interregional corridors that were maintained and reproduced over time.

Owing to topographical and climatic constraints, mountain passes possessed specific advantages over river routes that rendered them key arteries of trade. Rivers on the eastern slopes of the southern Trường Sơn range are typically short and steep, making continuous navigation from upstream to downstream difficult. River-based trade in Central Vietnam was further constrained by climatic conditions: 70-80% of annual river discharge occurred during the rainy season, often concentrated within a few short weeks (Borri 2014: 17; Lâm 2017: 25-27). During this period, rapid upstream runoff produced sudden and violent floods that inundated downstream towns. These limitations of river transport could be mitigated through the use of overland routes and mountain passes as parallel and complementary solutions. While travel along passes was more challenging during the rainy season, it remained possible, whereas river navigation was often severely disrupted. Mountain passes thus served as interregional trade routes. Highland populations could use pack animals to transport forest products from the highlands to intermediate points, where they met trading caravans coming up from the coast. One such route was the “Major Road” linking Quảng Trị (Vietnam) and Kemmarat (present-day Ubon Ratchathani, Thailand), described by Maitre in 1912 (2008: 228).

Beyond their role in facilitating trade and mobility, mountain passes also functioned as military routes and sites for the establishment of security checkpoints. The *Sơn phòng* (mountain defense) program initiated by the Nguyễn dynasty in the early nineteenth century sought to establish a system for monitoring population movements between highland and lowland regions. Military posts were positioned along the foothills, serving as bases from which the court could organize campaigns into the highlands (Nguyễn 2019: 61-74). An examination of the career of Nguyễn Tấn, an official tasked by the Nguyễn court with pacifying the highlands of Quảng Ngãi, illustrates this dynamic. Over a six-year period (1863-1869), Nguyễn Tấn launched thirteen military expeditions (excluding routine patrols). His campaigns were usually conducted

during the dry season, though on occasion he advanced during the rainy season as well. “In summer, they steal the rice; in autumn, they steal the grain”: that was Nguyễn Tấn’s strategy (2019: 178-188, 287). Nguyễn Tấn’s military strategy relied on exploiting rugged mountain passes to launch surprise attacks at moments when highlander groups were unprepared, a tactic that enabled him to suppress resistance over many years.

At another level, mountain passes served as sites for the accumulation and transmission of spatial knowledge. Such knowledge was crucial for identifying footpaths, water sources, resting points, weather conditions, and social relations along routes of travel. Highland inhabitants—who acted as guides, interpreters, and transporters—were the primary custodians and transmitters of this knowledge. Cupet, a member of Auguste Pavie’s well-known exploratory mission, undertook a journey from Kratie (Cambodia) to Nha Trang (Vietnam) in 1891 in support of French colonial efforts to pacify inland Indochina, relying on locally hired porters and guides along the way (Cupet and Tips 2000: 311-313). Viewed this way, mountain passes constituted not only material infrastructure, but also social and knowledge-based infrastructure embedded within specific communities.

When situated within the broader polycentric structure of the Southern Indochinese Highlands, mountain passes emerge as the infrastructural foundation enabling the existence and interaction of multiple centers. Through pass-based routes, these centers established diverse and flexible connections with one another and with the lowlands. This helps explain why highland trade networks were able to persist and adapt despite political upheavals during certain historical periods. More broadly, approaching mountain passes as infrastructural connectivity allows for a reconfiguration of highland-lowland relations in mainland Southeast Asia. Rather than viewing the highlands as spaces fragmented by terrain, this perspective highlights how human societies confronted environmental challenges, exploited them, and transformed them into instruments serving human purposes. In this sense, mountain passes were *places to be crossed*, not places to remain.

The multifunctionality of mountain passes is clearly illustrated by the case of Cam Lộ. Cam Lộ, now a thriving town west of Đông Hà City (Quảng Trị Province), is situated at the intersection of several major transport routes in Central Vietnam. Historically, it functioned as a vibrant trading center linking Ai Lao and Đại Việt. An account by Lê Quý Đôn from the late eighteenth century offers a detailed depiction of the intensity and organization of commercial activities at Cam Lộ at that time:

Cam Lộ Commune, Đăng Xương District, lies upstream along the Diêu River; downstream it connects to Cửa Việt, while upstream it links to the Sái source area in Ai Lao. All routes used by the upland peoples of the various *sách* pass through this place... Merchants from nearby villages commonly carried salt, fish sauce, dried fish, iron goods, bronze pots, silver ingots, beads, ornaments, and other miscellaneous items to the lands of the upland peoples, where they exchanged them for rice, paddy, chickens, buffaloes, fiber, beeswax, rattan, resins, upland textiles, and upland mats, hiring elephants to transport these goods back to Cam Lộ. The upland peoples likewise used elephants to carry their goods down to the Cam Lộ market for sale; a single elephant could carry thirty loads, each load holding twenty bowls. There were also cattle markets where as many as three hundred buffaloes were driven in for sale; the price of one buffalo did not exceed ten quan, while an elephant was priced at only two silver bars and a small firearm (Lê 2007: 260-261).

Read closely, Lê Quý Đôn's account indicates that rivers and mountain passes constituted two fundamental forms of commercial infrastructure through which communities on both sides of what is now the Vietnam-Laos border conducted exchange over an extended period. Owing to its economic significance, Cam Lộ also drew sustained attention from the state. In 1829, Emperor Minh Mệnh ordered the construction of a fortified citadel (Vĩnh Ninh Citadel) at Cam Lộ and stationed troops there for defense (National History Office of the Nguyễn Dynasty 2009: 1640). Records by Cupet further show that Cam Lộ served as a gateway for approaching Huế from Sekong (Laos), a route he traversed in 1891 with the assistance of local guides (Cupet and Tips 2000: 197-209). In the 1920s, the French opened Route No. 9 as a corridor extending from Đông Hà through Cam Lộ to Savannakhet, a Lao province bordering Thailand

(Laborde 2001). The persistence of the Cam Lộ corridor across successive historical periods underscores its role as a connective infrastructure that lowland states repeatedly sought to recognize, secure, and exploit. Through this corridor, Cam Lộ and the converging mountain passes operated as an interregional infrastructure, effectively flattening the highland-lowland divide in the practical organization of trade. The Cam Lộ case thus illustrates how a specific pass-centered corridor operated within a broader networked configuration, rather than as an isolated or exceptional route.

If Cam Lộ illustrates the eastward corridors linking the central Vietnamese coast with inland exchange systems, Bân Đôn reflects a different but complementary dimension of the Southern Indochinese Highlands' polycentric structure. Situated in the upper Srepok basin and near routes extending toward southern Laos, northeastern Cambodia, and the Mekong basin, Bân Đôn was not merely an upland settlement but an intermediary node within interregional circulation networks connecting the Southern Indochinese Highlands with the interior spaces of peninsular Southeast Asia.

Accounts recorded by P. Cupet in the late nineteenth century suggest that movement across this region depended less upon formal state institutions than upon local systems of mediation and protection. During his journey from Pou Lo Pou Klia to Bân Đôn in 1891, Cupet observed that travel through the forests could only be conducted safely through a system of "recommendation from village to village," to the extent that "recommended like this from village to village, one can travel everywhere" (Cupet and Tips 2000: 318). Bân Đôn simultaneously appeared as a point of connection between Peunong and Lao communities and the routes leading toward Sambor in Cambodia. Cupet further noted that Ban Kaniong was located approximately twenty-four kilometers from Bân Đôn and linked to it by forest routes accompanied by transport elephants (Cupet and Tips 2000: 318-319). These observations suggest that the Bân Đôn region had long participated in systems of circulation organized through elephants, caravans, and indigenous guiding networks.

The intermediary role of Bân Đôn was also reflected in the

ethnically interconnected character of its frontier networks. Cupet referred to Y Thu, a Rade leader in Bán Đôn whose mother was Peunong and whose father was Lao. After presenting a white elephant to the king in Bangkok, he acquired the title “Koun,” associated with his prestige within regional elephant-hunting and exchange networks (Cupet and Tips 2000: 311). This detail illustrates the extent to which political authority, ethnic interaction, and commercial mobility were intertwined within the frontier spaces of the Southern Indochinese Highlands during the late nineteenth century.

More significantly, Cupet repeatedly described local communities as active agents in controlling movement and cross-border circulation. The fear expressed by guides of being enslaved if they traveled too deeply into another territory reflects a frontier environment in which authority did not lie entirely under the control of any single political center (Cupet and Tips 2000: 311-313). In this sense, Bán Đôn should not be understood as lying at the “periphery” of political power, but rather as a frontier node where commercial exchange, elephant hunting, forest-product circulation, and interregional political relations converged.

Cupet’s observations also correspond to his broader depiction of inland Indochina as a multidirectional system of connections linking the Mekong basin, Annam, and Cambodia. He repeatedly referred to long-distance caravans and exchange networks involving forest products, animals, and upland commodities traded among highland communities, Lao populations, and itinerant merchants (Cupet and Tips 2000: 44-45). Within this broader context, Bán Đôn can be understood less as an isolated ethnic settlement than as a connective center embedded within the circulation ecology of the Southern Indochinese Highlands. If Cam Lô reflected the role of eastward corridors linking the coast with inland exchange systems, Bán Đôn demonstrates the existence of westward and northwestward circulation networks connecting the highlands with the wider Mekong-oriented interior of peninsular Southeast Asia. The two cases therefore reveal distinct yet complementary functions within the polycentric structure of the Southern Indochinese Highlands.

In combination, the cases of Cam Lộ and Bản Đôn reveal how different corridor systems performed complementary functions within a wider network of highland circulation. The historical significance of mountain passes in Central Vietnam becomes clearer when the analytical frame is expanded beyond localized contexts. They functioned as key elements in the operational structure of multidirectional trade networks. This approach enables us to view the Southern Indochinese Highlands not as a fragmented region, but as a space structured through interacting corridors, intermediary nodes, and multidirectional circulation.

VII. Conclusion

This article argued that mountain passes in Central Vietnam should not be understood merely as natural barriers separating highland and lowland regions, but rather as infrastructural corridors that enabled and organized multidirectional systems of circulation across the Southern Indochinese Highlands. By approaching mountain passes from an infrastructure-oriented historical perspective, the article has sought to move beyond conventional models that privilege river systems as the primary framework for understanding exchange and mobility in Southeast Asia. Instead, the highlands emerge as a historically connected space structured through overlapping corridors, intermediary nodes, and flexible patterns of movement linking the coast, the highlands, and the interior regions of peninsular Southeast Asia.

The cases of Cam Lộ and Bản Đôn illustrate how different corridor systems performed complementary functions within this wider network of highland circulation. While Cam Lộ occupied an important position within eastward routes linking the central Vietnamese coast with inland exchange systems, Bản Đôn connected the highlands to westward and northwestward networks oriented toward the Mekong basin. Their functions were therefore distinct but interconnected. Together, these cases demonstrate that the Southern Indochinese Highlands did not operate as a fragmented frontier dependent upon a single commercial center, but rather as

a polycentric space in which circulation could be redirected across multiple routes and intermediary nodes according to changing political, geographical, and commercial conditions.

In this view, the limitations of upstream-downstream models lie not in their recognition of exchange between highland and lowland societies, but in their tendency to interpret such exchanges through overly linear and river-centered spatial assumptions. Reconsidering mountain passes as connective infrastructure makes it possible to understand highland regions not as isolated or dependent margins, but as active spaces of circulation whose historical development was shaped through interaction, mobility, and negotiated forms of political and commercial connectivity. Such an approach also highlights the importance of indigenous guiding systems, caravan organization, elephant transport networks, and accumulated geographical knowledge in sustaining interregional exchange across mountainous environments.

More broadly, the Southern Indochinese Highlands case suggests the need to reconsider upland regions across peninsular Southeast Asia through the lens of infrastructural connectivity rather than through rigid upland-lowland dichotomies. Framed this way, the Southern Indochinese Highlands can be understood as a form of “flattened highlands”—not in terms of physical topography, but through historically organized systems of circulation that linked coastal, highland, and inland spaces across multiple directions. Reframing mountain passes as connective infrastructure therefore offers new possibilities for understanding the relationships between mobility, trade, political interaction, and spatial integration in the history of Southeast Asia.

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Received: January 19, 2026; Reviewed: May 26, 2026; Accepted: May 29, 2026

