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Scott Arlen Brady

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HONDURAS' TRANSISTHMIAN CORRIDOR:
AN HISTORICAL GEOGRAPHY
OF ROADBUILDING IN COLONIAL CENTRAL AMERICA

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the the degree of
Doctor of Philosophy

in

The Department of Geography and Anthropology

by

Scott Arlen Brady
B.A., Louisiana State University, 1988
M.S., Louisiana State University, 1990
May 1996
ACKNOWLEDGEMENTS

The good cheer and support provided by a legion of friends, family members and colleagues have sustained me while I worked on this dissertation. I wish to thank all of them for their many kindnesses. Several people deserve special mention. Professor Robert C. West kindly loaned me his handwritten transcriptions of numerous documents that he collected when he was considering a study of the Honduran corridor. Professor Kent Mathewson provided timely encouragement and guidance throughout my tenure as a graduate student. Professor William V. Davidson introduced me to field geography in Honduras. He tolerated my prolonged indecision about research topics. Once underway, Dr. Davidson accompanied me on several pleasant hikes along the Honduran corridor and allowed me to carry his pack. I particularly appreciate his friendship, enthusiasm and hospitality. Professor Davidson's better half, Miss Sharon, has also blessed my family and I with kindness and support.

Numerous graduate students helped me complete my program. Ricky Samson and Taylor Mack have shared Honduran field experiences, computer know-how, and important sources with me. Charles Flanagan, Bob Kuhlken, Barry Keim, Chris Coggins and Tanya Kalischer provided warm fellowship. Andy Maxwell shared my appetite for etymological minutiae and loaned me his Gibson.
My parents, Glen and Annette Brady, cared for my wife and children during my sometimes lengthy absences. I appreciate this and their constant encouragement. And finally, Ella, Gulliver och Sebastian ni har hjälpt mig mer än jag kan säger. Jag älskar ir. Nu kann vi firar.
PREFACE

This study considers approximately one century (1529-1633) in the life of a 195 mile-long strip of land in western Honduras. My original intent was to explore the construction, and use, of a Spanish colonial road within this corridor and to tell the story of how that camino real changed the geography of this strip of land. Having conducted an exhaustive review of historical route geographies, I was convinced that Honduras' earliest trunkline was fertile ground for tracking the region's early settlement geography. Much to my disappointment, however, insufficient archival material preluded my telling the story as intended.

Therefore, my investigation has veered from the specific to the more general. To describe the route geography of the Honduran corridor, I have described aspects of route geography and colonial transport for routes throughout all of Central America. From this information I have interpolated by analogy an understanding of the constellation of factors, spatial and temporal, that influenced the life of the Honduran depression. Hence, my original subject's lack of fine details forced me to broaden my focus. The result is a model of early colonial roadbuilding and transport in Central America and a partial explanation of Honduras' sputtering colonial development.
Because I take pleasure in reading first-hand accounts of colonial activities, be they overly ambitious descriptions of plans for colonial development, or vivid accounts of the difficulty of mule travel, I have included numerous lengthy passages within the text in the original Spanish. In consideration of readers unfamiliar with the language, I have provided translations. I also have littered the text with Spanish terms that appeared frequently in my reading. Spanish words that have not been adopted into common English are italicized and defined in brackets the first time they are used. Ensuing useages of terms appear without definition or italics.
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ABSTRACT

Historical route geographers consider the factors that influenced past roadbuilding, and the changes that result from roadbuilding. The earliest Spanish colonial officials in Central America initiated roadbuilding projects that were sensitive to physical and cultural factors. Officials had to consider the region’s aboriginal routes, Spain’s trade flows, the isthmus’ topography, and the region’s population distribution. The roads the Spaniards opened four centuries ago guided early settlement. In some cases, these early roads persist in the region’s route network.

During the 16th-century Spaniards sought to establish transisthmian roadways that would link Spain’s Atlantic and Pacific maritime networks. Partial fluvial routes across the Isthmus of Tehuantepec, Isthmus of Panamá, and Nicaragua’s Desaguadero received early attention. So, too, did the 195-mile long geologic depression that runs across western Honduras.

Colonial officials, among them Francisco Montejo, repeatedly attempted to persuade the Crown to direct Spain’s inter-oceanic traffic across the Honduran corridor. This prospect figured significantly in Montejo’s plans to transform the province from a colonial backwater into a center of commerce.

Honduras failed to attract transisthmian traffic to its corridor. An examination of roadbuilding and overland
transport in Latin America in the 16th-century, demonstrates the corridor's transport liabilities. Honduras suffered from a depleted indigenous population, a small agricultural base and a long, uneconomical crossing.

Indians initially served as cargo bearers in lieu of mules and carts and later constructed roads and bridges. Mules and oxen, were needed to draw wagons and carry loads. Grain surpluses were needed to feed beasts of burden, Indians and travelers. With regard to these demands, surveys from 1590 confirmed what previous letters to the Crown had suggested: Honduras could not support transisthmian traffic neither did its corridor provide a rapid crossing.

A description of a recent crossing of the corridor and a glance at current traffic flows in Honduras demonstrate that despite the region's failure to capture Spain's interoceanic commerce, traces of its past promise persist. A few segments of the route possess Honduras' cores of industrial growth and agricultural production. Conversely, isolated route segments exist that continue to lag behind.
CHAPTER ONE

ROUTES OF PASSAGE
...the highway itself, by its construction, by its winding, by its slopes, by the material of which it is made, and even by its color, is a fact teeming with geographic interest." (Brunhes 1947: 112)

Introduction

Where the foot, hoof, or wheel strikes the ground, marks the intersection between human mobility and the barrier to mobility that is the physical environment. If experience favors the way, an artifact emerges, one that transforms and, in its inception, acutely responds to nature. This artifact is the route, the road, the trackway, the trace, the trail, the chausee, the chan-tau, the camino real. It proffers humans a mastery over space; a mastery that however, ultimately, is at the mercy of the terrain the route traverses and the locomotion of the conveyance. Hence, routes are human etchings in the landscape that are particularly reflective of the relationship between humans, their economies, technologies and settlements, and the physical environment over which they travel.

Beyond these compelling characteristics, the route is ubiquitous in the cultural landscape. For just as humans colonize space by constructing scattered places, they, likewise, seal the endeavor by blazing trails to connect these places. Thus, where there is settlement, there are routes.
In addition to the ubiquity of the route and its responsiveness to the physical environment, there remains yet another absorbing route feature. A route is an artery on the land into which human activity has been channeled throughout the route’s existence. Consider the concentration, through time, of human endeavor along the paths that led through Europe’s Alpine passes or across Asia to the Orient. The route corridor is a sensitive landscape record of history and a fertile focus of landscape history.

The approximately 195-mile corridor that connects Puerto Cortés on the north coast of Honduras to the Gulf of Fonseca on the Pacific Coast is the focus of this route study (Map 1). This research identifies and analyzes the interrelationships among a constellation of human and physical factors that influenced the life of this corridor during the early colonial period. These factors include: aboriginal communication networks, Spanish exploration, population distribution, topography, agricultural potential. The knowledge gained will demonstrate early colonial route planning and construction in Central America, and explain much of Spanish settlement activity in western Honduras during the 16th century. In addition, the role of early colonial routes in the present route network will be discussed. The remainder of this chapter contains the most comprehensive review of historical route geography to date and places this study within the context of the discipline
Map 1. The Honduran Corridor
of Geography. The chapter’s final section provides a preview of this study.

**Route Geography**

During the past century geographers have recognized the congruity of route study with the broader fields of settlement geography and cultural-historical geography. Likewise, they have attended to the route features identified above, among others. A fine early example of geographers’ preoccupation with routes is Karl Sapper’s brief description of indigenous trails in highland Guatemala and his call for greater attention to the secrets they held (Sapper 1936). Much of Sapper’s twelve-year stay in Central America was spent rambling far and wide on footpaths [Fußpfade]. His time on the trail demonstrated to him a profusion of route subtleties that ranged from the comparative seasonal tractions of mud to route variations related to vegetation types and, finally, the factors that influenced natives’ choices of footwear (1936: 11-16). The late publication date belies the fact that the article was based on fieldwork Sapper conducted in between 1888-1900. Whether or not in response to Sapper’s counsel, routes have captured the interest of many 20th century scholars.

Milton Newton (1970) called geographers’ study of the paths of human movement "Route Geography." According to Newton,

study of the route as a basic repeating element in the landscape can provide insight into man’s occupation of
the land. These routes can serve as a sensitive summary of physical, cultural, historical, political and economic factors that have produced the present landscape (1970: 152).

Newton can be counted among those geographers who produced comprehensive route studies. However, consideration of Newton's work at this stage would be out of turn, for he followed several pioneers of modern route geography.

Friedrich Ratzel (1844-1904), Paul Vidal de la Blache (1845-1918) and Jean Brunhes (1869-1930) included extensive passages concerned with routes in their respective systematic studies of human geography: Anthropogeographie (Ratzel 1912), Principes de géographie humaine (Vidal de la Blache 1922) and La géographie humaine (Brunhes 1910). Rather than detailed treatments of specific routes, these sections abound with explanatory generalizations and speculations about the nature of routes and arguments for the importance of route study. The accumulation of route studies with the passage of time has confirmed the accuracy of some of their early deliberations. A review of pertinent literature also reveals that the questions outlined by Vidal de la Blache, Ratzel and Brunhes have persisted and continue to guide route study. Therefore, a review of these well-known European pioneers' ideas concerning route geography is here appropriate. The ultimate aim is to identify briefly the primary methodologies they contributed to route geography. These, and other themes, then will be considered individually in greater detail in the second half of this
chapter when subsequent geographers’ applications of these general themes to the study of specific routes are reviewed.

Friedrich Ratzel

Among Friedrich Ratzel’s observations concerning routes was the interdependence of human settlement and routes.

[I]t is difficult to say if the settlement or the road came first, they are so very dependent on each other. They belong close together and grow together (Ratzel 1912: 342).

Because of this relationship to settlement, the focal point of the cultural landscape, Ratzel maintained that route study was essential to Landschaftskunde. The question he asked in this passage, What came first, settlement or the road?, has captured the attention of many geographers because it is fundamental to understanding the genesis of the built environment. Beyond this question of causality, Ratzel suggested that routes, themselves, might define whole regions. "When connected, the network of trade roads in a region essentially determine the nature of that region" (1912: 342). Ratzel expanded the regional aspect of routes beyond trade when he suggested that "[r]oads represent, by their nature, one of the best measures of culture" (1912: 344). This quote predates the practice common among atlas publishers in which they include in their section of thematic maps a map that shows world-wide route mileage. Authors of world regional geography textbooks also offer route density as a criterion to distinguish between the developed and underdeveloped world (De Blij 1994: 34).
However, according to Ratzel, routes served not only as "measures of culture," they also acted as agents of culture change. "Roads are one of the most powerful means of cultural development," (1912: 345) to say nothing of diffusion. With these generalizations Ratzel established the route as a landscape signature charged with cultural significance.

Ratzel developed the cultural importance of routes by applying an early notion of core-periphery spatial relations to route distribution. In an admittedly simplistic example, he compared the route network of a coastal region to that of its hinterland. The greatest concentration of roads were found in, and define, the coastal core, while the hinterland periphery was road poor. From this situation he projected the development of "the ethnographically significant contrast between trade-rich and trade-poor, richer and poorer, progressive and stagnant peoples" (1912: 345).

Ratzel pursued the relationship between culture and the route further. Much as a culture ecologist views the relationship between humans and the physical environment as a reciprocal relationship, at once considering the influence of the physical environment on cultural development and the impact of human activities on the physical environment, Ratzel saw a reciprocal relationship between humans and the route. In addition to its capacity for altering culture, the route also reflected the fortunes of the sequence of
cultures that used it. "They [roads] are constantly rejuvenated by successive groups of peoples, especially by colonizing cultures in new lands" (1912: 345). The language conjures up Ratzel's conception of the state as a living organism with the route, which Ratzel called "Life's Artery", an integral living constituent. Ratzel provided an example of this process of rejuvenation.

The significance of river roads is greatest during the earliest stages of a country's development. Trade is particularly dependent on river and valley roads. In their plains primary settlement is concentrated. They provide simple, immovable boundary lines. Later, development disperses. The population leaves the plains and valleys ... roads find the rivers' winding too long and truncate. The border lines migrate away from the rivers (1912: 347).

A key factor missing from this model is the change in transport technology that allowed the truncation, or "rejuvenation," of the route. It is reasonable to assume that in the many instances Ratzel mentioned "cultural development," he implied technological change. Clearer articulations of the relationship between the route and transport technology by subsequent geographers will be discussed later in this chapter.

Beyond the aforementioned themes, Ratzel also found value in a possibly more prosaic, or profound, feature of the route. According to Ratzel, "[w]hat races, tribes and peoples have helped to make is of world-historical significance" (1912: 344). In another passage he wrote that "[t]here is an attraction to efforts like these [road-
building]; people are proud of these important promoters of their progress, these testimonies of their blood" (1912: 345). Hence, the road, like the plowed field or built house, is of geographical value because it is a human creation.

Thus, at an early date, Ratzel identified several themes to guide the study of routes. They include: the relationship between routes and settlement; the chronological sequence of route-building and settlement; the unity of route and region; the route as a measure of culture and instrument of cultural change; the relationship between the route and transport technology; and the route as human artifact.

Paul Vidal de la Blache

Ratzel's contemporary Paul Vidal de la Blache also acknowledged the importance of route study. Not surprisingly, Vidal de la Blache's treatment of routes occasionally coincided with Ratzel's. However, Vidal de la Blache did identify additional route questions and in the case of those concerns common to Ratzel, the Frenchman offered more detailed expositions of his ideas.

Vidal de la Blache also recognized the interdependence of the route and settlement (1926: 370-389). However, where Ratzel was uncertain about which came first, Vidal de la Blache confidently argued for the precedence of the route. "The road is branded on the soil. It sows seeds of life,
houses, hamlets, villages and towns" (Vidal de la Blache 1926: 370). In another passage he wrote that a road "creates" life. He bolstered this argument with the mention of French settlements, such as Taverny and Saverne, which he believed named according to their origins and early route functions. Route travelers and beasts of burden required food, water and lodging at fairly regular intervals. Consequently, settlements emerged along routes at regular intervals. This relationship between route settlement and itinerant human sustenance is universal. Therefore, a ubiquitous feature of the pedestrian landscape is the roadhouse settlement, the Incan tambo, the Spanish posada, or venta, the French taverne ... The nature of these settlements is discussed later in this chapter in a section that focusses on the works of geographers who concentrated on this aspect of the route-settlement relationship.

Vidal de la Blache further developed the dependence of settlements on routes when he noted the "permanent imprint" that early roads made on urban morphology (1926: 381). He observed that the road or crossroads that gave birth to settlement, also guided the settlement's growth, providing lines of reference for the arrangement of streets. Vidal de la Blache believed the influence of these early surface etchings extended beyond urban centers. They established the foundations for later patterns of commerce.

Great importance must be attached to what had previously been accomplished by road building. The consequences of
road construction can be felt in present economic conditions. For example, modern industry has often been founded on relations which roads brought into being...For industrial centers are not created by the presence of fuel and minerals and raw materials alone (1926: 388-389).

This quote suggests that current transport networks result from the spatial inertia established by routes of an earlier time and economy. Vidal de la Blache believed that the lack of a long entrenched pattern of transport in America was an essential difference between Europe and America. As will be demonstrated throughout the remainder of this chapter, subsequent geographers have considered this notion of "cultural continuity" both in the Old World and the New World.

Vidal de la Blache identified another route feature that has since become a standard element of route geography (1926: 378). This is the aforementioned relationship between the route and the terrain it traverses. Not only is the "road branded on the soil," but "primitive modes of travel are branded with the physical environment". Despite the brevity of his treatment of this vital connection, Vidal de la Blache offered a few explanatory generalizations. For example, he related a method of transportation, its preferred route to the appropriate physical environment. Hence, cart traffic on cart roads favored regions where deposition exceeded erosion: open, slightly dissected surfaces that experience infrequent rains, thereby ensuring firm soil. Beyond considerations of soil and hydrology,
Vidal de la Blache observed the relationship between routes and the physical environment in the convergence of transmountain trails on passes or gates like Brenner and Cumberland. These physical features influenced not only route but also settlement location, military outposts often being established on either side of the pass.

Vidal de la Blache, like Ratzel, recognized the power of roads to create human landscapes and he offered important generalizations about these roadscapes.

These narrow ribbons, whose surfaces are constantly brushed by human footsteps, can already lay some claim to permanence, with an individuality all their own" (1926: 370).

What is the basis of this "individuality? How does this distinctive "ribbon" of land fit into a regional framework? Ratzel’s assertion that a route could determine a region inspired similar questions. Vidal de la Blache noted several route characteristics related to these questions. Chief among these characteristics was the manner in which a route attracted a variety of human activities to itself. Activities ranged from commercial and religious to political, the actors hailing from throughout the diverse regions the route linked. Hence, a diverse mix of activity and people was concentrated in the strip of land that was route corridor, thereby distinguishing it from other areas of the Earth’s surface (1926: 379).

Another distinguishing feature was the unique manner in which this strip responded in concert to changes in the
nature of activity along the route. Vidal de la Blache noted that a route corridor could be a "zone of attraction" or a "zone of repulsion" depending upon the degree to which it was policed (1926: 381-382). During periods of security towns were established close to the road. In contrast, during lawless periods the route was a "warpath" and settlement, understandably, moved or was established a safe distance from the road. Hence, the route corridor could be thought of as a fluid area of the Earth's surface that ebbed and flowed in response to human activity.

In the following passage Vidal de la Blache alluded to these distinguishing route characteristics and introduced others.

The Roman Road is primarily an imperialistic achievement, an instrument of power holding in its clutches a whole sheaf of different, widely separated regions. In many places it is still associated with intimate and living history, because along with commodities, pilgrims or armies, all news of the outside world, all thoughts and legends, have travelled over it as well. Moreover the populace has given it a name; it has been personified (1926: 380).

Vidal de la Blache aptly chose the masters of road-building and the permanence of their creation to convey the exceptional character of the route. However, these observations are not limited to the Roman via. Vidal de la Blache viewed the route as more than a system of economic circulation. Its essence lay beyond its trade flows. The route was a spine of history, a channel of communication, of
culture. In this capacity it warranted naming and personification much as a region does.

Similar to Ratzel, Vidal de la Blache's treatment of routes did not overtly conclude that the route corridor constituted a region. However, he emphasized the distinctiveness of the corridor on the basis of its associated activities. In addition, his inquiries and observations about the route's essential character suggest that the corridor displays some degree of coherence. This distinctiveness and coherence are certainly essential characteristics of regions.

Therefore, we find a general correspondence between Friedrich Ratzel and Paul Vidal de la Blache's conceptions of the function and character of routes. Vidal de la Blache considered the relationship between the route and settlement and assigned causal power to the road. He identified the connection between route settlement and itinerant sustenance. In addition, he emphasized the permanent influence early routes exerted on subsequent spatial relations. Vidal de la Blache also introduced the physical environment as a essential concern of route study. And, finally, he sought the essential character of the route, its history, its name, its personality.

Jean Brunhes

Vidal de la Blache's student Jean Brunhes (1978) also emphasized the importance of route study to human geography
and contributed valuable insights. However, it may appear that his ideas are given short shrift in this chapter. This primarily results from his place in the order of presentation. It also reflects the congruence of his observations and generalizations with those of Ratzel, a geographer with whose work he was familiar, and Vidal de la Blache, his mentor.

Brunhes divided the human landscape into three categories. One of these he called "sterile occupation of the soil" (1978: 65). This included human dwellings and agglomerations and circulation networks (James and Martin 1981: 193). Hence, it included the route. The grouping of route and settlement reflects the interdependence that Brunhes concluded existed between the two. Similar to Vidal de la Blache, Brunhes believed that "inhabited centers (were) created by the road" (1978: 175). Similar to Ratzel, he emphasized that the settlement-route relationship existed and warranted attention at various scales: from the roads of great empires to "small trodden spaces or beaten paths" leading to small Alpine huts (1978: 110).

Brunhes also agreed with Ratzel when he suggested that routes were measures of cultural development (1978: 114-116). When Brunhes echoed his mentor and directed his attention to a culture, the Romans, known for their road-building prowess he identified another fertile aspect of the route. The route is an artifact that reflects the decisions
of people who can be considered working field geographers.

The Romans, desirous above everything else of quickness of communications and military transportation, took no account, in the construction of roads, of the natural features of the land. Their roads are as far possible straight lines. Artificial work is therefore very frequent...The Romans did not content themselves merely with smoothing the ground. In order to assure the solidity of the road, instead of opening it they built it (1978: 114).

As a colonizing force the Romans were faced with momentous spatial problems. What were the most efficient means to establish political control? At what locations would military outposts prove to be most effective? Over which routes should roads be built to link these outposts? How might current trade flows be re-oriented toward Rome? Successful solutions to these problems depended on practical knowledge of the physical and human geography of the areas to be colonized. The routes, and maps of routes, that remain reveal the solutions to these problems.

Similar to Vidal de la Blache, Brunhes also found in the route a sensitive expression of the relationship between humans and the physical environment. However, consistent with his understanding of human geography, Brunhes emphasized the influence water availability exercised on the location of routes and route settlements.

The historic routes of travel of the desert nomads, the buffalo trails of the Great Plains, are almost as rigorously subject to the distribution of water holes as our trains are subject to stops at fixed stations ... to supply the boilers with water (1978: 55).

In this passage Brunhes highlighted the physical environment
as an integral factor in route geography. He also referred to another factor, transport technology. As we saw earlier, Ratzel briefly dealt with this topic when he wrote of route "rejuvenation" and "cultural development." Brunhes, however, devoted greater attention to this crucial subject. Despite his assertion that improvements in transport technology failed to free routes from the grip of the physical environment, Brunhes did acknowledge that routes responded to technological change. With each innovation we "find an echo in geography" (1978: 113).

Therefore, beyond confirming many of the observations of Friedrich Ratzel and Paul Vidal de la Blache, a reading of Jean Brunhes broadens our perspective to include an appreciation of variations in route scale, a recognition of the geography that early route planners practiced and a regard for the relationship between transport technology and the route.

Themes Recurrent

Inquiry into the writings of Ratzel, Vidal de la Blache and Brunhes resulted in the identification of a host of themes that by virtue of their acuity have guided route geography since early in the 20th century. Presently this chapter will consider the subsequent application of these themes to route study. This endeavor skirts redundancy because the scope of inquiry moves from the general to the specific. The resulting increase in resolution allows more
detailed analysis. In addition, our survey of route literature will identify other factors that have come to light in the decades since Ratzel, Vidal de la Blache and Brunhes considered the route. Among the results of place- and culture-specific route study is a refinement of previous generalizations, the identification of route-related universals and intensified appreciation for the route as a sensitive marker of culture history.

Discussion of the body of route literature will be organized according to the following themes: Traces of History; Route Origin, Persistence and Pioneer Settlement; and Cultural Geomorphology, Transport Technology and Trailblazing Geographers; and the Road as Region. Despite organizing route geography into these discrete thematic divisions, on numerous occasions subject matter spills over from one section into one or two others. This is unavoidable and reflects the interdependence of the themes.

Traces of History

Yi-Fu Tuan (1980) identified the attraction that the route held for geographers when he explained the "significance of the artifact." According to Tuan, the artifact, a "humanly constructed object, material or mental", has "the power to stabilize life" (1980: 462-463). A constellation of artifacts establishes in nature "the sort of order that satisfies (humans) material and spiritual needs" (1980: 465). Prominent among these artifacts is the
route, for it promotes human mobility and communication. Considered through time, it is a recurring record of the efforts of past cultures. It is an artifact that orients history.

Numerous geographers have contented themselves with the study of routes as historical markers, as landscape remnants of significant human endeavors. The guiding research principle for many of these geographers simply was that ground knowledge of important historic routes was necessary for understanding these routes. Securing ground knowledge often involved traveling the length of the route, observing the terrain it traversed and noting the route’s present function. The studies that resulted commonly steered a descriptive course. Scholars established the route’s historical context. They described the physical nature of the route and its course. Where appropriate, they identified what they thought were significant route features that might apply beyond their specific studies. Rarely did these studies pose, much less solve, geographical problems. Instead, the spirit of these inquiries was that history dwelt in the miles that these routes traversed. In his study of trans-Appalachian roads Albert Perry Brigham evoked this Romantic spirit when he sounded an early call for geographers to get out and walk some of the old route traces and "seize the experience of the past" (Brigham 1905: 327).
The pertinence of Brigham's exhortation is evidenced in the subsequent profusion of similar studies infused with his spirit. Admittedly, a brief review of these studies offers little insight into the general geography of routes. It does, however, reveal insights into the development of the practice of geography.

The two-decade period between 1930 and 1950 appears to have been a time when geography, as a discipline, valued studies of historic routes by virtue of the empirical facts of history that they provided. During this period prominent English language journals, including the Geographical Review, the Geographical Journal and the Annals of the Association of American Geographers, published several such route geographies. However, this trend possibly was initiated by a study published in a journal not among these. Ibero-Americana published Carl Sauer's The Road to Cibolá in 1932. In this study Sauer traced the early development by the Spaniards of a trunk road that led to the northwestern frontier of New Spain and thereby, facilitated the extension of Spanish control, in the form of religious and administrative institutions that followed the trailblazers. Sauer acquired ground knowledge of this route from his repeated travel along it en route to field study areas in Mexico. At the outset he identified a primary value of this familiarity that informed this sort of study. He was writing history with the "advantage of knowing the country"
(1932: 2), an advantage that he felt historians often lacked. This "advantage" recurs in most of the route geographies from this period. Sauer's study is rich in physical description of the route and explanation of route strategies. Moreover, he gleaned from archival documents some of the particulars of the geographical information that guided the Spaniards opening of the road.

The next historical route study to appear was Robert Hall's (1937) treatment of the Tokugawa government's 16th century road that connected Kyoto and Yedo [Tokyo]. Beyond providing the standard elements mentioned above, Hall introduced the notion, mentioned earlier, that a route corridor could be considered a region (1937: 357). He viewed the road as a factor that had always coordinated human activity. The road, therefore, was an especially appropriate feature on which to base the study of history.

Harold Peake (1939) considered the "keekwilee holes" (ancient routeways) he found entrenched in the chalky English Downs. He tracked the history of landforms along several of these routes and with the information from 10th and 11th land charters and analysis of toponyms reconstructed the courses they followed. His ultimate purpose was to untangle conflicting versions of the history of these route remnants (1939: 436).

Despite an adequate description of the route's historical significance, Hanson-Lowe's (1940) study of an
ancient tribute path that led from Lhasa to Peiping was essentially a travelogue of his journey along the route. One can imagine that his chief purpose was exploration rather than explanation. This brings up another aspect of this sort of route study. Old routes led researchers on excursions of after-the-fact exploration. This prospect of discovery persisted especially in those cases in which routes led geographers to remote areas that largely had been passed over by modernization.

The Geographical Journal published one such study in the same volume as Hanson-Lowe's previously-mentioned article. Patrick Fitzgerald traveled the old caravan trail that linked Bhamo on the Irawaddy to Kunming near the headwaters of the Yangtze (1940). At the time of the study, the trail traversed the frontier between the British Empire and China. Fitzgerald noted present trade flows along the corridor and the possibility of opening the corridor for automobile transport. Considering the locations of the routes, the time of the studies and the political situation, it seems that, beyond history and exploration, Hanson-Lowe's and Fitzgerald's studies could also have been undertaken for strategic purposes. Both studies, published by a British journal, examined routes that led from the British sphere of influence to China's interior. It seems reasonable that a possible outcome was Britain's development of penetration corridors along these old routes. Ratzel might have called
this potential example of continuous use an illustration of "route rejuvenation". Another study from this year that was guided by similar concerns was Felix Howland's (1940) research on caravan routes that crossed the Hindu Kush.

Two years after publication of these three studies the Geographical Journal resumed its interest in strategic route geography with the publication of Sir Henry Craw's (1942) study of the Burma Road and J. V. Harrison's treatment of tribal routes that led from southern Iran to southern Russia. William Rudolph (1943) revisited this purpose in his study of "Strategic Roads of the World." Rudolph cited old trails in Africa, Asia and Latin America that could serve as possible routes of "development" (1943: 124).

A winter jaunt by a pair of footloose geography graduate students, Robert West and James Parsons (1941), culminated in an exemplary route study. They trekked the Topia Road, a prominent trans-Sierran trail in New Spain. Their study steered a descriptive course in explaining the historical significance of this route that connected the "Road to Cibolá" to Culiacán. West and Parsons depicted colonial traffic flows and found their remnants in the present landscape, mostly in the form of sunken roads. Photographs record these remnants and convey the nature of the land the route traversed. Moreover, a photograph of West's de-soled hiking boot, published in West's Festschrift (Davidson and Parsons 1980: 6), is a testament to the
physical understanding of pedestrian travel along colonial routes that these two geographers gained.

One final study closed out the discipline's two decade-long appreciation for descriptive-historical route study. Because of its thorough treatment of an eminently significant subject, Herold Wiens' (1949) study of the Shu Tao that led from China's Wei Ho valley over the Tsinling Shan and Tapa Shan mountain ranges and on to the Szechwan Basin can be considered as an appropriate bookend for this period that began with Sauer's "Road to Cibolá." Wiens conceived of this route as a recurring "spillway" of culture in China's history. Among the significant innovations that flowed along this path to the interior were Buddhism, the Han civilization, the first wheelbarrow and, more recently, Communist efforts to unify and integrate greater China. Wiens posed the reverse flow from Szechwan to the Wei Ho valley as the first segment of the Great Silk Road, for Szechwan was a primary source of silk (1949: 591). The nature of Wien's field research is unclear. However, his observation that one can "meet the symbols of the past" (1949: 602) along the route suggests that he acquired at least some ground knowledge of the Shu Tao. The phrase also provides a profound reiteration of that quality of the route that attracted the geographers discussed above. A route corridor is a funnel for human activity. Hence, routes that
are repeatedly revisited through time hold within their confines a rarified record of human endeavor.

At this juncture we will shift our attention to route studies by geographers who sought to explain routes, who viewed routes as geographical problems to be solved, as artifacts that obeyed spatial and temporal laws.

Route Origin and Inertia

Ratzel, Vidal de la Blache and Brunhes all suggested that the routes established by the earliest occupants of an area instituted a spatial inertia within that area. Spatial inertia refers to the power of a region's earliest route network to guide the arrangement of subsequent peoples' activities and relations despite economic shifts and transport improvements. According to this view, a route corridor is much like a geologic column, with each stratum corresponding to a period and means of travel. The concept predates and concurs with Zelinsky's "Doctrine of First Effective Settlement" (1973: 13). And just as Zelinsky argued that explanations of the fundamental character of extant cultural landscapes lay in the culture of the landscape's earliest occupants, route geographers have searched for route explanations from the route's earliest travelers. Hence, considerable emphasis has been placed on route origins. Moreover, geographers have tracked the process of pioneer settlement to discover whether early routes did, indeed, establish a spatial inertia.
The instinct of the animal and the shrewdness of the savage, only a little higher in intelligence than the animal, have planned roughly the survey which engineering skill examines and frequently approves (Rogers 1889: 490).

This quote effectively captures early notions about route origins and persistence, especially for the New World. The search for origins is limited largely to the study of routes in the Americas. Geographies of European routes seldom trace origins beyond the network of Roman roads.

Andrew Burghardt (1969: 418) termed the image promoted in the passage above the "primitive life" explanation of route origin. According to this explanation European colonists in the New World simply followed Indian trails that, in turn, were but "an adaptation of animal trails," that led to "salt licks, grazing grounds and water holes" (1969: 418). The early date of Rogers' statement should not suggest that such an explanation was without somewhat contemporary dissent. Roe (1929) considered the 'Wild Animal Path' thesis as early as 1929. He identified the buffalo as the primary supposed trailblazer. His analysis of historical accounts supporting the Wild Animal Path thesis rooted out gross exaggerations and faulty analyses of the relationship between animal paths and ancient roads. Aside from these problems, Roe believed a crucial defect of the explanation was the absence of a common incentive. He argued that human routes always "had a definite objective in view" (1929: 307). The primary objective was trade. Roe
disallowed the suggestion that trade and the natural migrations of buffalo coincided. Accordingly, there was no basis for explaining human routes by animal routes. A possible defect in Roe's argument is that he considered it absolute and thereby denied out and out the possibility that buffalo migrations were, indeed, an important factor in early trade.

Beyond animal origins, route geographers have studied the relationship between European road-building in the Americas and pre-existing route networks. In the aforementioned The Road to Cibolá, Carl Sauer argued for route continuity when he presented the opening of the road to the northwestern frontier as a process by which European explorers largely appropriated pre-existing Indian roads (1932: 1).

In Alfred Meyer's (1954) study of pioneer settlement and circulation in the Calumet region of northwest Indiana and northeast Illinois he, likewise, maintained that "unquestionably the Indian trail ... constituted the predominant aboriginal influence on the basic pattern of pioneer settlement" (1954: 267). Similar to Sauer, he found evidence of this influence in the adoption of the pre-existing route network by European settlers. The original government surveyors of this region were instructed to record the extant trade network so that they might "serve as guides to men who desired to buy land without seeing it"
Both Sauer and Meyer attributed European adoption of aboriginal route networks to what they believed was the essential character of these routes: a surpassing sensitivity to the terrain they traversed. Sauer called these trails the "best compromise between distance and terrain" (1932: 2). Meyer claimed that the Indians lived "in the closest adjustment to their environment" (1954: 259). Hence, the result was "a trail mapped out by nature itself" (1954: 254).

These two route geographies present evidence that some routeways experience what James Vance (1961: 357) called "continuous use." As such, a chronological sequence of cultures recognizes the merits of a particular route and, therefore, continue to exploit it. Certainly, there are numerous routes that fit that description. However, the "continuous use" explanation is simplistic. The consensus it enjoys is unfortunate. Acceptance of the "continuous use" explanation disregards the influence of other crucial route factors. Nevertheless, the general acceptance of this explanation warrants further inquiry.

James Vance, Andrew Burghardt and Peter Rees can be counted among a small group of geographers who have concentrated on the origins of routes or route networks. Each member of this trio dealt extensively with notion of "continuous use." A review of their findings sheds light on the question of route origins.
In his comparative study of the Oregon Trail and the Union Pacific Railroad Vance (1961: 357) argued that the "continuous use" explanation incorrectly presumed that "all movement has similar causes and, thereby coincident locational requirements." The basis of his argument was the lack of coincidence between the aforementioned routes. Vance compared both routes' northern passages across the Rocky Mountains and the paths they followed to Ogden, Utah.

The Oregon Trail's peak of utility occurred in the 1840s and 1850s. It largely was abandoned after the Union Pacific Railroad was constructed in the five years following the Civil War. Vance argued that abandonment and the interruption of "continuous use" resulted from a change in the purpose of travel and a sharp decline in the dependence of travelers on local resources since the time of peak travel on the Oregon Trail (1961: 357).

Both of these reasons are related to route responses to technological change, a topic which merited a separate subheading in this chapter. Nevertheless, an intentionally incomplete discussion of these reasons is appropriate at this juncture. Vance grouped travel, such as was executed by means of the Oregon Trail and the Union Pacific Railroad, into two categories: "Non-economic Transportation" followed by "Economic Transportation." Non-economic generally preceded economic travel. Vance described non-economic transportation as those movements that measured success in
terms other than profits (1961: 357). The most common form of non-economic travel was pioneer migration beyond the frontier where travelers had to "depend on nature to provide support for the journey" rather than capital (1961: 364). Travelers were considered successful if they reached their destination. Consequently, non-economic routes were influenced more by physical geography, the impediments to and the sustenance for travel, than economic geography (1961: 357-358). Diaries of Oregon Trail travelers, non-economic travelers, revealed that they "had to be concerned with feed for their animals more than with any other aspect of the natural environment" (1961: 367). Therefore, Vance concluded that study of non-economic travel should focus on the natural endowments of the route such as grass, water, wood. In the case of the Oregon Trail, he found that these concerns were more important considerations than mountains or Indians. In essence, the Oregon Trail followed an "almost unbroken line of grassland" rather pursue a path "where effort was the least" (1961: 363-378).

In contrast, the purpose of economic transportation was to carry goods or people in the hope of profit from the activity. Any barrier could be surmounted if the net result of the travel was profitable. This type of travel included the railroad. Because of the pursuit of profit, economic travel was conducted year-round. In contrast to the relatively static "natural routes" of non-economic travel,
economic routes were "constantly subject to improvement" to increase profits (1961: 378). Hence, repeated calculations of distance, directness and grade characterized economic travel. As a result, Vance claimed that in contrast to the vegetation-dominated Oregon Trail, the Union Pacific Railroad demonstrated "terrain denomination" (1961: 378). Because of the drastic differences between the two purposes, non-economic vs. economic, of travel the two routes depended on significantly different locational criteria. Therefore, the Oregon Trail route was abandoned rather than appropriated by the Union Pacific Railroad (1961: 379).

Andrew Burghardt considered route origins in both the Old World and New World. In both worlds Burghardt concentrated on the relationship between aboriginal routes and pioneer settlement. In the introduction of his study of route origin in the Niagara peninsula, Burghardt (1969) summarized the assumptions that had dominated route geography. First among these was that "the road is the creator, the city the creation" (1969: 417), an assumption previously traced to Vidal de la Blache and Brunhes. Burghardt attributed it to 18th and 19th century Romanticism when the road signified mystery and adventure rather than simply a channel for trade flows. Another assumption was the belief that topography determined road courses. Burghardt called this "physical determinism" (1969: 418). Accordingly, natural fords or bridging points drew trails to
them; roads followed high land and avoided flood-prone low areas; and routes followed river valleys. And, as noted above, these trails were considered adaptations of animal trails, headed "to salt licks, grazing grounds and water holes" (1969: 418). Burghardt argued that the prevailing assumptions about route origins maintained that "topography or primitive life forms dictated the alignment of early roads, and that the location of these roads in turn dictated the location of urban centers" (1969: 418).

Burghardt tested these assumptions in the Niagara peninsula during the period of initial white settlement, 1770-1851. He chose this area because there had been no major Indian settlement for more than 100 years before British settlement. There were, however, traces of an Indian route network. Burghardt found that the "most striking" characteristic of this route network was "the juxtaposition of the trail and stream network" (1969: 422). This was compatible with the assumptions Burghardt had identified earlier. Such an arrangement provided for "rapid communications in both directions" (1969: 422), afoot up river and on the water down river. Other characteristics of the Indian route network included: the regular occurrence of parallel routes; lack of evidence to support animal route origin; and convergence of routes in areas that offered only narrow passage (1969: 424-425).
The only evidence Burghardt found to support continuous route use was the fact that initial penetration by British settlers largely followed pre-existing Indian routes. These roads served as temporary settlement axes. However, as settlement progressed, a system of survey was superimposed on the land. This system provided a new orientation for the settlers' route network and a re-orientation of transport patterns on the peninsula. Although some Indian routes were incorporated into the new network, most faded from use (Burghardt 1969: 435).

Burghardt found little proof of the presumed capacity of the route to create urban centers, or even permanent settlement. Settlements emerged at port or mill sites rather than at crossroads. Edwards and Hindle recently reported similar findings in medieval England where port locations were found to be site advantages that rivalled the town-building benefits of routes (Edwards and Hindle 1991: 133). In the Niagara peninsula, port settlements stimulated the construction of roads to link the surrounding areas to them. Thus, towns created roads. The pre-existing route network, indeed, provided a "potentiality" for significant settlement; however, a "catalytic action" was necessary for focussing urban activity in the area (Burghardt 1969: 435-436).

Burghardt's use of the word "catalytic" calls to mind a passage from Carl Sauer's "The Morphology of Landscape"
(1925: 47-48) which emphasized the importance of "the catalytic relation of civilized man to area and the effects of the replacement of cultures." Sauer described the essence of the situation Burghardt studied. According to Burghardt, the influx of a significant number of settlers with "their advanced technologies and their systems of land use" served as the catalyst in the Niagara peninsula (1969: 435). Burghardt neglected to note that despite the British settlers' advanced technologies, their early settlements and roads hugged the major waterways much as had the Indian routes.

Burghardt (1979) revisited the question of route origins and pioneer settlement when he turned his attention to the origins of an Old World route and settlement network. In this study of the Romans' conquest and early administration of Pannonia (presently the western half of Hungary and eastern Austria) Burghardt once again dealt with a situation reminiscent of the Sauer quote cited above. However, the study does not simply recount identical processes in a different location. Instead, Burghardt sharpened his conception of the replacement of one cultural landscape with another more advanced. The resulting insights justify a review of this study.

At the outset Burghardt suggested that the search for route origins should also involve the identification of the point in time at which a route network established a
permanence in the cultural landscape. According to Burghardt:

In any one macro-region there is usually one brief, but large-scale period of city foundation. This fundamental pattern is set down when an urban-oriented society assumes control over areas lightly populated by non-urbanized peoples (1979: 1).

Once again Burghardt evokes Sauer. In "The Personality of Mexico" (1941a: 354), Sauer called for historical geographers to focus their attention on the period, "the first generation or two," when the New World's cultural landscape was re-oriented to suit the needs of the colonizing European cultures. This is the crucial period in which to study the establishment of route networks, for it allows for the comparative study of two models of route networks in a compressed period of time.

Burghardt briefly characterized the pre-Roman route network as a "dense web of strictly local linkages with a few long-range routes" (1979: 3). The only trunk trail was the Amber Road, which led from the mouth of the Vistula to the Adriatic. However, it was only of peripheral importance in pre-Roman Pannonia. Burghardt explained that such a network reflected the character of the region's trade. There were few products of sufficient compactness and lightness to be transported long distances economically (1979: 6). Hence, trade was regional and traffic predominantly was restricted to a network of relatively short, narrow paths.
In contrast to the brevity devoted to describing the route network the Romans found, Burghardt provided a thorough depiction of the network the Romans built. It echoed the previously cited passage from Brunhes. Because of differing purposes the Romans incorporated little of the extant network (1979: 3). The Romans built roads to entrench military control and administration of the region. These purposes required the introduction of two alien transport elements into the region: soldiers marching in formation and wheeled conveyances. Accordingly, the Romans built roads wide enough to accommodate foot soldiers. The wheel dictated that the roads be smooth, well-drained and of sufficient width (1979: 17). Hence, the roads were surfaced with basalt pavement stones. Despite a desire for level roads, roads followed the most direct route often at the expense of levelness. Directness provided for rapid troop deployment and a minimum of road mileage. Efficient route-planning required construction of fewer miles of road and fewer halting places. The primary demand for engineering involved river and marsh crossings. These spots also marked the only places roads veered from their direct path. These route-building guidelines made for swift movement of foot traffic but not for freight, for "freight roads tend to be level rather than straight" (1979: 3). Hence, comparison of the contrasting purposes of the two route networks demonstrates the lack of route continuity.
Burghardt also found little evidence to suggest that the pre-existing web of routes guided Roman administration and settlement of Pannonia. In the few cases when the two coincided, "the routeway is so completely realigned and changed in character that any implied causality is more apparent than real" (1979: 17). Burghardt also considered the "causal interrelationship between routes and cities" (1979: 19). In the case of Pannonia, the Romans first chose sites for settlement on the basis of administrative and military objectives. Sites that maximized "areal control" and facilitated rapid troop movement were favored (1979: 19). Upon selection of sites, the Romans then built roads to link these sites. This supports the argument for a route's town-building capacity. However, Burghardt did allow that, in some cases, the Romans did focus their site selection along the cleared path that the Amber Road provided. Nevertheless, he claimed that "the total network was determined by the locations of a few specific sites" (1979: 19).

Burghardt pointed out another important feature of the route-settlement question. The Roman roads established a secondary system of settlement directly on the roads. These were the "stages," or halting places, that were spaced at periodic intervals along each road. Unfortunately, Burghardt did not provide much information on these settlements.
Another study of route origins tested the notion of continuous use or route inertia in Latin America. Peter Rees (1975) looked at the assumption that Spanish colonial routes in Latin America could be traced to pre-Hispanic origins. Rees focused his inquiry on the camino real between Veracruz and Mexico City. The Spanish built this route between 1525 and 1527. To determine the extent that the Spanish appropriated pre-existing Aztec routes, Rees delineated the geography of Aztec routes and established the extent of Spanish knowledge of New Spain from Cortés' itinerary. With this information he mapped Aztec routes. He compared this map with a map of the camino real. Rees found that in spite of considerable knowledge of the Aztec network, the Spanish constructed their camino real independent of Aztec routes. The camino real ran to the north of the Aztecs' routeway to Veracruz. Similar to Burghardt, Rees explained this discontinuity to a divergence of transport purposes (1975: 334). Aztec routes reflected Aztec trade relationships. They were "internally oriented" (1975: 334). Pochteca [Aztec word for a class of travelling merchants] conducted long-distance trade in cotton, cacao, feathers, gold and precious stones (1975: 325). In addition, tribute flowed along the Aztec route network. Rees found that Aztec trade flows were additionally influenced by locations of specialized markets, politics and the laws that governed use of tamemes [human carriers]
Hence, there were numerous regional centers that drew Aztec routes to them. In contrast, the initial caminos reales followed the model of what Rees called "typical colonial route(s)" (1975: 334). They were "externally oriented" routes that linked Spain as directly as possible to Mexico City (1975: 334).

Similar to Vidal de la Blache and Burghardt, Rees found that the Spaniards also established a system of regularly spaced settlements, called ventas, that served as roadside inns supplying sustenance for travelers on the camino real (1975: 330). Along the camino real that linked Buenos Aires to Mendoza and opened up interior settlement in southern South America, David Robinson (1970: 29) found a similar network of settlements. At these postas travellers could rest and refuel. The Spaniards established 28 postas along this approximately 700 mile stretch. Robinson suggested that at least some of these postas were located on sites of former tambo sites. Tambos were the stages along the Inka road network. Cobb (1949: 25) found that these tambos were regularly spaced 4-8 leguas, 10-20 miles, apart. Comparison of the camino real's length and the tambos' spacing reveals that all of the postas could not have originated from old tambo sites. Nor could the Spaniards reproduce this spacing. Robinson noted that "one of the most difficult tasks facing surveyors or travellers was the measurement of
distance between the various towns, villages and refuges" (1970: 34).

Rees also discussed the period during which spatial inertia is achieved by route networks. Burghardt suggested this occurred when an urban culture imposed itself on an area that previously been sparsely populated by non-urban peoples. This was not the case in New Spain. The Aztecs had developed a hierarchy of settlement that included urban centers prior to the arrival of the Spanish. Therefore, Rees suggested that route inertia in New Spain occurred at a critical moment of "transportation innovation" (1975: 323). In the case of New Spain, the transportation innovation was the "external orientation" of transport that the Spanish introduced. Rees noted the permanence that this character of route network experienced in colonial Latin America. Indeed, he pointed out that throughout Latin America development efforts often emphasize the redevelopment of "internally oriented" route networks and interregional markets (1975: 334).

In another route study Taaffe, Morrill and Gould (1963) considered the question of route origin and persistence in Africa. They focussed on the development of the transportation network in Ghana and Nigeria. In contrast to the studies reviewed above, this study provided little historical detail. This is because the authors attempted to construct a "descriptive generalization of an ideal-typical
sequence of transportation development" (1963: 503). Despite the lack of particulars, these geographers proposed a sequence of development that agrees with some of the findings of the aforementioned studies. They claimed that the most important single phase in the transportation history of an underdeveloped country is the emergence of the first major penetration from the sea coast to the interior (1963: 506).

This initial route of penetration later served as the focus for more advanced means of transport. Moreover, the dominance of the initial route's port persisted throughout each wave of transport innovation. These generalizations are consistent with, and predate, conclusions made by Burghardt and Rees. As mentioned earlier, they both identified the route inertia that accompanied the arrival of a particular culture group or the introduction of some profound transport innovation or economic shift.

Review of these studies that considered route origins and persistence has brought to light several concepts that are critical for understanding routes. The notion of "continuous use" of route networks appeared in some form in every study. A common extension of this idea is that settlement locations were determined by pre-existing route networks. In other words, roads created towns. This is the view that Vidal de la Blache and Brunhes took. In two relatively early studies, Meyer and Sauer presented evidence that supported the "continuous use" explanation of route origins. They found that native route networks, the
circulatory systems of "primitive life", were incorporated by initial European settlers who recognized the efficient compromise between distance and terrain that they demonstrated.

Burghardt and Rees, among others, presented evidence from Old World and New World studies that suggested otherwise. They explained the discontinuity of route use by a significant shift in the purpose of transport. They also found that the shift in purpose of transport was accompanied by settlement independent of extant routes. Indeed, they argued that new settlements created routes. However they also found that these new routes also created settlements like the posta, venta, stage or tambo.

Vance developed a useful framework for studying the shift in purpose of transport. Vance attributed interruptions in route continuity to the switch from "non-economic" travel to "economic travel". The difference between these two is the difference between a hopeful pioneer migration along a pastured, watered trace and the calculated procession of a freight train along the gentle grade of the Union Pacific Railroad. Burghardt characterized this shift as a "catalytic action". Regardless of the characterization, Sauer, Burghardt, Rees and others emphasized that critical moment in time when for some reason whole route networks were re-oriented and entrenched, establishing the spatial inertia that earlier
had been attributed to animal and native route networks. Burghardt suggested that moment occurred when an urban culture occupied a region previously only sparsely settled by non-urban peoples. Rees identified that moment as the juncture that marked the introduction of some transport innovation. In the case of New Spain, the innovation was the external orientation of colonial transport.

The value of these studies lies beyond the generalizations they support or dispute. Their significance rests in the questions and strategies with which they framed the problem of route origins. With their respective studies Vance, Burghardt and Rees established much of the methodological core of historical route geography.

Cultural Geomorphology, Transport Technology and Trailblazing Geographers

Milton Newton's (1970: 134) conception of the route as a "cultural landform" was particularly insightful not because it established the route as a member on the roster of cultural landscape elements, but because it acknowledged the route’s "special responsiveness ... to physical and cultural facts." Newton further developed the connection between the physical environment and the route when he claimed that route geographers should study routes like geomorphologists study physical landforms. "(I)n deed, it (route geography) becomes a sort of cultural geomorphology" (1970: 134).
Newton balanced his treatment of routes with his observation that the physical dependence of the route was influenced by the transport technology of the cultures that traveled the route (1970: 140). Numerous geographers, before and after Newton, noted the sensitive relationship between the route, the physical environment and transport technology. A review of their observations identifies several points of agreement on strategies by which routes and conveyances managed space and terrain. Several route geographers considered these route-planning strategies to identify the geographical knowledge that guided the decision-making process. In essence, these geographers viewed past route planners as early working field geographers. In his study of the development of two railroads, Donald Meinig (1962: 413) asserted that understanding the decision-making process is not only a necessary task but can be an exhilarating one, for these ... (railroad) strategists ... were practicing geographers consciously thinking in spatial terms and conscientiously grappling with regional qualities, variations, and potentialities.

He argued further that route study must take a genetic approach. The "geographical context" of each decision that contributed to the establishment of the route must be reconstructed (1962: 413). This sentiment recalls the stated aim of Josephine Keller's (1936) research on the early roads in south Louisiana. Keller claimed her simple but profound
purpose was to "recover the facts" of the development of the early road network (1936: 32).

This section reviews geographers' observations of the connection between routes and the physical environment. Inseparable from these route strategies, are their planners, the decisions they made, and the changes wrought by early improvements in transport technology.

Information about strategies to overcome the realities of terrain originated from inquiry into early indigenous routes that served what Burghardt called "primitive life". Beyond the simplistic stereotype of the native road planner as a shrewd student of terrain, only a small step removed from the instinctual master of geomorphology, the beast, there are the recurring approaches to covering distance.

In his study of the relationship between topography and transport in Pennsylvania, Walter Tower (1905) presented evidence that challenged the commonly assumed shrewdness of the Indians' in blazing their route networks. He found that many Indian trails "took little heed of surface form" and ran "directly across steep mountain ridges and through deep valleys, with no apparent attempt to seek out the easiest routes" (1905: 145). This presented a stark contrast to the notion of the Indian "trails mapped out by nature" that only gradually crossed contour lines (Meyer 1954: 254). Tower observed that the routes that served more technologically-
advanced modes of travel, such as trains and automobiles, had more respect for contour lines.

G. W. Harley (1939) observed a similar apparent oblivion of "primitive" routes to relief in Liberia. In the hilly interior he mapped the hill tribes’ trails and found that they also crossed hills and streams at right angles (1939: 450-451). He reasoned that this pattern served hunting purposes. Ridge crests were the most effective vantage points from which to see game watering at the stream side below. The most direct line of pursuit led downslope, perpendicular to the contour lines. Harley observed that trail patterns varied according to topography. In Liberia’s coastal plains, trails ran parallel to watercourses. This is consistent with the previously mentioned juxtaposition of streams and Indian trails that Burghardt discovered in the Niagara peninsula. Burghardt explained that this arrangement provided for rapid communication both up and down river. Although Harley did not mention it, an obvious explanation for the variation in route patterns he found in Liberia, his hunting solution notwithstanding, is that in the interior, stream courses were easily forded while downstream they were not.

J. V. Harrison (1942) added a humorous touch to understanding the relation between routes and topography. Harrison studied tribal routes in southern Iran. These routes also ignored contours. Harrison found them to be
"far and away the most entertaining tracks in Iran" (1942: 129). According to Harrison,

if a trail follows what seems to be the hard way and leaves what looks to be an easy one aside there is usually some good reason for it, and superior intelligence in these matters often does not pay (1942: 129).

To his credit, Harrison acknowledged, albeit in a backhanded manner, the presence of some method to the maddening course of the tribal routes. Unfortunately, he did not identify the essence of this method.

Field researchers in the frontier regions of Latin America beyond where the buses stop have, no doubt, found that there still exists a network of trails that disregard relief in favor of directness. During several trips in which this geographer sought remnants of Honduras' camino real or accompanied colleagues on their respective projects evidence of these trails, and the hard lessons they impart, could not be avoided. Discovery of these trail networks usually occurs when travelers disembark the final means of automobile transport, often a pick-up truck outfitted with simple plank seats and a tarp cover. In Honduras, these vehicles, known as baronesas, carry supplies and people back and forth from a regional market settlement to the frontier. Upon disembarking travelers continue their journey on foot. Strangers to the area often follow the gentle grade of a remnant lumber road to their final destination, some isolated pioneer settlement. Now and then, the strangers
will notice that some of the locals who had been walking with them, and who had been heavily burdened with their purchases from the market or with an infant on their hip, had disappeared along the way. Little thought is given to this observation. For it is certainly reasonable that the steep little trails that the strangers had seen diverge from the road might lead to these people’s homes.

After a taxing walk in tropical temperatures the strangers arrive at their destination and look for a place to secure refreshments. It is at this juncture that our travelers learn of the network of trails that do not obey contour lines on maps. For without fail, the disappeared reappear. And after some questioning it becomes apparent that they appeared at the destination long before the strangers.

The strangers secure a breathlessly thorough understanding of these routes when they recklessly decide to exploit one of these shortcuts on their own or with a guide. Their excursion on the ground traces the shadow of the path flown by a crow in the sky, for it leads directly over an endless succession of steep slopes and down a equal number of precipitous pitches. With packs on their backs and blisters on their heels, our travelers dash all the advantage gained by directness because of their infirmity in the face of relief.
The strategy of taking terrain head on is not confined to aboriginal or tribal groups nor to regions beyond the frontier. Consider earlier passages cited from Brunhes' and Burghardt's descriptions of Roman roads. Both geographers found that the Romans valued a direct route over a gentle grade. Romanov (1973) and Hauck (1975) found a similar route strategy in the network of sacbeob ("white roads") constructed by the lowland Maya on the Yucatan peninsula. Sacbeob ran in straight line segments regardless of the topography. Romanov cited an anonymous quote to describe the nature of these roads: "Where Maya planning and Nature come into conflict, Nature usually loses out" (1973: 2).

In his study of the aboriginal cultural geography of the Llanos de Mojos in northeastern Bolivia (1966), William Denevan found a system of straight, elevated causeways similar to those found in Yucatán. Because of their shortness, Denevan concluded that the roads were used for local movement. They were constructed to provide dry passage over wet low-lying areas.

Hyslop (1984: 245-253) discussed the environmental factors that influenced Inka road placement. The roads of the Inka empire avoided long arid stretches and rarely led over particularly rugged obstacles like deep abysses or steep slopes. Movement was generally confined to level valley floors or plateaus and only departed from such environs when there was no other choice. The Inka
occasionally favored topographical ease over population centers when planning roads. Hyslop found cases in which the political needs of rapid transport and communication caused the Inka to bypass major population centers in the pursuit of the most direct path of travel.

Road as Region

Geographers create regions to simplify and interpret the complexity of physical and cultural patterns on the Earth’s surface. Earlier in this chapter the notion that a road constituted a region was introduced. Ratzel and Vidal de la Blache concurred that a road represented a portion of the landscape that was distinguished by the activities it attracted to it and the power it had to transform and define the greater region that surrounded it. Beyond these qualities, roads often display degrees of coherence that one would expect within a region’s boundaries.

This study of Honduras’ transisthmian corridor will support the appropriateness of designating particular roads as regions in themselves. Each chapter will demonstrate the corridor’s distinctiveness and its internal coherence. Chapter Two examines the historical circumstances that focussed the attention of the Spanish on the corridor during their first fifty years of activity on the American mainland. Chapter Three tracks the halting development of the corridor that ensued. Following this chapter, a short interlude introduces the Spanish transport tool, the camino
real. Chapter Four casts a glance backward at the region's pre-Columbian route template and the Honduran corridor's place in it. Chapter Five summarizes Spanish colonial road planning and describes road and bridge construction and funding in the New World. Within this chapter attention is then focussed on early surveys of, and prescribed solutions for, building a camino real through the Honduran corridor. Chapter Six discusses the Spaniards' policies regarding labor for road construction and for bearing, and demonstrates Honduras' disadvantages in these respects. Chapter Seven charts the Honduran corridor's supply of the natural and human resources necessary for road-building and supporting transisthmian transport. The system of road settlements, ventas, that provided travelers sustenance is also described in this chapter. Chapter Eight traces the development of the region's route network by taking a chronological inventory of the region's predominant economic activities. Chapter Nine recreates the experience of travel along the transisthmian camino real by drawing from the notes of a diverse assortment of trekkers, including the author. Chapter Ten concludes the investigation and considers the prudence of colonial plans in view of the transisthmian corridor's present function.
CHAPTER TWO

CROSSING THE Isthmus
We have heard of a good, though costly, passage; which would be not only advantageous, but a source of glory to its creator, should it be made. This passage would have to be constructed through the solid land ... there are mountains, but there are also hands. Give me the man who has the will to do it, and it can be done; if courage is lacking, there will be no lack of money, for the Indies ... will furnish it. For the spice trade, for the wealth of the Indies, and for a king of Castile, few things are impossible (López de Gómara 1552, reproduced 1925: 222)

For all purposes of rapid communication, nevertheless, the monarchs of Spain depended upon those roads across the continent which their inability to convert into canals had compelled them to accept (Squier 1858: 667).

Site and Situation

Common to every route are the points of origin and destination. Between these termini course the pulses of human endeavor. Understanding the nature of the flow requires knowledge of each route’s site and situation. Site and situation are fundamental geographical concepts. Site refers to the physical characteristics of a place: its absolute location, topography, hydrology, geology, climate and vegetation. Situation refers to a place’s relative location and the aggregate of cultural factors that exert influence on it. In the case of a route, matters of site and situation extend beyond the places the route connects to include the actual corridor that connects and surrounds them. Therefore, study of a route inquires after the character of the land traversed and the factors that inspire, direct and support travel between the route’s termini.
Since 1502, when Columbus' fourth voyage brought him to the north coast of Honduras and then south almost to the Gulf of Uraba, the American isthmus has presented the European world a singular site and situation on which to construct routes. With the exception of the one-hundred mile stretch of desert that separates the eastern Mediterranean Sea from the Gulf of Suez, there was in no other corner of the globe the opportunity to blaze a relatively short trail that would connect two of the world's oceans. In this chapter we will consider the site and situation of several transisthmian passages.

**Situation at a Small Scale**

Clarence Haring (1910: 3) noted that within two generations of Columbus' discovery of the New World,

all of the West Indies, North America to California and the Carolinas, all of South America except Brazil ... and in the east the Philippine Islands and New Guinea passed under the sway of the Crown of Castile.

The trade flows that initially advanced and later linked this expansive empire dominated the situation of each colonial route that crossed the Central American isthmus, for each route was initially proposed to provide a venue for the flow of this trade across this land bridge.

The term land bridge has been used most often in reference to a stretch of land that joins two large land masses. A common example is the Bering Strait land bridge that periodically joined North America with Eurasia and allowed the peopling of America. The Central American
isthmus is also referred to as a "land bridge" that connects North and South America. The term assumes greater utility when one considers the problem that the Central American isthmus posed to Spain's empire during the 16th and 17th centuries. To the Spanish, the isthmus was a burdensome interruption in their maritime realm. One scholar aptly characterized it as the "American Nuisance" (McAlister 1954: 259). This nuisance sorely lacked a passage that could connect the Atlantic and Pacific Oceans. Initially, the Spanish sought a water passage for this purpose. This desire spurred on Spanish maritime exploration of the isthmian littoral during the first decades of the 16th century (Mack 1974: 1).

Columbus commenced the search with his, previously mentioned, fourth voyage in 1502. Eleven years hence, in 1513, Vasco Núñez de Balboa crossed of the Isthmus of Panama and discovered of the "South Sea" (López de Gómara 1925: 193) This discovery heightened hopes of the strait’s discovery. However, more importantly, it demonstrated that at some points the isthmus was only fifty or so miles wide. Such a short distance suggested that should the strait fail to materialize, a road or canal were possible alternatives. Meanwhile, the search continued. In 1523, Charles V (366-367) ordered Cortéz to redouble his efforts in search of "el secreto del estrecho" [the secret of the strait]. Nevertheless, just 10 months later Pedro Arias de Avila,
henceforth referred as Pedrarias, the governor of Castilla del Oro, signalled the futility of the enterprise when he wrote to Charles and referred to the water passage as "el estrecho dudoso" [the doubtful strait] (Peralta 1883: 33).

However, even before hopes of discovering the transisthmian strait had ebbed, the Spanish had bridged the barrier by opening transisthmian routes, or land bridges, across the land bridge. Because the importance of these routes originally depended on the maritime trade they served, it is appropriate to review briefly the patterns of this trade.

Treatments of Spain's 16th and 17th century maritime commercial network abound (e.g. Haring 1910 and 1918; Schurz 1939; Borah 1954; Mack 1974; Edwards 1980; Lyon 1990 and Galvin 1991). However, scholars commonly rely on Haring's description of the trade flows that emerged between Spain and the Atlantic coast of the New World. Galvin is among these. In his historical geography of piracy in the Caribbean, Galvin elaborated on Haring's work with the use of effective maps. In a National Geographic article, Lyon provides the same for the Pacific side. These two works will guide the following synopsis.

Exchanges between Spain and her colonies were conducted through three "maritime lifelines" (Galvin 1991: 38, Map 2 p. 58). The 18,000 mile Manila galleon route joined Acapulco to Manila, the eastern tip of the Orient's
Map 2. Spanish Maritime Trade Routes in the New World
cornucopia of treasures. On the other side of the American isthmus Spain and the Americas were linked by a forked passage that led from a sole port in Spain, Seville and later Cádiz, to three primary ports of call on the Atlantic coast, Cartagena, Porto Bello and Veracruz.

During its 250-year life (1565-1815), the route that led from Manila to Acapulco was "the most significant pathway for commerce and cultural interchange between Europe and Asia" (Lyon 1990: 8). Spaniards called the Manila galleon *nao de la China*; the name reflected the most important source region of the galleons' cargo. However, goods from India, Ceylon, Japan and the Spice Islands also funneled into Manila. Oriental goods included: silk, ivory, spices and porcelain. The galleons, ideally, departed from Manila in July for a tedious eastward journey that could take up to a year to complete. Upon arrival in Acapulco, merchandise from the Orient was traded, primarily, for Mexican silver. *Recuas* [mule teams] transported the cargo to Mexico City and eastward on to the port at Veracruz. Meanwhile, westbound ships, laden with silver, departed from Acapulco in January. In contrast to the difficult passage east, the return to Manila commonly took three months, the galleons whisked west by the Northeast Trades and carried by the Equatorial Current (Lyon 1990: 11-32).

The tracks of the galleons linked Spain and Tierra Firme, or the Spanish Main, departing from Seville and later
Cádiz and calling at its ports at Cartagena and Porto Bello on the Isthmus of Panamá. This pattern first emerged in 1537 and became institutionalized seven years later when the casa de contratación [House of Trade] issued a set of rules that organized a regular schedule for departures and routes of the convoys (Mack 1974: 56). The Spanish established the casa in 1503 to regulate and encourage trade between Spain and the New World (Haring 1964: 3-7). Departure of the galleons from Spain occurred between January and March. The Northeast Trades and the Equatorial Current guided their progress on what was ordinarily a two month passage to Cartagena. Upon the galeones' arrival at Cartagena, a 30-60 day stay commenced during which the products and treasure of Tierra Firme and New Spain were brought to Cartagena. Messengers were dispatched south to Lima to notify the Viceroyalty at Lima that the Armada of the South Sea should begin preparations for its trip north to Panamá. Prominent among the Armada's cargo was the silver from the mines at Potosí. Along its journey the Armada was joined at Paita by the Navio del Oro carrying gold from Quito and its hinterlands. Upon arrival at Panamá, the cargo from these two fleets was transferred to recuas and carried across the isthmus to Porto Bello, whereupon they met the galleons and the great Porto Bello fair commenced. The commerce transacted at the Porto Bello fair overshadowed the other Atlantic coast ports because it attracted goods from
throughout Spanish America (Loosely 1933: 317). The fair lasted up to 40 days. From Porto Bello the galleons sailed back to Cartagena and then north to Havana, their final port of call, before returning to Spain. Arrival back in Spain ordinarily occurred in late October or early November, the galleons’ circuit requiring 8-10 months (Galvin 1991: 40-42).

The final lifeline in Spain’s maritime trade network was the Mexican fleet. Its primary function was to collect silver from New Spain and the Oriental goods that had been carried overland from Acapulco and transport it back to Spain. The fleet ordinarily departed from Spain in July and arrived at Veracruz during the first half of September. Its route coincided with that of the galleons until it entered the Caribbean near Guadeloupe or Dominica. At that point paths diverged as the Mexican fleet steered northwest for the Yucatán Channel. Along the way, merchants fanned out to call at secondary ports like San Juan, Santo Domingo, Santiago de Cuba, Trujillo and Puerto Caballos. These traders rejoined the main fleet in Havana after it had called at Veracruz. Havana marked the point of departure for the return to Spain (Galvin 1991: 42).

The pattern of Spain’s maritime trade reflected a number of factors. Prominent among these was Spain’s "principle of colonial exclusivism" and its devotion to mercantilism (Haring 1910: 7). The principle of colonial
exclusivism limited all colonial trade in Spain's colonies to Spain. Accordingly, the colonies were to fix their efforts on the extraction and production of raw materials to be shipped to Spain. Moreover, they were discouraged from manufacture. As a result, the mother country served as the colonies' sole supplier of essential manufactured goods. Commitment to mercantilism required that Spain extract, transport and then hoard the precious metals from its colonial treasure chest. These policies demanded the establishment of a pathway for regular exchange between Spain and her colonies. This exchange defined the situation of the land routes that crossed the isthmus.

Site

Spain's colonial trade network was also a product of the physical geography on which and by which it was conducted. Because maritime travel dominated trade flows, circulation of air and water were the physical factors of chief consequence and therefore, largely determined the general routes of flow. Two additional physical concerns of the Spaniards were the locations of passages through the Greater and Lesser Antilles and the distribution of deep water ports.

These watery physical features, especially matters of port suitability, also influenced transisthmian routes. However, presently, consideration of the site
characteristics of routes will move onshore to drier footing, away from the medium of lubricated circulation.

The qualities the Spaniards desired for isthmian crossings were clear. They looked for narrow spans of the isthmus that coincided with low, passable gaps in Central America's mountainous spine. Despite this clarity of purpose, crossing the isthmus puzzled the Spanish for centuries. Evidence of this problem's persistence is found in the second chapter of Alexander von Humboldt's 1811 work, *Political Essay on the Kingdom of New Spain* (1966: 16-45) which is devoted to the question of linking the Atlantic to the Pacific Ocean. Humboldt considered nine interoceanic possibilities which ranged from the fanciful, as in the case of the proposed wagon road through the San Juan Mountains to link the headwaters of the Río Grande and Colorado River, to the prudent, as in the case of a canal across the isthmus of Panama (1966: 22-39). Humboldt's questionable suggestions should be considered in a forgiving light considering the dearth of geographical knowledge at his disposal. The great scholar, himself, bemoaned the lack of basic information (1966: 24-25).

Some of Humboldt's proposals for isthmian crossings paralleled the land routes that had emerged during the colonial period. With the exception of the road that linked Veracruz with Mexico City and Acapulco, these routes possessed relative degrees of the desired narrowness and
levelness. Moreover, these routes echoed the Spaniards' unrequited desire for a water passage. Four of the five primary transisthmian routes allowed for partial penetration on rivers that drained the interior highlands and flowed to the Atlantic. The Acapulco-Veracruz crossing was the exception. A combination of several factors explains this phenomenon. Concentration by the Spaniards on fluvial corridors was reasonable considering that much of the early exploration of the isthmus was aquatic, with vessels regularly drawn to estuaries and up rivers in the hope that they might discover el secreto del estrecho. There is also the possibility that in some cases the presence of a waterway was merely incidental to transport. Instead, the presence of a river attracted route planners because it posed the possibility that the river's headward erosion had cut a low pass in the cordillera. The coincidence of route and river also related to the need of deepwater ports. Despite the influence of the above factors, the preference for at least some degree of aquatic penetration to the interior overwhelmingly reflects the relative ease and economy of maritime travel in comparison to land transport.

Four chief locations, above all, possessed varying degrees of the qualities mentioned above and, therefore, attracted attention for the construction of relatively short transisthmian roads. They include: the Isthmus of Tehuantepec, the Honduran corridor, the San Juan del Sur-
Lake Nicaragua crossing and the Isthmus of Panamá (Map 3). For purposes of comparison we will consider each of the different transisthmian routes in greater detail. As in the previous sections of this chapter, our investigation will be guided by matters of site and situation, however at a larger scale. Of particular importance are the genesis, path, distance and strategy of each route. Moreover, we will appraise the life span of each route and its significance to colonial Latin America. A discussion of the transisthmian route across Honduras will follow in chapter three.

The Isthmus of Tehuantepec

Four of the routes Humboldt suggested as interoceanic links spanned the Central American isthmus. The northernmost of these was the Isthmus of Tehuantepec. Tehuantepec is located at that point where Mexico’s horn tapers to a 125-mile wide waist that suggests a perpendicular north-south passage (Map 4). This region lies south and east of the convergence of the rugged Sierra Madre Oriental and Sierra Madre Occidental and the coastal Sierra Madre del Sur and the southern highlands. Hence, at Tehuantepec, the truncation in breadth of the isthmus coincides with an attenuation in its elevation. The lowest pass through the continental divide is less than 220 meters above sea level. The valley of the Coatzacoalcos River cuts across this narrow, low neck of land in an almost south to north orientation as it flows to the Gulf of Campeche.
Primary Isthmian Crossings

ISTHMUS OF TEHUANTEPEC:
125 miles
Cortes: 1520-1526

HONDURAN CORRIDOR:
195 miles
Cerezo and Montejo: 1529-1539

DESAGUADERO:
190 miles
Contreras: 1536-1540

ISTHMUS OF PANAMA:
50 miles
Pedrarias: 1517-1523

Map 3. Primary Isthmian Crossings
Map 4. The Tehuantepec Crossing
From soon after the arrival of the Spanish in Tenochtitlán to near the end of the nineteenth century this distinctive topography attracted attention as a possible location for construction of a transisthmian route. During this time, a commensurately distinctive trio fixed their sights on how best to cross Tehuantepec. Obviously, Baron von Humboldt is counted among these. Hernán Cortés and James B. Eads complete the trinity. Cortés devoted two decades to bridging the Isthmus of Tehuantepec with a road. Eads engaged in considerable planning and promotion during the late 1870s and early '80s of the construction of a ship-railway across Tehuantepec (Phelps 1881).

So important was the discovery of the transisthmian strait that even before conquering Tenochtitlán, Cortés began the search. With a map provided by Moctezuma and his own observations and those of his men, Cortés focused on the Río Coatzacoalcos as the best possibility. Accordingly, in 1520, he sent a party from Veracruz to explore the river. The party reported that although the Coatzacoalcos was not the strait, there was an adequate harbor at its mouth and its channel was of sufficient depth to allow passage at least 30 leagues upstream. Cortés' responded to this news with the establishment by 1522 of two settlements on opposite sides of the isthmus to serve as termini for his planned inter-oceanic supply route: Espiritu Santo, four leagues upstream from the mouth in 1521, and the Zapotec
village of Tehuantepec on the Pacific coast one year later (1947: 371).

Cortés wanted to create a road across Tehuantepec so he might establish a ship-building center on the Pacific Coast. From there he could dispatch ships to find a route to the Spice Islands and also to develop trade with Perú (Borah 1954: 11). By 1522, the Spanish had already developed a shipyard at Zacatula, near the mouth of the Río de las Balsas, but heavy essentials like anchors, cables, spikes and artillery had to be transported all the way from Veracruz to this site, a difficult trek of over 200 leagues (Moorhead 1947: 372). By 1526, ship-building on the Pacific coast had been moved to Tehuantepec to take advantage of the shorter passage; and Cortés had requested that the province of Tehuantepec be included in his marquisate (Borah 1954: 23).

Without extant documentation of the date of first shipment across the Isthmus of Tehuantepec, Moorhead thought it occurred around 1526. Cargo was sent from Spain by way of Veracruz and included equipment for the vessels under construction such as "artillery, anchors, timber, spikes, rigging, ammunition, apothecary supplies, merchandise, and stores of sea-biscuit, wine, vinegar, olive oil, cheese, meat and fish" (Moorhead 1947: 373). According to Cortés, the cargo was "brought from ... Veracruz by sea to Coatzacoalcos and from Coatzacoalcos by river in canoes to
within twenty leagues of here [Pacific Coast]" (1947: 373).
The last twenty leagues of the route led over the continental divide and down the Pacific Slope to the coast. Albeit a low pass, Cortés reported to Charles V that because of the rugged nature of the land transport demanded that *tamemes* [Aztec word for Indian porters], carry the cargo over this stretch rather than wagons or pack trains. Moorhead suggested that this was an exaggeration by Cortés intended to defend himself from retribution for having violated Charles’ proclamation of 1528 limiting the use of Indians as bearers (1947: 377). While there is merit to this suggestion, a survey of the isthmus reported that as of 1850 there were still no cart roads over the continental divide, only a mule path (Williams 1852: 31). Nevertheless, Cortés’ lapse in labor relations later proved to be the undoing of his plans for Tehuantepec.

Moorhead’s attempt to reconstruct the course of interoceanic shipments during Cortés’ time provides a useful description of the route’s site and the nature of early colonial transport in the New World. As mentioned earlier, the Spanish preferred to keep cargo on the water as long as possible. Accordingly, shipments of ship-building equipment were transshipped from Veracruz to the mouth of the Coatzacoalcos, a trip of about 60 leagues requiring only two days in good weather. At either Espíritu Santo or the
settlement Coatzacoalcos the cargo was transferred to canoes for the trip upstream.

The Coatzacoalcos in its lower stretches is a broad river of negligible current that meanders across the low, flat Atlantic coastal plain. Canoe travel followed this artery inland more than a third of the way across the isthmus in a relatively easy passage. However, the confluence of the Río Jumuapán marks the ensuing topographical transition from the low plains to the uplands that comprise the continental divide. Appearance of a fragmented fall-line on the Coatzacoalcos and its tributaries, the Sarabia and the Malatengo reflects the change in topography. Despite the cataracts, Moorhead estimated that during the rainy season, June to December, canoes could navigate about 40 leagues inland to the fall line (1947: 374). This 12-day trip brought them more than two-thirds of the way across the isthmus.

The location of the break-in-bulk point is unclear. Moorhead suggested that because it was approximately 20 leagues from the Pacific, Antigua Malpaso on the Coatzacoalcos, the oldest known landing, might have been the original site of disembarkment used by Cortés (1947: 375). However, the map that accompanied Williams’ survey of the isthmus shows two other landing sites in the vicinity of Antigua Malpaso that connect tributaries of the Coatzacoalcos to paths that lead to the Pacific. These
sites could just as well have served Cortés. Moreover, a recent 1:250,000 scale topographical map contains a settlement located on the Río Sarabia at approximately the same latitude as Antigua Malpaso. The settlement is called "Paso Real" (México. Carta Topografía: Juchitán, 1985). The name suggests that it also could have served as the route's break-in-bulk point.

Similar to the manner in which the route's fluvial possibilities branched out upstream from the confluence of the Jumuapán, the prospects for land travel, likewise, diverged soon after leaving the water. Williams' map shows mule paths leading from the landings to several passes through the continental divide, the Chivela, Mazahua and the Tarifa. Moorhead posed a path through the Chivela pass as the most convenient and noted that Cortés increased this advantage when he assumed control of several Indian villages on either side of the divide (1947: 375).

Once across the divide, travel became less problematic, as the Pacific coastal plain slopes gently to the sea. However, the exact route is uncertain because the location of Cortés' ship-building center is uncertain. There appear to have been three possible sites. The defining characteristic shared by these sites was their proximity to a river mouth. Such a situation was desirable for the launching of ships (Moorhead 1947: 376).
Establishment of the route was undermined by the demand that Cortés respond to charges of violating Indian labor laws. During a trip to Spain, the Audiencia of Mexico shut down his ship-building operation near Tehuantepec and allowed the ships built in 1527 to rot. Undaunted, Cortés took up residence in Tehuantepec in 1532 and resumed construction. By 1533 four vessels were completed (Moorhead 1947: 373). However, legal troubles returned to haunt Cortés. In 1540 in retaliation for his unauthorized explorations north along the Pacific coast, Cortés' vessels and naval stores were confiscated and the port at Tehuantepec closed. Thus, after two decades of effort Cortés' plans to entrench interoceanic transport across the isthmus of Tehuantepec failed.

Nevertheless, Cortés' trail, or at least an approximation of it, endured. In the 1550s, travelers wishing to journey from Mexico City to the Pacific coast port of Huatulco, 80 miles up the coast from Tehuantepec, faced a difficult three to four week overland trip. An alternative route led travelers from Mexico City to Veracruz from which a vessel carried them to Coatzacoalcos. From this point they were transferred to canoes, manned by Indians rowers from Cortés' marquisate, which transported them to the continental divide. Whereupon they resumed land travel and concluded their journey to Huatulco (Borah 1954: 28-29). Moreover, between 1561 and 1610 emergency shipments
of artillery or ship supplies for the Manila galleon fleet were carried across the isthmus rather than over the onerous road from Veracruz to Acapulco (Moorhead 1947: 379).

In the past three centuries proposals for canal, highway and railroad projects have been directed at the Tehuantepec's peculiar site and situation. The measure of Cortés' grasp of this geography is confirmed in the transisthmian railroad, completed in 1894, that presently runs through the pass at Chivela (Winberry 1980: 113-115), or by Mexico's transisthmian Highway 185 that carries motorists through the pass at Mazahua.

The Nicaragua Rift

In 1522, the same year that Cortés established terminals on both coasts for his interoceanic route at the Isthmus of Tehuantepec, Gil Gonzáles Dávila led his horse into the water of a large lake that natives loyal to the local cacique [chief], a man whose name was recorded by Gonzáles Dávila as Nicaragua, called Cocibolca (Radell 1970: 112). Because of the breadth of the lake's bounds and the freshness of its water Gonzáles Dávila called it "El Mar Dulce" (Harrison 1971: 15). Despite the natives' statements to the contrary, the lake's lack of salinity suggested that it had a drainage outlet, a desaguadero, to either the North or South Sea. The results of a brief excursion by the party's pilots into the lake convinced them that, indeed, there was an outlet to the sea. However, ensuing conflicts
with the natives forced the party's retreat, thus preventing the Spaniards from discovering the Desaguadero.

Nevertheless, this incomplete discovery soon captured the attention of Spanish explorers throughout the isthmus. To wit, the following year Pedrarias dispatched a party, led by Francisco Hernández de Córdoba, from Panamá to conquer the region surrounding the lake. This party established a settlement, Granada, on the north shore of Lake Nicaragua. McAlister (1954: 266) and Maxwell (1971: 122) suggested that Cortés, too, had designs on the region. They reasoned that Cortés sent Cristóbal de Olid to the Gulf of Honduras in 1524 because he had learned that González Dávila believed the Desaguadero emptied into the Caribbean at that point. To these parties is added González Dávila who converged on the region to reassert his own claim to the territory by right of discovery. The wrangling for control of the region is beyond our current concerns. However, the reason why this lake and its, as yet undiscovered, outlet inspired such controversy is significant.

Lake Nicaragua and its supposed drainage outlet represented a waterway that led from the Caribbean to within two to three level leagues of the Pacific, the waters separated only by the narrow Isthmus of Rivas (Map 5). The American isthmus offered no other passage that so nearly approached a transisthmian strait. All three parties must have realized that, lacking the strait, this route would
Map 5. Nicaragua’s Desaguadero
become the chosen avenue for interoceanic transport. Moreover, the benefits of this trade would accrue to those who had established control of the region. Hence, as stated by Bolaños in Williams' study of the route, the discovery of a navigable outlet leading from Lake Nicaragua to the Caribbean would

dio a la ciudad de Granada las posibilidades que tuvo en el siglo siguiente para enriquecerse y llegar a ser una de las más opulentas ciudades de la América Central

[give to Granada the possibilities in the ensuing century to develop into one of the most opulent cities in Central America] (1971: 38).

Lake Nicaragua's outlet, previously called Desaguadero and presently called Río San Juan, was evident by 1525 (Williams 1971: 24). However, because of a number of factors, not the least among them a series of eight cataracts on the river, the Spanish did not descend to the mouth of the Desaguadero until 1539 (Incer 1990: 200). However, as early as 1536, Rodrigo de Contreras, the province's governor, had suggested the possibility that the Lakes Nicaragua and Managua and the Desaguadero could serve as a transisthmian passage. In 1540, they established the port San Juan de la Cruz at the river's mouth (Incer 1990: 201). During this extended period of alternating inactivity and exploration Granada served as the base of operations for the conquest of other parts of Central America and later became a crossroads for transisthmian trade across Nicaragua (Williams 1971: 24).
The slave trade was the first profitable venture for the region. The first shipload of Nicaraguan slaves arrived at Panamá in 1526. With the arrival of Pedrarias in 1528 slaving rapidly expanded. By 1533, the slave trade was primarily conducted out of the port at Realejo, located on the Pacific coast north of Lake Nicaragua. Realejo was discovered during Gonzáles Dávila’s initial exploration of the region. In concert with the trade in human chattel, and because of the abundance of its hinterland’s natural resources, this all but forgotten port developed into Spain’s major Pacific coast ship-building center during the 16th century, supplying vessels for the Manila galleons and the trade between México and Perú (Radell and Parsons 1971: 300). During the early decades of Spanish settlement in Nicaragua, Indian slaves were shipped from Realejo to Panamá and across the isthmus and on to Caribbean ports or, following Pizarro’s conquest, to Perú to work in the mines. Following 1540, slaves bound for these locations were also sent down the Desaguadero (Williams 1971: 41).

Nicaragua also emerged as a supplier of agricultural products. The earliest trade of this sort along the Desaguadero was conducted between Granada and Nombre de Dios and Cartagena, with colonial staples like corn and poultry flowing south in return for manufactured goods from Spain and later African slaves (Radell 1970: 119). During the 1540s colonial Nicaragua’s market expanded as it became an
important supplier to the viceroyalty of Perú (Radell and Parsons 1971: 295). Products such as cacao, pork, cotton, indigo, tobacco, dye-woods, flax and sugar cane were sent down the Desaguadero to Nombre de Dios and then carried across Panamá and shipped south (Williams 1971: 119). Why the Spanish chose to follow this course rather than to establish an actual transisthmian route by constructing a wagon road across the Isthmus of Rivas, possibly linking Granada to Realejo, is a question that remains unanswered. One possible explanation is the hazardous navigation that awaited ships in the Gulf of Papagayos. This stretch of coast is characterized by strong offshore winds, papagayos, and turbulent ocean currents (Radell and Parsons 1971: 300). However, despite this barrier, already in the 1530s merchant ships sailed from Realejo to Panamá and Perú on a regular schedule (Borah 1954: 7).

When freebooters imperiled trade in the Caribbean beginning in the 1570s, Central American commerce was directed to the protection of its Pacific ports like Iztapa, Amapala and the Gulf of Nicoya. The Desaguadero was effectively shut down in 1573 when pirates interrupted a quartet of frigates en route to Nombre de Dios (Radell 1970: 119). However, when Sir Francis Drake began terrorizing Central America's Pacific coast in 1579, Granada recouped its losses and assumed an even greater commercial importance. Because its interior position made it
presumably safe from attack, Granada became an entrepôt for products from all over Central America. Hence, all mule trains led to Granada rather than to the coasts. The economic boom that this created peaked in the 1590s, when the town numbered 200 Spanish vecinos [citizens]. In response, pirates established a stronghold at Bluefields on the Caribbean coast in the 1580s. Nevertheless, so great was the trade on the Desaguadero that by the 1600s Granada regularly sent a frigate to join the fleet at Havana for the return trip to Spain (Radell 1970: 54-57).

Despite the profitability of the trade conducted through the Desaguadero and the concomitant pirate threat no Crown-sponsored fortifications were constructed along the route, or major colonial settlements other than those at either end of the waterway, until 1602. Then a fort, San Juan de Santa Cruz, was erected at a site probably located two-thirds of the way up the river at the series of rapids El Diablo or El Castillo (Williams 1976: 49). The triviality of this paltry effort was exposed in 1665 when John Davis, a Dutch pirate, led 120 men up the Desaguadero and across the lake to sack Granada (Radell 1970: 121). The city was sacked again by pirates who used the same route in 1670. In response to these demonstrations of the settlement's vulnerability, Granada numbered only 12 vecinos in 1679. In 1683 it was sacked yet again, this time from the Pacific coast. "By the end of the seventeenth century,
the waterway lay almost empty of traffic" (Williams 1971: 65-66).

Granada and the Desaguadero recovered during the first half of the next century. Its recovery prompted the belated construction of twelve military posts along its course in 1727 (Williams 1971: 67). Nevertheless, the Desaguadero remained a two-edged sword for colonial Nicaragua. It provided a maritime outlet for trade. Yet, it also provided an artery for the penetration of the interior by unfriendly forces. During the eighteenth century, the Miskito Indians in collaboration with the British took advantage of this gateway (Williams 1971: 70).

The California Gold Rush was the catalyst that finally provoked the exploitation of the Río San Juan–Lake Nicaragua route's interoceanic possibilities. To extend his passenger service to the Pacific coast and take advantage of the feverish migration of prospectors out to "strike it rich", Cornelius Vanderbilt signed a contract in 1849 to open a ship canal across Nicaragua (Williams 1971: 115). By 1851 the first steamer ascended the Río San Juan to the El Castillo rapids, whereupon travelers were transferred to a bongo. This huge shallow draft dugout canoe negotiated a series of cataracts, after which passengers boarded a second steamer for the rest of the trip upriver and across the southern margin of Lake Nicaragua to Virgen on its western shore. At this point passengers rode on horseback 12 miles
across the Isthmus of Rivas to San Juan del Sur on the Pacific coast (Williams 1971: 121). The trip was a little less than 200 miles in total: 120 miles on the Desaguadero and 70 miles farther to the coast. A bongo could travel from San Juan to Granada and back in twenty to thirty days (Williams 1976: 123-144). In the late 1850s steamers could make the round-trip river run in 3 days. Crossing Lake Nicaragua from San Carlos to Virgen took twelve to fourteen hours. Actual travel time from the Atlantic to Pacific was 21 hours and 30 minutes.

An example of the recurrent interest in the Nicaragua Rift as a transisthmian passage came in a December 18, 1964 speech by President Lyndon Baines Johnson when he suggested that, because of the impending expiration of the Panama Canal Treaty and the inadequacies of that canal, the United States should study new locations for an interoceanic canal (Klette 1967: 37). Among the four possible sites he mentioned was a line that ran along the Río San Juan across Lake Nicaragua and on to Salinas Bay. And as this sentence is being written, Nicaraguan politicians and ecologists are in serious discussion over the possibilities and consequences of a "canal seco" (dry canal) across this route.

The Isthmus of Panamá

In 1517, four years after Balboa crossed the Isthmus of Panamá and discovered the South Sea, Pedrarias, founded a
port settlement called Panamá on the Pacific coast. According to Pablo Rubiano (1944: 144), Pedrarias' biographer, such a settlement was an integral part of the old conquistador's plan for Panamá:

Debian atravesar, conforme a las instrucciones de Pedrarias, el istmo por su parte norte, buscando la parte más estrecha, a fin de determinar un camino corto y seguro de un océano a otro, y de establecer tres poblados, uno en cada una de las costas, y otro en un punto intermedio, para asegurar el tránsito

[Pedrarias ordered explorers to look for the narrowest stretch of the isthmus and determine the shortest and most easily secured interoceanic route. They were then to establish three settlements. One on each coast, and one on the road].

Two years later, the Spanish founded Nombre de Dios on the Atlantic coast. An almost due north-south transect across approximately 40 miles of "horrible mountaynes, and many great riuers" separated these two settlements (Map 6) (Martyr 1812, 254). It was over this "18 leagues of misery and curses" that the Spanish established their first transisthmian camino real (Church 1902: 325).

A wealth of literature discusses the various proposals and projects for crossing the isthmus of Panamá. A comprehensive review of that literature is beyond the scope of this investigation. Therefore, this summary of the colonial crossings of the isthmus of Panamá will be guided by but a few valuable sources. Chief among these will be Clarence Haring's *Trade and Navigation Between Spain and the Indies* (1964) and Gerstle Mack's *The Land Divided*:
The Panama Crossing

Map 6. The Panamá Crossing
A History of the Panama Canal and Other Isthmian Canal Projects (1974).

Among first cargo to be transported along the camino real were gold and Indian slaves, taken by Spanish exploring expeditions along isthmus' Pacific coast. In the 1520s, during which time Spain held the claim to the Moluccas, the possibility of directing the spice trade across Panamá focused attention on the crossing. However, this venture never came to fruition and 1529 Charles V sold his claim to the Moluccas to Portugal. Nevertheless, with Pizarro's conquest of Perú in the 1530s and the subsequent discovery of Potosí's silver deposits the camino real across the Isthmus of Panamá "became the most vital link in the transportation system between Spain and Peru" (Haring 1964: 181).

The camino real, actually more of a mule path than a road, led over approximately 50 miles of uneven terrain. Opening the road was one of Pedrarias' notable achievements in the region. For about half of its extent, the route was essentially a fluvial route, for it followed a series of river valleys that had been cut down into the narrow cordillera. Departing from Panamá on the Pacific coast, a typical transit struck out almost due north, crossing a relatively level stretch until fording the Río Chagres just upriver from its confluence with the Río Pequení. From this point, the route continued north along the course of the
Upon fording this river, once again upriver from a confluence, the camino real switched to the valley of the Río Boquerón. The trip to this river’s headwaters brought travelers out of the highlands and to within 10 miles of Nombre de Dios, the remaining stretch leading over isthmus’s narrow rim of coastal lowlands. The trip usually required four days (Mack 1974: 53). And as discussed previously, the infrastructure for long-distance pedestrian or animal-powered travel extended beyond the road itself. Rather, it usually included a system of regularly spaced settlements that provided shelter and provisions to travelers. By 1535, the Spanish had established three ventas along the route: Venta de Chagres, located at that river’s crossing; La Junta; and Capira (Haring 1964: 183).

Despite optimistic projections for a two cart-wide, partially paved road as early as 1521 (Rubiano 1944: 233-234), actual construction of a cart road over this wearisome route proved unrealistic for the inhabitants of the two small communities, Panamá and Nombre de Dios, that the road was to link together. Obstacles to construction included the mountainous terrain, dense tropical forests, waterlogged swamps, and a debilitating hot and humid climate. The dominance of these conditions prevailed until the eighteenth century when the first "permanent, stone-paved road was constructed across the isthmus" (Haring 1964: 181-183).
Pedrarias sought and received the Crown’s aid for the arduous task of building the first road. In 1521 the Crown granted him 60,000 maravedises for "gastos e obras" [expenses and labor] (Carlos 1521c: 540). In comparison, the Crown paid Pedrarias 150,000 maravedises per year as governor of Castilla de Oro (Carlos 1521d: 541). In 1521, Pedrarias also was given permission to utilize the caciques and Indians along the route as workers and settlers (Cárlos 1521b: 539). Three years later he was granted an additional 4,000 pesos of gold for the road (Carlos 1524a: 546). The Crown later approved repartimiento of the route’s center

para seguridad del dicho camino y para la contratación que se espera que ha de aver y la dicha población a de ser muy necessaria entiendese que en el comedio dellos

[in order to provide security for this road and for the trade and settlement that it is hoped will develop] (Rubiano 1944: 298-299).

Despite these efforts and funds, a visitor to Castilla de Oro reported that in 1527 the road was still not completed (Carlos 1527: 579). Nevertheless people still used the passage to cross from coast to coast.

The Spanish found an early alternative to the demanding overland camino real in the form of the Río Chagres. The Chagres follows a meandering course that approximates the shape of a boomerang with both ends, its headwaters and its mouth on the Atlantic coast, facing north, its bend located on the Pacific half of the isthmus facing south. The Spanish explored this river between 1527 and 1533 and found
it suitable for transport during the rainy season, May to December. This new outlet was a convenient complement to the original camino real, for the land route became a transisthmian quagmire during the rainy season. Accordingly, in 1536 a warehouse was constructed at the head of navigation, Venta de Cruces, just upstream from the river's great bend (Mack 1974: 53-54).

Thus, there emerged a seasonal fluctuation of flows across the isthmus. During the wet season recuas laden with cargo were led from Panamá to Venta de Cruces, the break in bulk point, a distance of five leagues. From there goods, especially those with a relatively low unit value, were transferred to boats for transport downriver. The distance from Venta de Cruces to the Chagres' mouth was 18 leagues. The journey lasted between three and twelve days. Another eight to ten hours were required to complete the trip to Nombre de Dios (Haring 1964: 184).

During the low water season on the Chagres, recuas were led from Panamá along the camino real, a difficult, dangerous and expensive trip that covered 18 leagues and, as mentioned earlier, usually took four days. The previously mentioned obstacles to road-building understandably also hindered travel on the camino real. High mule mortality rates resulted from these conditions and the unreasonable loads that mules were forced to carry; this, in turn, increased the cost of travel. Moreover, the overland route
was plagued by *cimarrones* [escaped African slaves] who regularly preyed on the slow-moving pack trains. Such was the menace of these desperadoes to transisthmian trade that in 1554 the Spanish authorities at Nombre de Dios launched a prolonged campaign against them. Nevertheless, by 1570 the cimarrones were said to have numbered 3,000 (Mack 1974: 54-55). In the next chapter we will see that the drag these difficulties exerted on the profitability of transisthmian trade was noted by colonial authorities throughout the isthmus, especially those who claimed dominion over potential alternatives.

Transisthmian transit across the Isthmus of Panamá was plagued further by the dreadful ports, Nombre de Dios and Porto Bello, that the camino real linked. In 1596 the Spanish improved this situation by abandoning their Atlantic port, Nombre de Dios, and establishing a new port, Porto Bello, five leagues to the west (Mack 1974: 57). The move was triggered by several factors. They included (1) as stated above, Nombre de Dios was a wretched site for a port. It was surrounded by miasmatic, wet lowlands unsuitable for cultivation and worse for human health. Its wide harbor mouth faced north, and was, thus, exposed to north winds and too broad to defend. (2) Nombre de Dios was regularly threatened by intruders. Chief among these was Sir Francis Drake who raided the settlement in 1572 and sacked and burned it in 1596. (3) Porto Bello was located nearer than
Nombre de Dios to the mouth of the Chagres. And, despite possessing the same difficult climate as Nombre de Dios, Porto Bello was located on a deeper and better protected harbor. Haring (1964: 185) called it "perhaps the best natural harbor on the Atlantic side of the isthmus." Thus, the camino real was re-routed from Nombre de Dios to Porto Bello.

A raid on the camino real’s Pacific terminus, Panamá, in 1671 by the Welsh buccaneer Henry Morgan, forced the Spaniards to make a practical decision: move the port. The original site of Panamá abutted a harbor that experiences an tremendous tidal range, eighteen to twenty feet. Moreover, the harbor bottom slopes to the sea so gradually that larger ships had to anchor two leagues to the west and transship their cargoes to port on smaller draft vessels (Mack 1971: 49 and Haring 1964: 187). Accompanying this premature break-in-bulk point were wearisome living conditions ashore that rivalled those of Nombre de Dios (Mack 1974: 49). To the Fray Tomás de Berlanga, Panamá was a "cueva de ladrones e sepultura de peligrinos" [den of thieves and sepulchre of pilgrims] (1535a: 532). The new settlement of Panamá was founded in 1674 two leagues west of the old settlement (Mack 1974: 76).

Despite the port improvements on both coasts and the utilization of the Chagres for seasonal transport, relentless attacks by buccaneers and English fleets forced
the weakened Spanish to abandon their convoy system in 1748 and direct their ships around Cape Horn (Mack 1974: 93). As a result, trade across the isthmus descended into an extended period of dormancy, only to revive a century later with the onset of the California Gold Rush.

However, even before that momentous discovery, a flood of foreign interests had converged on the isthmus with proposals to develop a transisthmian passage. Their arrival coincided with the province's declaration of independence from Spain in 1821 and voluntary inclusion in Simón Bolívar's republic of Gran Colombia. The first passage, the Panama Railroad, was completed in 1855, long after Bolívar had died and his republic had trifurcated. The railroad surveyors wisely avoided the route of the camino real and instead followed the previous rainy season route that led from Panamá to Venta de Cruces and then along the Río Chagres to Limón Bay. Fifty-nine years after this development, and over 360 years after Gómara first proposed a transisthmian canal to Charles V, the Panama Canal was completed. Its path followed that of the railroad line. To ensure that the canal and its locks had an adequate year-round water supply, the upper reaches of the Río Chagres were dammed in 1935. The large reservoir that resulted is called Madden Lake. The lake appears to have submerged Venta de Chagres and hence, represents a lacustrine interruption in the path of the old camino real.
Points Parallel and Peculiar

This inquiry into the site and situation of the three primary colonial transisthmian routes has uncovered several similarities and several fundamental differences. Chief among the similarities was the coincidence of route locations with relatively narrow and low spans of the Central American isthmus. This reflects the Spaniards' obvious desire to curtail the terrestrial interruption in their maritime trade network; it also underscores the difficulties of overland travel, by foot, mule or cart, during the early colonial period. Despite the brevity provided by these short, low spans, relief still plagued isthmian traffic. The contest against slope was probably greatest in Panamá. However, even water transport faced steep ascents and descents in the Río San Juan's series of treacherous cataracts. Cortés' justification of his use of indigenous bearers rather than mules or carts suggests that neither was the Tehuantepec crossing spared the suffering of slope.

All three routes incorporated water courses. The recurring presence of this feature further emphasizes the Spaniards' disdain for terrestrial transport. However, the incorporation of streams also reflects prior purposes. Discovery of at least two of these waterways, the Coatzocoalcos and the San Juan, resulted from the search for the transisthmian strait.
The absence of a complete water passage demanded that the Spanish use both water and land transport. Because each of these modes of travel employed its own particular manner of packing and hauling cargo, each isthmian passage contained a break-in-bulk settlement. In Panamá, Venta de Cruces served this purpose. In Nicaragua, Granada was a break-in-bulk point, as well as an inland port. Antigua Malpaso or Paso Real possibly served this purpose at Tehuantepec. Additional settlements emerged along the routes to function as points of defense or posts of shelter and sustenance. Examples of these include: the tardily constructed, and ill-manned fortifications on the Río San Juan and the ventas on the camino real across Panamá.

The transisthmian routes were conspicuously deficient concerning the sites of their ports. However, the Spanish had little choice in these matters. Port settlements were relegated by nature to the isthmus' fringe of tropical lowlands. Moreover, the pool of port sites was further limited to those few truncations in the isthmus that were suitable for transport. As a result, transisthmian routes, sufficiently difficult throughout their spans, were plagued by pestiferous settlements like Porto Bello, Panamá, Nombre de Dios and San Juan de la Cruz at their margins.

As demonstrated in the previous chapter, the relationship between routes and settlement is a recurrent theme of route geography. Having already noted instances of
route-related settlement and the parallels between the Panamá and Nicaragua routes, it is interesting to now note the differences that developed in settlement along these two routes.

Despite the flaws of Panamá’s ports, these settlements, primarily Panamá, contained the majority of the route corridor’s population. In contrast, Granada, an interior settlement, dominated Nicaragua’s route corridor. The differences in the distribution of population reflect differences in the nature and function of the respective routes. Because the Panamá route was relatively short, a major midway settlement was unnecessary. Moreover, the land between Porto Bello and Panamá was ill-endowed to support such a settlement. Hence, to the Spanish the Panamá corridor ultimately was just an interruption in their maritime flow of trade: something to get past, not to develop. It is not unreasonable to liken the green jungles of the Panamá corridor to the green vegetables that cruelly separate a boy from his dessert. To secure the sweets, the poor child’s only course of action is to close his eyes, hold his nose and swallow the loathsome stalks and sprouts. Only the extraordinary wealth the Spanish transported across the isthmus persuaded them to swallow this execrable passage for so long.

Nicaragua’s route corridor differed from Panamá’s in a number of ways. Obviously, the approximately two hundred
mile Nicaraguan transit was much longer than Panamá’s. More importantly, as stated earlier, the Nicaraguan passage was rarely, if ever, used as a true transisthmian passage during the early colonial period. Instead, it served as the beginning of funnel’s narrow end. Overland trade routes from throughout the isthmus converged on Granada, whereupon cargo was transferred to boats for the trip down the Desaguadero. Hence, Granada functioned as an inland port and break-in-bulk settlement.

In stark contrast to the difficult coastal locations of Panamá’s primary settlements, Granada was situated in the Nicaraguan Depression, a fertile interior region overlain by rich volcanic soils. Both before and after the conquest, this region supported a large population and was agriculturally productive. Panamá’s port settlements lacked the benefits of such a hinterland. As mentioned earlier, because of Panamá’s lack, Nicaragua functioned as Panamá’s hinterland, supplying slaves and foodstuffs. Moreover, the depression supported a prosperous colonial population. Evidence that seems to reflect the relative prosperity of the area is the fact that in 1542 Nicaragua’s governor, Rodrigo de Contreras, led one of mainland colonial Latin America’s earliest rebellions against Spain’s autonomy in the New World (Williams 1971: 47).

Nicaragua’s transisthmian corridor does not completely explain the rise of Granada and the surrounding areas.
Nevertheless, interoceanic traffic was undoubtedly significant to the development of the province. The case of Granada, therefore, presents a model of route-related colonial development vastly different than that of Panamá's. The discovery and exploitation of the Nicaraguan corridor caused, or coincided with, colonial development of the interior.

As this chapter concludes and attention is directed to Honduras it is useful to keep in mind the development of the transisthmian passages at Tehuantepec, Panamá and especially Nicaragua. For these passages exerted important influence on the destiny of Honduras' transisthmian corridor. Moreover, many of the patterns and events, sites and situations common to these crossings were retraced in Honduran corridor.
CHAPTER THREE

THE PROGRESS OF THE HONDURAN PASSAGE
As we have seen, the isthmus of Honduras was designated as early as 1540 as affording superior advantages to any other route of communication then known for land transport between the oceans (Squier 1858: 678).

To carry goods to New Galicia via Honduras and the Pacific was as about as practicable as by the way of the St. Lawrence and the Great Lakes. And the physical difficulties attending the isthmian (Panama) route bore no relation to those involved in the passage through Honduras and Guatemala (Haring 1964: 185).

Route History

When offering suggestions for possible interoceanic passages, Baron von Humboldt apparently was not privy to Squier's sources, for he omitted Honduras' transisthmian corridor. More than one hundred and fifty years later, Clarence Haring (1964: 185) indirectly concurred with Humboldt, when he attributed the recurring interest in the Honduran passage during the colonial period "to the Spaniards' gross ignorance of the geography of these regions." Humboldt's omission reflected the prudence of Haring's observation. Yet, the concurrence of the omission and the observation are problematic because they obscure the significance of Honduras' transisthmian corridor. The problem is one of scale. At a small scale, one which sacrifices the subtleties of a thousand individual brush strokes for the sake of the big picture, evidence demonstrates that Honduran corridor, when compared to Panamá and Nicaragua, was only a marginal prospect as an avenue for colonial interoceanic commerce: a colonial pipe dream. At
a larger scale, however, it was precisely that small-scale potential that dominated the early life of the corridor. In the language of Sauer, Burghardt, and Rees, the prospect of capturing the trade that flowed from Perú and across Panamá was a significant catalyst, or innovation, that stimulated the early stages of the region’s development.

In this chapter we will explore that critical period in which a colonial route network was initially etched into the cultural landscape of the Honduran corridor and a spatial inertia, was thus entrenched. Essential to this endeavor, are the following tasks: 1) a chronology of the actions, and identification of the actors, that promoted route development; 2) the geographical knowledge that informed route planners; and 3) the constellation of factors, physical and cultural, that influenced early route development. Because these concerns become unwieldy when separated, this chapter will explore them collectively. The result is a chapter in which the elements essential to the development of the idea of a passage across the Honduran corridor are identified and examined.

The early colonial history of Honduras defies a simple time line. It can be characterized as a tottering parade plagued by sputtering false starts, ill-timed departures and internecine struggles and miscommunications by men both mighty and mediocre. Fortunately, Robert Chamberlain untangled much of this story’s snarl of strands in The
Conquest and Colonization of Honduras (1953). One strand identified by Chamberlain that figures prominently in the first few decades of the region’s development was the continued preoccupation of colonial officials with development of the transisthmian corridor. By tracing this corridor’s evolution one necessarily explores the surrounding region’s history. However, a focus on the corridor filters out much of the wearisome, peripheral minutiae. The primary stages and phases of interest in the evolution of the transisthmian route are: 1) the chain of events by which the corridor became known to the Spaniards; 2) the establishment of control over the route by the Spaniards; and 3) the actual development of the route.

The Dawn of an Idea

The earliest evidence of a Spanish knowledge of an interoceanic passage across Honduras appeared in 1529 when Rodrigo del Castillo and Andrés Cereceda reported to the Crown that

yo lo he visto por vista de ojos y otros muchos que lo habemos andado que el Puerto de Honduras está casi Norte Sur con esta Ciudad de Leon y que hay de ancho de tierra por esta parte cien leguas y mas e ansi mismo seyendo verdad que el Golfo Fonseca de la mar del Sur que llaman por otro nombre Chorotea-matelaca, esta norte sur o casi con el puerto de caballos de la mar del Norte que esta en el medio de la Gobernacion del dicho Diego Lopez de Honduras e Higueras y que no hay por alli de mar del norte a la mar del Sur mas de sesenta y cinco leguas y de buen camino segun lo que todos los que lo han andado lo dicen

[The port of Honduras is located almost directly north of León. These two locations are separated by more than 100 leagues. The Gulf of Fonseca (also known as
Chorotega-matelaca) on the South Sea is located directly south of Puerto Caballos on the North Sea. This land is in the province of Diego Lopez of Honduras-Higueras. At this stretch, the two seas are separated by only 75 leagues of easily travelled land according to everyone who has made the trip] (1529: 656).

This passage partially indicates the extent that the region had been explored and reflects some of the reasons for that exploration. Apparently, this is the earliest document that recognized and identified the Honduran corridor and its two termini, Puerto Caballos and the Gulf of Fonseca, by name (refer to Map 1). The Gulf was discovered in 1523 by Andrés Niño during the same voyage in which Gil González Dávila discovered Lake Nicaragua. Dávila named the large bay after his friend, Juan Rodríguez de Fonseca, Bishop of Burgos and royal minister of the Indies (Anderson 1911: 221).

Dávila also figured in the discovery and naming of the corridor’s Atlantic terminus, Puerto Caballos. As mentioned in the previous chapter, Dávila sailed from Santo Domingo, in 1524, to the north coast of Honduras because he believed the Desaguadero emptied the waters of Lake Nicaragua into the Caribbean in that general location. Dávila’s party encountered a storm off the north coast and had to jettison a number of caballos [horses] overboard to lighten the vessels (Pedraza 1544: 403). Hence the name Puerto Caballos. Dávila’s journey later took him west to Golfo Dulce, then east beyond Puerto Caballos to the vicinity of Trujillo and then back to Puerto Caballos (Chamberlain 1953: 11). The first attempt at establishing a settlement at
Puerto Caballos occurred in 1525 during Cortés' Honduran campaign when he founded the short-lived *Natividad de Nuestra Señora* (Chamberlain 1953: 17). Despite Dávila and Cortés' early efforts, Spanish slaving expeditions are believed to have used the port even earlier, possibly as early as 1515 (MacLeod 1984: 50).

The Spanish passage above also indicates that the Spaniards had knowledge of the region's interior; indeed, by 1529 they had already the traversed the lengths of two Honduran corridors. Cerezeda identified and quantified these two north-south corridors. Knowledge of both of these passages resulted from a series expeditions that had been sent north from Nicaragua, beginning as early 1524 (Chamberlain 1953: 11; 18-20). The purpose of these expeditions, similar to Dávila's, was to find an appropriate site for an Atlantic port for Nicaragua. This sort of search was re-enacted throughout Central America during the colonial period in response to the region's fundamental geographical problem: during the early colonial period Central America was essentially a Pacific province separated from its maritime lifeline to Europe by an underdeveloped Atlantic lowland (MacLeod 1984: 44). Therefore, Pacific concentrations of settlements required overland outlets to Atlantic ports. They needed roads.

The corridors investigated by Nicaraguan interests were determined by the two leading port possibilities, Puerto
Caballos in the west and the Cape of Honduras, now Trujillo, in the east. However, as will be shown later, only the passage between Puerto Caballos and the Gulf of Fonseca can correctly be considered a corridor in terms of its physical geography. Nevertheless, the passage between León and the Cape of Honduras was important because it led through the Olancho Valley, an important early interior mining region and hinterland of Trujillo (Mack 1996).

Other useful information contained in the passage above includes the distance measures for each route. Understanding the spatial relations that influenced, and later were influenced by, the colonial route network depends on knowledge of colonial conceptions of distance. The standard itinerary unit of measure in colonial Latin America was the *legua legal* (Chardon 1980: 129-153). This unit was "a time-distance concept ... defined in terms of distance walked in an hour". The distance denoted by one league was equivalent to approximately 2.6 English statute miles. Despite this precision, Chardon pointed out that during the early colonial period, linear measures were regarded as only "rough indicators of distance". Nevertheless, the league was a distance measure based on the experience of someone who had walked a certain distance. Hence, the occurrences of league measurements in early colonial documents usually indicate that the distances have been walked. Thus, there is knowledge of the land that lies between the point of...
departure and the destination. Although this point perhaps seems trivial, it is essential for determining the geographical knowledge that informed early colonial route planning.

Because the league was, at best, an approximate measure there were numerous estimates of the length of the Puerto Caballos-Golfo Fonseca corridor that varied widely. Apart from the variation caused by the unit of measure, unscrupulous promoters of the route also frustrated accurate measurement. Their desires were furthered by a shortened route. Because the league was based on time of travel, another explanation of the variation in measurement was the ease, or difficulty, of travel. This depended on the qualities of the route. Two routes of equal distance could be assigned unequal measures because of a difference in the time required to traverse each. Accordingly, a good road would be ascribed a lower league value than a bad road. The passage above recorded the first measure of the Puerto Caballos-Golfo Fonseca route, seventy-five leagues. This one hundred and ninety-five miles (312 kms.) shrank throughout the life of the route because the route improved.

In 1532, Andrés de Cerezeda, co-author of the above passage, was chosen the acting governor and contador [comptroller] of the Provincia de Higueras e Cabo de Honduras (Chamberlain 1953: 26). As the title suggests, this province contained two parts: a western district,
called Higueras, that stretched along the Caribbean coast, roughly, from the Río Ulua to the Gulfo Dulce and extended south to the Gulf of Fonseca, thus including the transisthmian corridor; and an eastern district, called Honduras, that stretched from Cape Honduras to Cabo Camarón and extended south to include the large Olancho Valley. Hence, both districts contained north-south passages and north coast ports: Puerto Caballos and Trujillo, founded in 1525. Among Cerezeda’s colonization strategies were plans to initiate settlement in Higueras, primarily in the valley of Naco, just interior to Puerto Caballos, and to exploit the eastern passage by establishing a town on the route that led to Nicaragua to secure regular communications with that province (Chamberlain 1953: 26-29).

Three years later Cerezeda hatched a plan that combined his desire for interior settlement and westward expansion. He sent a letter to the Crown that promoted the establishment of a settlement at a location midway between Puerto Caballos and the Gulf of Fonseca. According to Cerezeda, a corridor that was especially suitable for the construction of an interoceanic road extended 25 leagues north and south of the settlement site (Chamberlain 1946a: 62). This seems to be the corridor he mentioned six years earlier; however, either the passage of time or Cerezeda’s fervor condensed this corridor by 25 leagues, or 65 miles. This lapse in accuracy of measurement notwithstanding,
Cerezeda reasoned that should such a road be built, this Honduran passage would far surpass the Panamá passage for transisthmian trade, especially that from Perú. Counted among the proposed advantages of the Puerto Caballos-Golfo Fonseca corridor were a more salubrious climate than that of Panamá, good bays for ports and a shorter passage from Perú to Havana. Moreover, relocation of Spain's transisthmian trade to the Honduran corridor would establish the midway settlement as the commercial center of the region (Chamberlain 1953: 62).

This design depended on a profound development that had arisen in the New World between 1529 and 1535, the date of Cerezeda's letters. This was the discovery and conquest of the Incan Empire, a process that began with Francisco Pizarro's first voyage to Perú in 1524 (Anderson 1911: 236) and climaxed with the execution of the Incan leader Atahuallpa in 1533 (Prescott 1851: 485). Beginning in 1533 when Hernando Pizarro carried the first large shipment of Peruvian treasure back to Spain, the riches of the Incas flowed from the "South Sea" to the "North Sea" across Panamá (26). As noted in Chapter Two, the pattern of the Spanish galleons that carried this cargo back to Spain was established in 1537 and institutionalized in 1544. Clearly, Cerezeda wanted the corridor between Puerto Caballos and the Gulf of Fonseca to be a part of that pattern. He, therefore
aggrandized the simple 75-league passage into a 50-league replacement for the Panamá route.

This plan dominated the life of the Honduran corridor during the early colonial period. For the remainder of the colonial period, the Crown received testimonios containing similar proposals. E. G. Squier, author of the optimistic quote that introduced this chapter, revived the transisthmian idea in the 1850s when he proposed the construction of an interoceanic railway through the corridor. In every instance, these proposals were based on the belief that a transisthmian artery of trade was the key to developing the region. Cerezeda’s plan can be thought of as the innovation that initiated some spatial permanence in the young province. The repeated proposals mentioned above support this claim, as do the actions that Cerezeda’s plan inspired.

Gaining Control

The merits of Cerezeda’s plan kindled the interests of other colonial leaders in Central America, most notably Pedro de Alvarado, Adelantado [commander of an occupying force in colonial Latin America (Hoffman 1980: 264)] of Guatemala, and Francisco Montejo, Adelantado of Yucatán. However, even prior to Cerezeda’s proposal, these two had been drawn into the destiny of the province of Higueras and Honduras. Already in 1528, Montejo had sailed along the eastern coast of Yucatán and continued as far east as the
Río Uluá. Apparently impressed by what he saw, he sent a dispatch to the Crown in 1529 proposing the extension of his realm in Yucatán eastward to this river. In 1533 Montejo made a formal claim for this extension. By the end of 1535 Montejo had been appointed governor of Higueras and Honduras and that province had been administratively united with Yucatán (Chamberlain 1953: 43-45). Montejo’s proposal was probably guided by his knowledge of the substantial trade that existed between the lower Uluá, a rich cacao-producing region (Bergman 1969: 94), and Yucatán (Roys and Scholes 1968: 132). Whether he knew of, or had plans for, the transisthmian corridor is uncertain.

Despite this apparently favorable progression of events, Montejo’s claim to Higuera and Honduras was undermined by prior actions of the Crown and Cerezeda and by his own failures in Yucatán. The Crown muddled the situation between 1532 and 1533 by granting to Alvarado, Montejo and Diego Alvítez, an early governor of Honduras, the right to colonize the Naco Valley and the region surrounding Puerto Caballos (Chamberlain 1953: 30). In 1535, an Indian uprising in Yucatán distressed Montejo to the point that he requested to the Crown and Alvarado that he be absolved of the authority over Higuera and Honduras in favor of Alvarado (Chamberlain 1953: 49-51). Around the same time, efforts by Cerezeda’s treasurer, Diego García de Celis, induced Alvarado, unaware that the Crown had refused
Montejo's request and ordered him to Higueras-Honduras, to assume control of the region. This almost comically tragic scenario demonstrates that efforts to colonize the province were plagued by a lack of coordination. Chamberlain captured the essence of the early colonial situation in Higueras-Honduras in the following passage.

Although many captains and hundreds of men—more than Pizarro needed to overthrow the vast, populous, and fabulously rich Inca Empire—had come to Honduras since the beginnings of colonization, the Spaniards had so dissipated their strength in internecine quarrels that Trujillo, with less than 200 citizens, alone was left of the many efforts at settlement (1953: 28).

Alvarado, 1536

Pedro de Alvarado advanced the evolution of the Puerto Caballos-Golfo Fonseca corridor by directing expeditions of conquest throughout its extent and by founding a major settlement, San Pedro, on the axis. These activities contributed to the knowledge, control and development of the corridor.

Alvarado's interest in Higueras came by way of his desire to establish a port on the Caribbean coast to serve Guatemala. In 1534 the Crown issued a royal provision, apparently in response to an earlier request by Alvarado, that granted him permission to look for and establish such a port (1534: 187-190). This document demonstrates Guatemala's need for an outlet to the north by illustrating the disadvantages of its present patterns of overland transport. Alvarado's capital, Santiago de Guatemala, was
linked to its primary port, San Juan de Veracruz, by 300 leagues of road that led over treacherous terrain. The smaller and less distant port at Coatzoacoalcos was separated from Santiago de Guatemala by 40 leagues (Alvarado 1536a: 247). The Spaniards were forced to use Indians as beasts of burden over this stretch "por no los poder llevar en bestias por la aspereza de los caminos" [because it is impossible to carry with beasts because of the ruggedness of the roads] (Carlos 1534: 188). Evidently this means of transport was expensive, for merchants who travelled over this stretch were said to have charged exorbitant prices for their wares.

Therefore, in 1534, while Pedro de Alvarado was leading an expedition to Perú, his brother Jorge sent an expedition to establish a north coast port (Chamberlain 1947: 625). Rather than actually founding a port settlement, the company, led by Cristóbal de la Cueva, met Cerezeda in Higuera and reached an agreement that a road should be built between Santiago de Guatemala and a North Sea port in Higuera (Chamberlain 1953: 33).

Upon returning from Perú, Pedro de Alvarado was persuaded to march to Honduras and establish Spanish authority over the region. According to Chamberlain his journey took him from Santiago de Guatemala through the western interior of Higuera and finally to Buena Esperanza (1953: 55). The precise location of Buena Esperanza is
uncertain. One document (Cerezeda 1535) places it 23 leagues from Puerto Caballos, seven leagues from the pueblo of Naco and three leagues from Quimistán (Chamberlain 1953: 32). Such a location must therefore be west of Quimistán up the Río Chamelecón and in the modern Sula Valley, as confirmed by another document (Cerezeda 1534). A document from 1536 reported that Buena Esperanza was located in the Naco Valley (Cava 1536: 289), but the author was probably writing with only general geographical information and noted only the most important settlement -- at Naco.

During approximately four months in the province, Alvarado acted somewhat in concert with Cerezeda’s plans to develop the transisthmian corridor. Early on, he sent a party to establish the province’s capital city, Gracias a Dios, in the province’s interior, midway between the north and south coasts. However, rather than choose a location within the transisthmian corridor, Alvarado’s men chose a site far to the west on the Río Mejocote. This choice reflected Alvarado’s desire to establish a communication and supply route between Higueras and Guatemala (Chamberlain 1946b: 8; Newson 1986: 99). The location may also have been associated with Alvarado’s own plans for a transisthmian passage that did not coincide with Cerezeda’s. In a letter to the Crown from 1536, Alvarado revealed his thoughts.

*Yo buscaré si obiese puerto, y siendo de tal disposición, que convenga poblar y que se puedan sostener vecinos españoles, yo poblaré una villa, y haciéndose, se hará una de las cosas más provechosas que*
en estas partes se haya hecho, por la brevedad navegación que hay desde las Islas Española e Fernandina, e otras Islas a esta Costa del Norte, y della a la de la Mar del Sur a donde se ha descubierto un muy buen puerto hondable y seguro en la boca del río de Lempa, donde se ha poblado una Villa que se llama de San Miguel, donde se podrán proveer todos los navios que allí aportaren e se puede dar carena e cargar, y desta manera se comunicará con poco trabaxo la Mar del Norte con la del Sur, será gran provecho para si se descubriese algo por ella

[I will check if the port site (Puerto Caballos) can support settlement of Spanish citizens. If it can, I will establish a villa. The deed will be one of the most beneficial in this area. For this site provides the shortest route between the north coast and Española, Fernandina and the other islands. Moreover, a deep protected port has been discovered on the South Sea at the mouth of the Río Lempa. A villa called San Miguel has been founded at this site. The location could sustain arriving ships with cargo and place to careen. In this manner, with little effort, communication between the North and South Seas could be established] (1536a: 246-247).

The location of the passage implied in this excerpt reflects Alvarado’s desire that any interoceanic trade in the region should pass as close as possible to the jurisdiction of Guatemala. A passage that ran from the mouth of the Río Lempa through Gracias a Dios and on to the north coast would have been closer to Santiago de Guatemala than would have the Puerto Caballos-Golfo Fonseca corridor. Alvarado’s experience in the province also might have influenced the site of Gracias a Dios. According to Chamberlain, Alvarado had passed through this region en route to Buena Esperanza (1953: 55). Possibly he chose an appropriate site during his march to Buena Esperanza.
Before returning to Spain, Alvarado also conquered the lower Uluá and on June 26, 1536 he founded the Villa de Sant Pedro de Puerto Caballos near the Indian pueblo called Tholóma (1536b: 530-538) just north of modern San Pedro Sula. These actions were taken after Alvarado had met with Cerezeda and possibly resulted from the latter’s counsel, or his previous desire for a North Sea port. There are no explicit references to the transisthmian corridor in Alvarado’s report to the Crown of his founding San Pedro. However, he did emphasize the advantages of the lower Uluá and Higueras in general. Alvarado predicted the Crown would increase its tax collection with the establishment of a settlement such as San Pedro because it would stimulate commerce by serving merchants, retailers and others who sailed to Puerto Caballos (1536b: 532). Alvarado also claimed that communication between Spain and Guatemala and the Pacific coast would be improved, because Puerto Caballos was separated from Spain by only a relatively short passage (1536b: 532). Hence, both Cerezeda and Alvarado wrote to the Crown of the region’s promising commercial potential, a future based on Higueras’ function as a passage or port for trade.

About three weeks after founding San Pedro, Alvarado divided the lands surrounding Gracias a Dios and San Pedro into repartimientos (1536c: 20-30; 1536d: 5-20). His two related dispatches are useful because they report the names
of the Indian pueblos contained in each repartimiento and, occasionally, some information about the location of the pueblos. Because some of these indigenous names have persisted and can be found on a current map of Honduras, it is possible to determine in part where Alvarado and his men travelled in the region. However, Chamberlain was skeptical of the value of the reports of Alvarado's repartimientos (1953: 60-61). He believed that they were based on "insufficient and inaccurate" intelligence. Nevertheless, the information should not be diminished entirely. Certainly, Alvarado's men must have reported correctly the names and locations of some of the pueblos. And in cases in which they erred, it is possible that their past errors have since become current facts on the map of Honduras.

Alvarado reported dispensing 99 repartimientos in the area of Gracias a Dios. The pueblos listed in his report suggest that the "area" was quite large, extending far to the south and east of Gracias a Dios. Included in the report were two pueblos located in the Comayagua Valley, Leyamane (Lejamani) and Alamani (Lamani) at the valley's southern rim. Teguycetalpa (Tegucigalpa), even farther to the east, was also included as was Indepuca (Intibuca), in the south.

The area closer to San Pedro was divided into 39 repartimientos. The majority of the pueblos granted were located in the Uluá drainage, the Naco Valley or on the
nearby Caribbean coast. Similar to Gracias a Dios, this region of repartimientos was far-flung, extending as far south and north as two pueblos called Comayagua in the interior and Tolian (Tulian) on the north coast, and into the Yoro valley in the east and the Naco valley in the west.

Neither of these documents (Alvarado 1536c and 1536d) mentioned the transisthmian corridor. However, eight of the pueblos, nine including San Pedro, that were granted in repartimiento were also located on the transisthmian camino real. They include from north to south, Tolian, Choloma, Despolonal (Pimiento), Aramani, Meambar, Maniani (Espino Valley), Comayagua and Alamani; and, linked together they comprise approximately two thirds of the interoceanic passage (Map 7). Inclusion of these settlements in repartimiento demonstrates that during his whirlwind campaign in 1536 Alvarado gained at least second-hand knowledge and temporary control of two thirds of the transisthmian corridor. The possibility that Pedro de Alvarado departed from Puerto Caballos in August of 1536 with the knowledge of a pre-existing indigenous route that ran through the corridor will be considered in a later chapter.

San Miguel

The southern third of the Puerto Caballos-Golfo Fonseca corridor extends southward from the continental divide to the Pacific Ocean along the Río San Juan-Río Goascorán.
Probable Pueblo Locations from Alvarado's 1536 Repartimientos

Map 7. Probable Pueblo Locations from Alvarado's 1536 Repartimientos
Presently, the Goascorán serves as the border between southeastern El Salvador and Honduras. Similarly, in the early colonial period the southern third of the transisthmian corridor ran between Higueras and a province to the west, San Miguel. The limits of San Miguel stretched from the Río Lempa to the Bahía de Fonseca and from the Pacific coast inland to a nebulous border with Higueras, in a mountainous region south of the continental divide (Chamberlain 1947: 623-624). Centrally located within these bounds was the town of San Miguel, founded in 1530 by Luis de Moscoso on behalf of the province of Guatemala. Similar to Higueras-Honduras, San Miguel, town and province, experienced a sputtering development.

In 1535, the year of Cerezeda’s second letter, San Miguel was re-founded by Cristóbal de la Cueva, mentioned earlier as the leader of the expedition to found a North Sea port. La Cueva had to resettle San Miguel because the region had been deserted by colonists dissatisfied with the area’s prospects and those who were persuaded to join Alvarado on his expedition to Perú (Chamberlain 1947: 624-627). La Cueva’s action was important to the transisthmian corridor and Cerezeda’s plan because it re-introduced the jurisdiction of Guatemala into the area. Matters of jurisdiction over San Miguel and the Gulf of Fonseca vexed subsequent efforts by Honduran officials to develop the transisthmian corridor.
Because of la Cueva's efforts, when Pedro de Alvarado sailed to Spain in 1536 to secure the right to govern Higueras-Honduras and to garner support for further South Sea expeditions, his claim was supported by his conquest, if only temporarily, of the north-south sweep of the transisthmian corridor.

Montejo, 1536-1539

In his book, Spanish Central America: A Socioeconomic History, 1520-1720, (1973: 43-47) Murdo MacLeod singled out Francisco Montejo as the only early colonial official who possessed a "great interest in Central America from the point of view of development or administration". Montejo's example provided a stark contrast to the horde of raiding campaigns that defined the first few decades of Spanish occupation following conquest of the region. Similar to Andrés de Cerezeda, Montejo's vision for the development of Higueras-Honduras focused on the commercial exploitation of the transisthmian corridor. However, in contrast to Cerezeda, Montejo came to a known and, at least momentarily, conquered corridor. Indian settlements throughout the corridor had been assigned, however hastily, to individual conquistadors. Moreover, Montejo's vision was accompanied by the resolve and power necessary to effect change on the ground. Therefore, after a campaign of reconquest, Montejo resumed the development of the corridor.
As mentioned earlier, Montejo made his early mark in the region as the conqueror and adelantado of Yucatán. He sought to broaden his authority by extending the limits of his government south and east to the Uluá and west to Chiapas and Tabasco. The smooth progress of these plans was interrupted by an epidemic Indian rebellion in Yucatán after which Montejo requested that the Crown absolve him of his authority over Higueras-Honduras and instead grant Pedro de Alvarado dominion over the province. His request denied, Montejo marched from Mexico City to Gracias a Dios, arriving in the spring of 1537 (Chamberlain 1953: 74-75).

Montejo’s arrival in Higueras-Honduras was heralded by his lieutenant governor, Alonso de Cáceres. Cáceres arrived in Gracias a Dios late in 1536 and established Montejo’s authority (Chamberlain 1953: 70-78). Montejo reached there in March. Their initial activities were to establish authority over those scattered pockets of Spanish settlement within the province. Therefore, Montejo headed first to San Pedro and the Naco Valley.

The first efforts of Montejo’s administration directed toward the transisthmian corridor were carried out by Cáceres and directed at its center, the Valle de Comayagua. Cerezeda, undoubtedly, had this broad upland valley in mind when in 1535 he recommended that a midway settlement be founded. Cáceres conquered part of the Comayagua valley late in 1536 (Chamberlain 1953: 74-76). Early the next
summer, he returned to valley and founded the villa of Santa María de Comayagua. As will be demonstrated later, this valley and its primary settlement became the focus of development in the corridor and all of Honduras, just as Cerezeda had proposed.

Following the founding of Comayagua, an Indian uprising throughout Higueras and San Miguel paralyzed Montejo’s development efforts between late 1537 and the spring of 1539 (Chamberlain 1953: 82-98). Nevertheless, it was an expedition associated with this uprising that crystallized the concept of a transisthmian route for Montejo. During the spring of 1539 Montejo travelled from Gracias a Dios to the villa of San Miguel to help put down a rebellion. The following passage is a record of what he discovered and Montejo’s first description of his plans for the Puerto Caballos-Golfo Fonseca corridor.

[Y]o llegué á vista de la mar del sur y del puerto de Fonseca, y desde una sierra descubrí el camino y envíe gente á vello; y desde el Puerto de Fonseca hasta la villa de Comayagua, hay veinte leguas de buen camino podriase hacer muy mejor; é desde la villa de Comayagua hasta la villa de S. Pedro, hay veinte y cinco leguas, y desde la villa de S. Pedro al Puerto Caballos, hay siete leguas, de manera, que Puerto de Fonseca al de Caballos hay cincuenta y dos leguas, y á poca costa se podrá hacer el camino para recuas y aún el tiempo andando para carretas. Qué no ha sido poco, descubrir tan buen camino en tan áspera tierra, é puertos tan provechosos para la mar del sur, así por lo que he dicho, como por ser la tierra muy sana y apacible por donde se ha contratar. Porque la villa de Comayagua está en un valle muy hermoso é muy frutifero é muy sano, é la villa S. Pedro, aunque asiento que agora tiene no es tan sano, yo trabajare de mudallo á otro asiento, tres leguas de allí más hacia la villa de Comayagua é hacia el valle de Naco, dónde se apartan los
caminos, que tiene muy hermoso asiento e muy sano; é hecho esto, ninguna gente que á ellos venga adolescerá. Y todo el trato de la mar del sur será por este pueblo, así por la seguridad de la mar, como por la sanidad de la tierra y brevedad y bondad del camino; siendo V.M. servido de mandar se haga merced á esta tierra e gubernación de algunos negros para abrir los caminos, porque la tierra es áspera y los indios pocos, no se podría sufrir hacer ellos los caminos, que todos no se destruyesen y se perdesen; é sin ello, aprovecharía poco la bondad e riqueza de la tierra

[I arrived at a vista of the South Sea and the Gulf of Fonseca. From a ridge I discovered the road and sent people to go see it. From the Puerto de Fonseca to the town of Comayagua there are 20 leagues of good road that could be improved. From Comayagua to the town of San Pedro there are 25 leagues and San Pedro is separated from Puerto Caballos by seven leagues. So, from Puerto de Fonseca to Puerto Caballos there are 52 leagues. For little expense one could build a mule road and eventually a wagon road along between the ports. It has been no small deed to find such a good road in such rugged land and ports so advantageous on both coasts. For these reasons this a good place for trade. Because the town of Comayagua is in a valley very beautiful and fruitful and healthful and the town of San Pedro is presently located in an unhealthy site, I am working to move the settlement three leagues closer to Comayagua and in the Naco Valley. The roads fork here and there is a very beautiful and healthful settlement site. And accomplishing this, no one will suffer. And all the trade of the South Sea would be for this province because of the security of the port, the healthfulness of the land and the brevity and goodness of the road. Your Majesty would be served by granting to this province some Africans to open roads because the land is rugged and the Indians are few. The Indians could not survive the work of opening roads. Without this, one will profit little from the goodness and riches of this land] (1539a: 220-221).

This passage contains part of the text for Montejo’s map of Higueras’ transisthmian corridor. It was contained in a letter to the Crown. In this passage and throughout the letter Montejo identified, located, measured and evaluated the corridor’s principal features and settled on
the means to exploit them. With this persuasive map Montejo wanted to show the Crown that the Puerto Caballos-Golfo Fonseca passage was relatively short, fifty-two leagues, and bracketed by two suitable ports; that the nature of the land would allow easy construction of a mule path, possibly even a cart road, no small achievement in a region of such rugged terrain; that in contrast with Panamá's sweltering quagmireis corridor, Higueras' corridor led through temperate uplands for much of its length; and above all, that the Higueras corridor was an opportune replacement for Spain's interoceanic traffic.

Cognizant that project proposals are often served by results in advance, Montejo pressed his case by demonstrating that development had already begun. The town of Comayagua had been established in the major central valley, the height of beauty, and the fecundity and location of recently discovered silver mines that "tienen infinito metal, ay tantas, que sobran para toda la Nueva España" [contain infinite metal, more than all that of Nueva España] (1539a: 232). And with his new site for San Pedro, the corridor would be served by another settlement of commensurate fruitfulness. Moreover, later in the same letter Montejo reported of ongoing efforts to establish a port at Puerto Caballos, in an admittedly less salubrious clime. And finally, in a statement that either undermines his integrity or testifies to his wit, Montejo reported that
early attempts at agriculture were encouraging, with the vines heavy laden "with grapes more beautiful than any others he had seen in these parts" (1539a: 233).

The final section of the passage above points out one of the plan's, and Higuera-Honduras', important drawbacks. Indian labor was lacking. So, similar to route promoters in Nicaragua and Panamá, Montejo asked the Crown for a grant of African slaves to do the work of opening the road.

Later in the same letter, Montejo filled in the southern reaches of his map. He claimed that the town and province of San Miguel should be included in his jurisdiction. Included among Montejo's reasons were: San Miguel's proximity to Comayagua, eight leagues; the prior depopulation of the province's Indians by agents of Guatemala; and most importantly, because

estar Norte Sur el Puerto de Fonseca del Puerto de Caballos, e no haber más de cincuenta e dos leguas de Puerto a Puerto, por donde ha de ser toda la contratación

[The Gulf of Fonseca and Puerto Caballos lie in a north-south line, no more than 52 leagues apart. This is where all of Spain's transisthmian trade could be funneled] (1539a: 233).

Montejo's ideas and efforts stimulated support among his benefactors and associates. Evidence of this is found in letters sent to the Crown in 1539. These letters illuminate Montejo's plan. Montejo's friend Juan de Lerma wrote from Guatemala of the present conditions of overland transport and suggested solutions (1539). While he limited
his discussion primarily to transport between Guatemala and Puerto Caballos, he extended his solution, the construction of mule roads, to the region in general. As mentioned in Chapter Two, in doing so de Lerma identified a critical transition in colonial transport, the shift from human bearers, tamemes, to beasts of burden, burros. His call for the Crown to support the opening mule roads was based on his knowledge that bearing over difficult stretches, like that between Guatemala and Chiapas, caused "el daño e desminición que reciben los naturales" [the damage and decrease experienced by the Indians]. De Lerma also argued that mule roads would serve those regions, like much of the stretch between Guatemala and Puerto Caballos, that in contrast to Guatemala, possessed a dearth of Indians. At that time, colonists in those areas faced the prospect of advancing colonization and settlement without a reliable means to conduct overland trade. In an association of which Montejo would have approved, de Lerma presented the camino real that led from Veracruz to Mexico City as the model for the mule roads to be built in Guatemala and Higueras.

In an article from 1946, Chamberlain (1946a: 63-65) included an extensive passage of another letter written in 1539 that promoted Montejo’s plans for Higueras-Honduras. The letter was written by Cristóbal de Pedraza, Protector of the Indians and later Bishop of Honduras. In this letter to the Crown, Pedraza presented arguments to the Crown on
Montejo's behalf. He echoed Montejo’s argument that the Honduran passage was shorter and less dangerous than Panamá's. Pedraza also glorified the benefits of the Comayagua Valley.

[Q]ual villa esta poblada e asentada en lo más conveniente de toda la tierra y en el mejor asiento della cercado de oro y de plata porq tiene las mejors y mas riccas minas por la una parte y por la otra de oro y plata q ay en toda esta tierra casi dentro en casa y ... el asiento della esta en el mas hermoso valle y mas frutifero de toda esta tierra y donde se dan todas las cosas de toda ella y se daran todas de castilla pan y vino ganados especialmente ovejas por ... ser la cibdad principal y todo lo principal de toda esta tierra aunq ay muy pocos yndios en ella y todo el ser y bien d ella por el trato de la una mar y de la otra

[The town (Comayagua) is populated and situated in the most convenient location in the land and in the best site near gold and silver. The best and richest gold and silver mines in this land are very near the town. The town is located in the most beautiful and fruitful valley in the land. It could produce all the products of Castile: bread, wine, livestock (especially sheep). The town should be the principal city of this land. However, there is lack of Indians in the land. But it would be good site for interoceanic trade (1946a: 64).

Later in the letter, Pedraza argued for the inclusion of San Miguel in Higueras-Honduras, in light of its position relative to the transisthmian corridor and on the grounds that a province lacking in so much, was of little value to a province as well-endowed as Guatemala.

In a later passage Pedraza seems to have betrayed his calling. He claimed that overland travellers arrived at Puerto Caballos every day from places as far away as the border of Veracruz, 600 leagues to the west, Guatemala, León and Perú to secure passage to Spain or Santo Domingo (1946a:}
That Puerto Caballos was such a bustling and cosmopolitan port in 1539 seems highly unlikely considering that during the Indian uprising of the previous one and half years no ships called there (Chamberlain 1953: 136). Considering his profession, it is possible that the same the fervor and devotion that served the bishop’s missionary activities also colored his efforts on behalf of the development of Higueras-Honduras.

The previously mentioned article by Chamberlain also included a lengthy passage of a letter sent to the Crown in 1539 by the cabildo [municipal council] of Comayagua (1946a: 65-66). Not surprisingly, the cabildo echoed and further fleshed out Montejo’s plans for the Higueras corridor. A significant feature of their letter was language suggesting that the transisthmian road, beyond mere prospect, actually existed. The cabildo identified themselves as inhabitants of a town that was "asentada en medio del camino de entre la mar del norte y la mar del sur" [situated on the road between the North and South Seas] (1946a: 65). This seems to be the first denotation of such a road. Cerezeda in 1529 and Montejo ten years later both characterized the corridor as being "de buen camino." However, this phrase does not necessarily indicate the presence of a road. Rather, it can merely imply that the area was easily traversed and thus, possessed the potential for the construction of a road. The choice of language perhaps can be traced to an
understandable spirit of self-interest on the part of the cabildo. They also reported the length of this road as being fifty leagues rather than the 52, 53 or 75 previously described by Montejo and Pedraza and Cerezeda, respectively (1946a: 65). Just as likely, however, the cabildo could have been referring to a series of Indian paths that connected pueblos along the corridor. Nevertheless, the camino was mentioned.

Because the Spanish vecinos of Comayagua had served on Alvarado and Montejo's campaigns in the province, the cabildo was knowledgeable about that section of the corridor that connected Comayagua with Puerto Caballos. The cabildo claimed that transport over those twenty-four leagues could be improved by water transport.

[A]y un rio q viene dsdl puerto caballos hasta doze leguas dl dha villa por el qal pueden venir canoas hasta las dhas doze leguas y alli esta un pueblo de yndios donde se puede hacer una casa en nobre de V mgt donde todas las mercadurias vengan de dl dho puerto en las dhas canoas muy seguramente y desdeI desembarcadero hasta donde es la villa ay doze leguas d camino muy llano q pueden yr carretas demas desto junto a la villa

[There is river (Uluá-Humuya) that comes from Puerto Caballos to within 12 leagues of this town. Canoes can ascend this river to within 12 leagues of this town. At the 12 league mark there is an Indian pueblo where one could build a warehouse in the name of Your Majesty. All goods could be brought safely from Puerto Caballos to this desembarcadero in canoes. This settlement is separated from Comayagua by 12 leagues of level road suitable for wagons] (reproduced in Chamberlain 1946a: 65).

This idea is reminiscent of plans for transisthmian passages discussed previously. The central element is the use of a
river as a more easily travelled line of penetration to the interior. Accompanying such a line is a break-in-bulk settlement at the river’s head of navigation where cargo is unloaded and stored or transshipped. The distances in this letter, Montejo’s previously discussed plans to move San Pedro three leagues inland and a survey from 1590 (Antonelli and Quintanilla 1590) point to San Pedro as the ultimate break-in-bulk settlement (refer to Map 7). The river of penetration was the Río Chamelecon.

Despite the practicality of shipping cargo twelve leagues inland, the cabildo’s claims about the remaining twelve leagues are reckless. As will be demonstrated later, there is no "muy llano" passage that leads to Comayagua.

Not surprisingly, the cabildo also shone considerable light on the surpassing advantages of the Comayagua Valley (Map 10).

And this valley produces all the products of Castile abundantly: wheat, vines, trees like those of Castile. Livestock like cattle, sheep and goats thrive because of good pasture, water and forest. The valley possesses a temperate climate. There are two rivers that possess much fish and good water for irrigated fields. And all the crops from Castile have produced delightfully. (reproduced in Chamberlain 1946a: 65).
The cabildo also argued that the villa Comayagua should be made the principal city of the province at the expense of Gracias a Dios, a ciudad that the cabildo claimed could not support many more than the thirty vecinos it presently possessed. Comayagua, in contrast, could easily support sixty. They claimed further, that should transisthmian trade develop, Comayagua would exceed Santiago de Guatemala and rival Mexico City.

With authority over a passable corridor that led from the South Sea to the North Sea, Montejo envisioned Higueras-Honduras as a commercial center on two counts. Firstly, the lucrative transisthmian trade from Perú and Castile would relocate from Panamá. Trans-shipment and distribution centers, such as San Pedro and San Miguel would emerge to serve both ports (Chamberlain 1953: 106). And, whereas the Panamá passage offered only steep, steamy slopes for interior settlement, the Higueras corridor possessed a veritable Garden of Eden in the broad, clement Comayagua Valley. Secondly, because of its position between Guatemala and Nicaragua, two provinces with unsatisfactory Atlantic ports, Higueras-Honduras would become the hub of regional trade. Therefore, complementing the primary north-south and south-north flow would be a crisscrossing network of roads that would link the corridor with the rest of Higueras-Honduras and Nicaragua and Guatemala. The depth and sweep
of these plans largely explain MacLeod's previously-mentioned appraisal of Francisco Montejo's motives.

Alvarado Again

Nevertheless, despite the grandeur of these plans and the support they prompted, the momentum of Montejo's development efforts was extinguished in the middle of 1539 with the return of Pedro de Alvarado. Alvarado had departed from Puerto Caballos in August of 1536 to secure royal sanction to govern Higueras-Honduras. He returned to Puerto Caballos on Good Friday [Viernes Sante] of 1539, having gained a decision from the Crown in his favor and at the expense of Montejo. After several months of contentious legal wrangling between the two adelantados, in August of that year Montejo and Alvarado came to terms. In late 1539, Montejo departed Higueras-Honduras for Chiapas (Chamberlain 1953: 174-175).

Alvarado's account of his disembarkation at Puerto Caballos demonstrated that Montejo's development plans, especially road-building, had progressed little beyond the drawing board. Alvarado reported meeting a man near the port who claimed to have been wandering for six days in the surrounding monte [forests] looking for a road that led to San Pedro (1539: 312). Apparently Alvarado could not find the road either. Accordingly, he took two hundred men with pick-axes, machetes and hatchets and opened a road all the way to San Pedro. The project took ten days. The road was
wide enough for one recua. Alvarado returned to Puerto Caballos to unload the cargo from his ships. On his return to San Pedro, Alvarado floated his "municiones y hato de la Mar en barriles por un río arriba" [ammunition and gear from the sea in barrels upstream] and carried the rest of the cargo overland and his new bride on twenty-four mules he had brought from Santo Domingo (1539: 313). Alvarado’s use of the Río Chamelecón for inland transport possibly informed the cabildo of Comayagua’s previously noted suggestion because their letter was sent after Alvarado’s penetration. Thus, we have our first account of overland transport of cargo on the Puerto Caballos-Golfo Fonseca road.

The apparent vigor with which Alvarado opened this important section of the transisthmian road and demonstrated its utility is misleading. For, similar to his previous campaign in Higueras-Honduras, Alvarado’s pursuits in the province, though certainly significant, were essentially fleeting. His interest in developing Higueras-Honduras paled in comparison to his desire to explore the riches of South Sea. This being the case, Alvarado departed the region less than six months after arriving, never to return (Chamberlain 1953: 178). The notable achievement of his second tour in Higueras-Honduras was the relocation of the capital from Gracias a Dios to Comayagua. In the five years between 1536 and Alvarado’s death (1541), this governor of Higueras-Honduras spent less than a year in the province.
Jurisdictional Interlude

Following the departure of Francisco Montejo and the death of Pedro de Alvarado, Higueras-Honduras was plunged further into a morass of jurisdictional disputes and civil strife. The audiencias of New Spain and Santo Domingo both claimed authority over the province (Chamberlain 1953: 214). Moreover, three Spaniards, Montejo among them, vied for governorship of the territory. Not surprisingly, this environment of contested control created a leadership vacuum that thwarted development of the region in general and the Puerto Caballos-Golfo Fonseca corridor in particular. It is rich irony that at this same juncture, 1539-1542, and later in the mid 1540s, Honduran mines, primarily in Olancho along the Río Guayape, were producing their greatest exports levels during the early colonial period (MacLeod 1973: 55). Hence, with valuable cargo to transport, the time seems to have been ripe finally to establish a suitable infrastructure.

On the contrary, following the departure of the two great adelantados, interest in a passage for transisthmian trade seems to have contracted into half-hearted efforts to merely establish a permanent port settlement at Puerto Caballos and an inland break-in-bulk center at San Pedro. In 1541 the Crown ordered the construction of a defensive fortress at Puerto Caballos (Chamberlain 1953: 231-232). By 1542, a small, permanent settlement had emerged at the port.
Similar to the ports at Panamá, the population at Puerto Caballos temporarily swelled with the arrival of ships. However even in 1542, the stretch between the port and San Pedro still lacked a functional road. The absence of such an important passage to the interior made Puerto Caballos less attractive to merchants.

In early 1543, Alonso Maldonado wrote to the Crown complaining of the region’s insufficient infrastructure. Moreover, he established the link between route deficiency and Indian mortality. According to Maldonado, roads linking major settlements like Gracias a Dios, Comayagua and the mines in Olancho to Puerto Caballos were so miserable that they precluded mule and cart traffic. Therefore, Indians were utilized as bearers, with many perishing as a result (Maldonado 1543). The Crown was already familiar with the relationship between bearing and death. Pedro de Alvarado described the atrocity a decade earlier. While in Nicaragua he observed that one did not need a guide to travel from León or Granada to the province’s mines, and

*ni preguntar por el camino, mas de irse por el rrastro de los huesos de indios muertos que hay hasta allá*

[One need not ask for the road. One merely need follow the trail of Indians’ bone that lead from here to there] (Alvarado 1533: 199).

*Audiencia de los Confines*

To remedy the region’s governmental gauntlet and to establish royal authority over the recently productive gold-producing centers near locations such as Trujillo, the Aguan
valley, San Pedro and Gracias a Dios (Wortman 1982: 6), the Crown created the Audiencia de los Confines in 1543 to exercise jurisdiction over Higueras-Honduras, Guatemala, San Salvador, Nicaragua, Costa Rica, Panamá, Chiapas, Tabasco and Yucatán (Chamberlain 1953: 215). The aforementioned Alonso Maldonado served as the Audiencia’s first president. In a nod to the Honduran corridor’s commercial promise, Comayagua functioned as its original capital. Puerto Caballos was its primary Atlantic port (MacLeod 1973: 156). However, with the depletion of gold deposits in Honduras, Santiago de Guatemala exerted an even greater attractive force throughout the region, so that by 1548 the capital had been relocated to that city following a short interlude in Gracias a Dios (Newson 1986: 99). A letter sent to the Crown in 1549 reported that none of these capital locations were linked to its major port, Puerto Caballos, by suitable roads (Cerrato 1549).

Thus, during the twenty years after Cerezeda first identified the Puerto Caballos-Golfo Fonseca corridor, efforts to develop it were thrice quashed by Guatemalan interests. Alvarado doused any momentum the project had gathered by first deserting the province and by later expelling the plan’s master, Montejo. Then, the Crown’s designation of Comayagua as the new audiencia’s capital resurrected the corridor’s prospects, only for the entrenched primacy of Guatemala to undermine the revival.
Nevertheless, promoters of the Higueras corridor surfaced several times more during the colonial period and spurred renewed interest in the passage. Following the efforts of Montejo, the transisthmian artery experienced two principal pulses of activity before the Crown removed the Honduras flotilla from its regular trade network in 1633.

Both pulses were instigated by Juan García de Hermosilla. In the mid-1550s, Hermosilla wrote to the Crown that the Perú trade should be moved to Honduras. His argument focussed on the well-worn criticisms of Panamá’s ports and overland route and the stock claim that the voyage from Perú to the Gulf of Fonseca was shorter than to Panamá. In response, the Crown instructed Hermosilla to prepare a report on the feasibility of opening a road across Honduras and the suitability of its ports (Squier 1858: 670).

Not surprisingly, Hermosilla found that relocating the overland passage to Honduras would be in the Crown’s best interest. In an indictment of Panamá, Hermosilla reported that "1000 cristianos" perished every year at Nombre de Dios and overland transport was threatened by 800 cimarrones. As result, travel was expensive, pack-mules costing three times the price paid in Honduras (Hermosillo 1556). He suggested that both Puerto Caballos and Trujillo were suitable Atlantic ports that surpassed Nombre de Dios in size. They also lacked the shipworms and wood lice [bromas and carcomas] that plagued Panamá’s ports. Hermosilla proffered
the shipbuilding center Realejo as an alternative to the Gulf of Fonseca for a South Sea port. The combination of Trujillo and Realejo suggest a revival of the eastern corridor that Cerezeda mentioned in 1529, the route passing via León, Nicaragua. To Hermosilla's credit, he refrained from further decreasing the distance that separated the North Sea from the South Sea. He reported it as sixty leagues (1556). In 1558, Hermosilla made his report to the sovereign in person (Squier 1858: 670). Two years later, the Crown agreed that the Perú trade should be relocated to Honduras (MacLeod 1973: 162). Unfortunately, for the colonists of the region, this potential boon languished while Spain was involved in one of Philip II's numerous and expensive wars. Moreover, the move to relocate faltered in the face of Panamá's entrenchment.

In 1572, Hermosilla appears to have resumed his promotion of the Honduran corridor. The qualifier "appears" is used because of the peculiar nature of the source of this information. It comes from Piraterías en Honduras (1955), Conrado Bonilla's published collection of transcriptions of colonial documents. This volume contains excerpts from a memorial [petition] that Hermosilla supposedly sent from Santiago de Guatemala to the King in 1572. These passages repeated the merits of moving transisthmian traffic from Panamá to Honduras. The accuracy of the date attributed to them becomes questionable when one notices that these
passages are word for word copies of passages contained in Hermosilla's 1556 report to the King. There are three possible explanations for this mess: 1) The 1556 document was incorrectly dated by the archives; 2) Bonilla incorrectly dated the 1572 document; and 3) Hermosilla relied on his own information that was sixteen years old when he recommenced his promotion of the Honduran passage.

The problems mentioned above notwithstanding, Juan García de Hermosilla undoubtedly was a factor in the final flourish of interest in the Puerto Caballos-Golfo Fonseca corridor in the sixteenth century. During the century's final two decades, this corridor, and its promise as a transisthmian passage, received its most intense scrutiny. This interest was motivated by Spain's acknowledgement that Nombre de Dios could not be adequately fortified (Hoffman 1980: 202-203). Drake's raids on Panamá in the 1570s had, all too well, demonstrated this fact.

Accordingly, in November of 1588 the King Philip II ordered that a survey party examine the road between Puerto Caballos and Fonseca so that he might make decision whether to move transisthmian traffic from Panamá to Honduras (Bonilla 1955: 224). Included in the party that was instructed to sail from Spain were Antonelli, Francisco de Valverde, Pedro Ochoa de Leguízamo and Juan García de Hermosillo. In the next chapter, we will discuss at length
the details of the survey guidelines that the King sent with these men and the survey reports [relaciones] that resulted.

Before October of 1590, two separate surveys of the corridor had been conducted and dispatched to Spain, one by Francisco Valverde: *Relación geográfica de D. Francisco valverde acerca de la mudanza de la navegación del pueblo del Nombre de Dios al de Caballos* (1590), the other by a trio of investigators led by Juan Bautista Antonelli: *Relación del Puerto Caballos y su Fortificación* (Antonelli and Quintanilla 1590). While agreeing in many respects, Antonelli and Valverde came to opposite conclusions concerning the suitability of the Honduran corridor as a replacement for Panamá as Spain’s artery for transisthmian traffic. Valverde favored the substitution of Honduras for Panamá. Antonelli and his party concluded that such action would be unwise.

The difference of opinion possibly reflects the differing interests of the two reporters. MacLeod characterized Valverde as an "intensely partisan reporter" (1973: 162). Indeed, the Crown had heard from him nine years earlier when he wrote bemoaning the living standards in San Pedro in comparison to those in Guatemala. He also asked that the Crown support the construction and provisioning of a royal hospital at Puerto Caballos to serve the fleets (Valverde 1581). There are also indications that he previously had received money from King Philip to open
roads (Bonilla 1955: 225). Antonelli, on the other hand, was an Italian engineer who appears not to have had any interest in redirecting Spain's trade flows to Honduras. He had previous experience in the New World as a one of several planners of the sea-wall fortifications on the island of San Juan de Uluá near Veracruz (Antonelli 1590) and apparently represented but one of several generations of Antonelli engineers who worked in the New World (Muñoz 1991: 3; Kubler 1948: 207). Possibly on the basis of that experience he disagreed with Valverde and reported to Philip that the prohibitive expense of developing the corridor for transisthmian trade should disqualify the project from further consideration (1590: 35-36). The Crown sided with Antonelli.

The importance was further diminished in 1633 when the Crown suspended the Honduran fleet (Milla 1963: 269). This action effectively terminated the transisthmian life of the Puerto Caballos-Golfo Fonseca corridor during the early colonial period. The letters, testimonies and surveys collected during more than one hundred years had not brought Spain's interoceanic commerce to Honduras. Thus, the province did not become a significant artery in the small-scale circulatory system of Spain's expansive empire. Accordingly, the development Cerezeda and Montejo envisioned was not realized. The failure of the idea appears to have resulted, at least to some extent, from the fact that the
promoters of the Honduran corridor and the Crown were at cross-purposes. Montejo viewed transisthmian trade and the infrastructure it required as a means to develop his colony and its own infrastructure. The primary interoceanic north-south axis, with Comayagua in the large valley at the center, would have attracted a spoke-like collection of secondary axes that linked the region's scatter of fledgling population centers to the corridor. Thus, Honduras' transisthmian corridor, though much longer than Panamá's, presented expanded opportunities.

That the route across Panamá was chosen as Spain's primary transisthmian artery demonstrates the expensive and difficult nature of overland transport and, more importantly, that during the early colonial period Spain valued the expedient extraction of New World resources over enduring development. Hence, they relegated themselves to a narrow ribbon of earth that, indeed, possessed all of the warmth and moisture of a biological artery.
INTERLUDE
El Camino Real

Camino real: El construido á expensas del estado, más ancho que los otros, capaz para carruajes, y que pone en comunicaçon entre sí poblaciones de cierta importancia

-...y pues ya viene la noche, retiremonos del camino real algún trecho, etc.

Cervantes

-No podían salir de los caminos reales de la provincia donde iban, porque si los hallaban fuera de ellos, perdían el fuero y la inmunidad.

Antonio de Solis

-Entonces no había el camino real de que te hablo, que es de ayer, y había que ir á buscarle más lejos.

José M. De Pereda

Camino real (fig): Medio más fácil y seguro para la consecucion de algún fin.

-No es menos buena nuestra alegre suerte Que la que en este caso declaramos,
Pues el demente cielo nos advierte Del rico bien del templo que fundamos;
Y más, si vale para que se acierte El camino real á que aspiramos, etc.

Cristóbal de Virués

(Pagés 1932: 81)

To search beyond the Diccionario de la Lengua Castellana de Autoridades for insight into the meaning of the words "camino real", one might turn to a university library’s computerized card catalog. Upon typing "k = camino real," into LSU’s LOLA system, an index of twenty-eight titles magically will appear. Though each of the items in this collection contains the keywords "camino real," the subject matter ranges widely. Included are a study of El Camino Real Elementary School in Irvine,
California, the 1950 play *Camino Real* by Tennessee Williams, and a report from the International Conference on Vesicular Stomatitis held in the Hotel Camino Real in Mexico City in 1984. The index also contains a scattering of camino real road studies just barely relevant to the purpose of this study like Felix Riesenbo's *The Golden Road: The Story of California's Spanish Mission Trail* (1962). These camino real studies commonly were sponsored by local or regional historical associations such as the *Texas Trails Society* or, as in Riesenbo's case, were installments in a series like *The American Trails Series*. In either case, the works were essentially popular regional history. As such, they recounted important dates, characters and interesting anecdotes related to each particular road.

More pertinent to this study, a recent work, *A Texas Legacy the Old San Antonio Road and the Camino Reales: A Tricentennial History, 1691* (McGraw, Clark and Robbins 1991), captured the significance of the camino real in colonial America. Stephen Hardin, a contributing author, posed the camino real as a "conduit of the imperial will" and a "vital administrative unit" (1991: 235). As such, the series of caminos reales linked New Spain's "instruments of conquest and consolidation": the presidio, the mission, and the civil settlement. Because the survival and efficiency of these instruments depended on constant, unimpeded flows along the caminos reales of supplies, raw goods, soldiers,
priests, royal orders and decrees, "travelers on the king’s roads were assured the king’s protection." Undoubtedly, this "protection" regularly lacked any palpable guarantee. Nevertheless, assaults on travelers on the caminos reales represented assaults on the Crown.

Jesus de la Teja, another contributor to the Texas study, asserted that the camino real was more than merely a colonial administrative transportation unit. In agreement with some of the route geographers discussed in the Chapter One, de la Teja conceived of the road as "a complex set of relationships between travelers and nature, buyers and sellers, governors and governed" all of which "made their own distinct contributions to the quality, and even the quantity, of life at a given place" (1991: 43). Ensuing chapters identify and examine the integral features of that 'complex set of relationships' in colonial Latin America in general, and the Honduran transisthmian corridor in particular. Of special interest are: 1) the template that pre-Columbian road networks provided for the Spanish and Portuguese; 2) the manner in which the early colonial roads were planned, paid for and built; 3) the character of the early roads and road networks built by the Europeans; 4) the manner in which goods and people were transported; and 5) the nature of settlement that emerged throughout the colonial route networks.
Early Precedents From Panamá

In September of 1521 Pedrarias, governor of Castilla del Oro, received an affirmative royal response to his request for permission to utilize native caciques and their subjects as laborers on and settlers along the cart road that he was constructing from the Pacific to the Atlantic coast of the Panamanian isthmus (Carlos 1521a: 530-531). Pedrarias wanted to settle the Indians in a trio of settlements along the road that would serve transisthmian travelers (Carlos 1521b: 538-540). During the same month of the same year, Pedrarias also received a royal grant of 60,000 maravedises per annum to open the same road (Carlos 1521c: 540). He successfully milked the treasury twice more in the succeeding 3 years for a total of 5,000 pesos of gold for construction of the road (Carlos 1524a: 546; Carlos 1524c: 550). Despite these grants, a royal document from 1527 reported that because of mud and difficult terrain the cart road between Nombre de Dios and Panamá still had not been completed. Instead of carts, transisthmian travelers depended on beasts of burden, animal or human (Carlos 1527: 579).

Much of this information was introduced in the previous description of the development of the Panamá passage. This brief account bears repeating because it derives from one of the earliest examples of correspondence between the American mainland and Spain that concerned the construction of roads.
As such, it reveals initial features of road-building, features that recurred repeatedly throughout the early colonial period. Hence, we can extract several precedents of colonial road-building from the situation in Panamá. They include the following: 1) Early colonial road construction depended on royal funds and native labor; 2) Early transport depended on the use of Indian bearers, tamemes, and later, mules; 3) Planned cart roads only rarely developed beyond narrow mule traces in the early colonial period; and 4) Colonial roads depended on native settlements to provide sustenance for travelers before a network of inns, ventas, was established.

In the next few chapters we will revisit these features of early colonial road-building as we consider the camino real that the Spaniards considered establishing throughout the length the Honduran corridor.

The isthmus' indigenous population figures prominently in three of these four precedents from Panamá. Although they were generally treated as if they were expendable, the utility of the indigenous population as road-crew laborers, bearers and providers of foodstuffs and shelter made them indispensable to the Spaniards' early transport. Therefore, their numbers and distribution were of importance in the initial stages of colonial route-planning. Beyond their labor, the native population influenced early transport with the pre-Columbian networks of communication that they and
their ancestors had etched into the landscape. The ensuing chapter considers the transport template that Cortés, Cereza and Montejo found in the vicinity of Honduras' transisthmian corridor.
CHAPTER FOUR

THE PRE-COLUMBIAN TEMPLATE
The Pre-Columbian Template

The route of the colonial Honduran passage did not emerge from a blank pre-Columbian landscape. Rather, scattered references from a collection of archaeological surveys suggest that the transisthmian corridor possessed a crude infrastructure that served pre-Columbian travelers. Detailed written accounts from the time of the Spanish conquest placed parts of the corridor within a larger trade network that extended to the Central Valley of México. These accounts, moreover, identify the traders, their wares and the location of their sources. Examination of this information reveals the transport template that the Spanish probably encountered upon first coming to the region. Chapter Eight considers the short-term and long-term colonial utility of this template.

Archaeology

In addition to its place on the geographic grid, archaeologists of Middle America have located the Honduran corridor in terms of its cultural context. The corridor marks the approximate southeastern periphery of Mesoamerica, the "high culture" region that extends from north of the Valley of Mexico throughout Guatemala and Yucatán. The corridor also marks the northwestern edge of the "Intermediate Area," also referred to as Lowland Central America, that extends through the remaining length of the Central American isthmus (Healy 1987: 85). Located in the
transition zone between these two realms, archaeological sites within the corridor have offered up a mixture of Mesoamerican and Lowland Central American artifacts. This blend suggests that the Honduran corridor was a zone at which cultural influences moved in opposing directions, southeast and northwest, and converged. No archaeological study has discovered evidence of significant, long-term use of the corridor as a passage for north-south movement. However, several studies have suggested that such communication existed (Yde 1935, Stone 1942 and 1972). The following survey of the region’s archaeology turns up evidence for pre-Colombian movement along Honduras’ transisthmian corridor.

With artifacts primarily found at sites in the Ulúa Valley, near Lake Yojoa, and the Comayagua Valley archaeologists have rendered a chronological sketch of the region’s inhabitants and their communication networks. By 800 B.C., or the Pre-Classic period, stratified chiefdoms appear to have already emerged in these three areas (Healy 1987: 87-91). Until 1 B.C. these societies underwent a "Mesoamericanization" with the "erection of Mesoamerican style temple-pyramid mounds, the layout of plaza groups ... the working of jade" and the efforts directed towards long-distance trade (Healy 1987: 100). Sites such as Yarumela in the Comayagua Valley, Los Naranjos near Lake Yojoa and Playa de los Muertos in the Ulúa Valley included large public
structures, such as mounds, ditches and stone boulder ramps, that required collective enterprise. Accompanying these structures were luxury goods from distant sources, such as jade from the Motagua River Valley to the east, carved Pacific marine shells and Usulután ceramics probably from highlands of El Salvador from the south (Healy 1987: 91-98). Apart from receiving long-distance goods evidence suggests that high value goods from the vicinity of the Honduran corridor were traded to distant locations. Obsidian fragments from Wild Cane Key off the coast of Belize have been traced to upland western Honduras (McKillop and Jackson 1989: 63). Tozzer (1941: 182n) noted that the sacred cenote at Chichén Itzá in the northern Yucatán contained, among other items from a wide range of sources, copper and tin from Honduras.

Ceramics discovered near Naco to the west of the corridor in the Chamelecon River Valley were found to be of a similar style and age as those found at Comayagua, Yojoa, and the Uluá Valley. This suggests that, in addition to early long distance trade in luxury goods, during the Pre-Classic the corridor was also linked to network of interregional trade in western Honduras (Healy 1987: 97; Henderson 1977: 374).

Ceramics found at the Playa de los Muertos site supported the notion that the corridor’s frontier setting possessed a blend of Mesoamerican and Lowland Central
American influences (Kennedy 1986). Kennedy postulated that 
"there was a long-term, if indirect, connection of at least 
equal significance between the Sula Plain, or the eastern 
lowland corridor of Central America, and northern South 
America" and the Sula Plain was "hooked up to an extensive 
ethnic trade network spanning portions of both highland and 
lowland Mesoamerica as well as western Honduras and points 
this train of thought and reasoned that the Comayagua 
Valley, located at the transisthmian corridor's center 
"represents a primary corridor for human communication 
between Middle America and Lower Central America." These 
sentiments follow conclusions drawn by Doris Stone, one of 
the first archaeologists who worked in the region (1942: 
385).

Studies of later periods have also concerned lines of 
communication. In his review of the archaeology of the 
Comayagua Valley, Agurcia Fasquelle (1986) supported the 
notion that there was communication between settlement 
centers within the corridor. He reported that Late Classic 
sites at Yarumela and Tenampua, a fortress site located on 
the southeast rim of the Comayagua Valley, contained Uluá 
Polychrome ceramics (1986: 267, 270). The presence of 
similar solid figurines at Playa de los Muertos and Yarumela 
supports this north-south movement within the corridor 
Joyce (1986: 313) used artifact distributions to describe two "interaction networks" that prevailed during the Late, Terminal and Post Classic periods in the southern Mesoamerican periphery. One of these was based in the highlands of El Salvador and Honduras and extended communication to the east and west. The other was centered in lowlands of the north coast and linked the Uluá Valley with Belize and the Maya lowlands. Neither of these coincided with the Honduran corridor. Instead, they possibly intersected with segments of the passage, thereby linking it to both networks. Joyce, thus, conceived of central Honduras as an "interface between the two spheres" of interaction (1986: 321). The presence of Delirio red-on-white pottery from Quelepa in the highlands of El Salvador at Copán, the Petén and the Uluá Plain support this notion.

Additional evidence for interaction between the two spheres by way of the Honduran corridor came from the distribution of Late Classic Spondylus princeps shell caches that contained jade beads (1986: 324). The materials of these artifacts suggest north-south movement. Roys (1943: 54) suggested that these shells came "from the Pacific coast of Nicaragua by way of Honduras." The jade is thought to have come from workshops on the middle Motagua. The artifacts themselves, were found in sites in Belize, at Copán, Amatitlán, Tenampua and at Travesia in the Uluá Valley.
Thus, the archaeological record suggests that the entire span of the Honduran corridor was linked to a pre-Columbian communication network that connected the frontier periphery to the Mesoamerican highlands and lowlands to the west and north. Although the predominant directions of flow within this network were from east to west and northwest to southeast, there also appear to have existed perpendicular flows along the transisthmian corridor that linked the Sula Plain, the Comayagua Valley, the highlands of El Salvador and the Pacific coast. As the focus now shifts to written accounts of the early exploration and conquest of the region, the region's aboriginal transport network, and its linkages, the function of the Honduran corridor become clearer.

The Land of Gold, Feathers, and Cacao

As previously noted, Carl Sauer (1941: 354) viewed the first few decades following European contact as a fertile period of inquiry for historical geographers. In these few decades the Spanish manipulated the New World's extant cultural landscape, including the predominant flows of communication and commerce, to suit their colonial aspirations. By establishing the general patterns of trade and travel in the region surrounding the Honduran corridor at the time of contact we will have a model with which to compare the patterns that the Spanish instituted. Such a comparison is vital to learning whether Montejo's and the
other Spaniards ideas concerning the transisthmian corridor represented cases of transport continuity or discontinuity.

During the twentieth century, Puerto Cortés, the settlement that North American fruit companies built near Puerto Caballos’ former location, has been Central America’s largest port, handling as much as half of Honduras’ foreign trade (West 1976: 437). From this port, relatively low unit value Honduran products such as bananas, pineapples, sugar cane, animal and timber products are shipped to North American, European and Caribbean destinations. In return, Puerto Cortés receives the country’s imports of high value manufactured goods like autos and electronic equipment. In a nod to continuous use, the first Spanish accounts of the region report that this point on the Uluá Valley’s broad coastal terminus has long functioned in such a manner. Though, in contrast to the present situation of economic exchange, it is possible that Honduras’ aboriginal north coast port had the upper hand in the value of its exports as compared to its imports.

According to Roys (1943: 55), at the time of contact the Maya of the Yucatán referred to the Uluá Valley as "the land of gold, feathers, and cacao". Similar to today’s electronic goods, cacao and gold possessed a high unit value because of their compactness. Conversely, a resident of the Uluá Valley might have referred to the Yucatán as "the land of cotton cloth, salt and slaves" as these bulky items were
the peninsula's primary trading goods (Wonderley 1985: 257). Other goods provided to Yucatán by Honduras and coastal lands to the east include copper, obsidian and the previously-mentioned *Spondylus* shells (Roys 1943: 52).

More important than the actual articles of trade and their relative unit values, the exchange between the Yucatán and Ulúa represented but one pathway of commerce in a larger region that possessed intersecting exchange networks that linked northwestern Honduras to highland and lowland Maya to the north and west (Henderson 1977: 363), and beyond these to the Valley of México (Scholes and Roys 1968: 15), and, finally, to Nahuatl settlements on the Pacific coast (Henderson 1977: 370).

Located within this long-distance communication network was "an economic unit ... united by commercial relations, which constituted a common bond of interest" (Scholes and Roys 1968: 3). It consisted of the portion of the relatively wide coastal plain that extended from Tabasco to the Ulúa and including trade connections with the interior highlands. Thus including coast, coastal plain and highlands, the region's major transport routes combined water and overland travel (Lee 1978: 55). Beyond commerce, the unity of the region of was served by the similarities of the languages spoken therein. The Chol, Chontal and Chortí languages spoken in the area were "dialectical variants of the same language" and similar to Yucatán Mayan (Scholes
and Roys 1968: 317) Thus, for this trading region, language presented no real bar to communication. Montejo’s later efforts at consolidating his territory in Yucatán with that of Honduras reflected the adelantado’s awareness of the strands of commerce that bound together this far-flung region.

Roads and Rivers

In 1524 Hernan Cortés embarked from Espíritu Santo near the mouth of the Río Coatzocoalcos on a long overland journey. Accompanying him was a large company of Spaniards, Indians and 150 horses and, according to his orders, two caravels loaded with provisions to sail along the coast ahead of him. Cortés’ destination was a faltering Spanish settlement called Nito located near the Bahía de Amatique. He recorded the details of what appears to have been a fantastically difficult journey in his Fifth Letter to King Charles V (Padgen 1986). From this letter and several other sources focussed primarily on the Yucatán peninsula, the details of the region’s trade network at contact emerges.

Evidence of the region’s bustling trade came to Cortés before his departure from Espíritu Santo in the form of a map painted by Indians from Potonchan and Xicalango on cotton cloth. According to Cortés, the map located almost all of the villages on the coast as far as to Pedrarias’ realm (Padgen 1986: 339-340). The cartographers’ information about Mayan ports on the Yucatán’s fringe hinted
to Cortés the extent of the region's trade and its use of water-borne traffic. The cartographers complied with Cortés' desire to travel to Nito over land. The map, therefore, contained evidence of routes for travel afoot, including the route to Nito (López de Gómara 1943, 2: 13). López de Gómara, Cortés' biographer, and Herrera y Tordesillas (1726-30, dec. 3, bk. 6, ch. 12) indicated that Cortés was referring to Pedrarias' residence in Nicaragua rather than Panama. The route, thus led across the isthmus beyond Nito. Roys (1943: 55), however, believed that from Nito one branch led along the Caribbean coast to Panamá, and the other to the Pacific coast of Nicaragua. The controversy of the number of routes notwithstanding, at some point the map provided information about overland transport across the isthmus to the Pacific coast. Unfortunately Cortés did not follow the map all the way to the Pacific coast. Therefore, we do not know the path of the transisthmian route. We do know, however, that there was overland transisthmian communication.

Once en route, Cortés' march demonstrated that trade from Tabasco to Yucatán was served by a coast road to the vicinity of the Río Seco, beyond which transport depended on canoes (Lee 1978: 53). In the 35 low, wet leagues that lay between Coatzocoalcos and Río Copilco on the coastal route, bridges provided passage across the many marshes and streams. Despite the good fortune of finding existing
bridges, some of the most arduous efforts described in the Cortés’ Fifth Letter, are those devoted to bridge-building. This is because the Spaniard insisted on traveling overland with horses and did not benefit from canoe travel. Thus, when the overland route terminated near the region of Copilco, Cortés was faced with travel over a flat, marshy expanse that possessed little infrastructure. In the region surrounding Copilco alone, Cortés, rather proudly, reported constructing more than 50 bridges (Pagden 1986: 343-344). It should be noted that the actual work was done by the Indians that accompanied Cortés on this campaign.

Cortés scarcely described the quality of the existing roads. He primarily reported whether his path followed an Indian track or if his men had to cut open roads. Nevertheless, because his route crossed the southern Yucatán peninsula, and because he was in some cases following a map drawn by people familiar with the region, Cortés’ progress, at least when he was correctly following directions, occasionally benefited from extant or remnant portions of the occasionally raised and/or paved sacbeob that linked Mayan settlements (Hauck 1975; Romanov 1973). In a note to his translation of Bishop Landa’s relación of 1566, Tozzer (1941: 109n) cites the following contemporary description of these roads:

[T]here are remains of paved highways which traverse the all this kingdom and they say ended in the east on the seashore where it crosses an arm of the sea for the distance of four leagues which divides the mainland from
that island. These highways were like the caminos reales, which guided them with no fear of going astray so that they might arrive at Cozumel.

We should be careful not project the whole of Cortés' progress onto these "white ways" because they primarily served ceremonial centers, while overland long-distance trade journeys followed narrow single-file trails (Chapman 1957: 137). The majority of Cortés' journey was on such passages.

Nito was also connected by a path to Naco on the Río Chamelecon. This river flows northeast into the Uluá Plain at the transisthmian corridor's northern end. Thus, at contact, the Honduran corridor was probably linked to the Yucatán and Tabasco by means of either canoe or foot travel along the Chamelecon. Evidence for similar linkages at the corridor's Pacific terminus will be discussed later in this chapter.

The canoe travel that Cortés, to his regret, passed up was an important component of the region's pre-Columbian trade. The coastal orientation of the map drawn for Cortés reflected this fact. Travel in dugout canoes represented a "substantial increase in transport efficiency, especially for low-bulk cargo" (Tourtellot 1978: 75). The preponderance of canoe travel also corresponded with the ubiquity of watercourses and swamps from Coatzacoalcos to Laguna de Términos on the west side of the Yucatán peninsula, and from Bahía de la Ascensión to the Uluá on the
east side, such that for much of the region's population
water transportation was readily accessible (Scholes and
Roys 1968: 29). Early Spanish reports indicate that canoe
routes led along the coasts of Yucatán (Edwards 1978: 199-
209). Bishop Landa was informed that previously merchants
from the commercial center Chichén Itzá regularly traveled
overland to Bahía de la Ascensión from which they embarked
in salt and cloth-laden trading canoes bound for Honduras
(Ciudad Real 1932: 325; Wonderley 1985: 257). Early in the
colonial period, salt produced in the vast salt marshes
between Isla Mujeres and Campeche was still carried by water
to Honduras (Tozzer 1941: 189).

Scholes' and Roys' (1968: 317) claim that merchants of
southwestern Yucatán and Tabasco maintained "factories" or
warehouses on Río Ulúa suggests that canoe travel skirted
the whole peninsula. Roys (1943: 56) broached this
suggestion earlier on the basis of the pilgrims from Tabasco
who voyaged to Cozumel. This pilgrimage made more sense to
him if "the island lay on a water route connecting Tabasco
with Honduras." Thus, in addition to its overland
connection by way of Naco and Nito, the Honduran corridor's
northern terminus at the mouth of the Ulúa was linked to the
eastern Yucatán and probably Tabasco by lines of maritime
travel.

Francisco de Valverde's survey of the Honduran route
suggested that canoe travel extended inland at least ten
leagues on the Río Chamelecón (1590: 6). As mentioned in the previous chapter, the cabildo of Comayagua extended navigation to 12 leagues inland from the coast. These colonial claims taken with Wonderley’s (1985: 267) findings that late settlement sites in the Uluá Valley congregated along waterways suggest that pre-Columbian transport in this region depended at least partially on canoe traffic. Hence, pre-Columbian maritime trade appears to have penetrated into the northern quarter of the transisthmian corridor by means of the Río Uluá; possibly connecting water transport to the "warehouses" mentioned above.

**Merchant Enclaves**

At Teutiacar on the Río San Pedro in easternmost Tabasco, Cortés met a wealthy "leader" named Apaspolon, who was probably an Aztec trader or pochteca. Apaspolon drew Cortés another map that led from that location to Nito. More importantly, Apaspolon informed Cortés that at least a portion of the region’s long distance trade was transacted by trading agents who resided in settlements in Honduras, including Nito and Naco (Padgen 1986: 368). By means of these far removed enclaves Apaspolon expanded his region’s resource base and the markets for its manufactures. The wares his agents secured included cacao, dyes, body ink, torches for light, pine resin for incensing, colored beads from shell, and a little gold.
The matter of merchant enclaves in the Ulua and Chamelecon Valleys - indeed, throughout central and western Honduras - at the time of the Conquest has received considerable attention from archaeologists and ethnohistorians. Henderson (1977: 368) concluded that merchant "enclaves" or "barrios," within larger settlements, were "common features of Mesoamerican territorial organization." Moreover, frontier areas like western Honduras, and including the transisthmian corridor, because of their intermediate relative locations, "may be characterized as zones of maximum density of enclaves" (368). In accordance with this view, Roys (1943: 117-118) suggested that there was a network of Nahua trading colonies scattered throughout and beyond the Mayan periphery in Honduras. The strands of this network converged on locations such as Naco, Olancho, Comayagua and the Pacific Coast.

Other than information from traders, like that received by Cortés, evidence for the presence of merchant enclaves in Honduras comes from early colonial reports of languages spoken throughout the region. One prime example is Fray Alonso Ponce's account of his journey throughout the isthmus in the 1580s. Ponce (1873: 347) reported that in Comayagua there were Indians who spoke "la mexican ó pipil." Moreover, farther south in Pacific Nicaragua the Indians
spoke "la mexicana corrupta" and "lengua naual" (1873: 351-352).

"Nahua" refers to Nahuat-speaking peoples. Central America received migrations of Nahuat-speaking peoples in various places and at various times prior to the Conquest. Groups included in these migrations were the Pipil who "probably arrived during the ninth and tenth centuries AD" and "Aztec traders" who "began to establish colonies in the area between the fourteenth and sixteenth centuries" (Newson 1986: 30). Nahuat-speakers inhabited the Pacific coastal plain from the Gulf of Fonseca to Nicoya (Fowler 1989). Within in this region was a distinct group called the Nicarao who inhabited the Pacific fringe from the northern tip of Lake Nicaragua to Nicoya.

Map 8 shows a compilation of the suggested Nahua and Chol enclaves at the time of the Conquest. The combination of these locations and the characterization of Nahuat-speakers in the Chontal area as "active traders" (Scholes and Roys 1968: 318), have led others to conclude that "[c]ertainly there was trade between the Pacific Coast and the Gulf of Honduras" (Henderson 1977: 370). It seems likely that prior to the Conquest, some trade, indeed, was directed along the transisthmian passage in Honduras.

Thus, at contact, the transisthmian corridor across Honduras, especially its northern terminus, was linked to a expansive network of overland trails and fluvial and
Numerous enclaves of indefinite location reported within the lower Uluo drainage.

Map 8. Nahua and Chol Merchant Enclaves
maritime routes. These routes allowed a regular exchange of goods between the Yucatán peninsula and the Ulúa Valley. The distribution of prehistoric artifacts, especially *Spondylus* shells, and the historic distribution of Chol and Nahua merchant enclaves suggest that trade could have also have been conducted throughout the whole of the corridor's north-south span.

To some of the conquering Spaniards, forward-looking men, like Montejo, who were intent on colonizing the region, the aboriginal trade infrastructure in western Honduras and the Yucatán must have appeared like the initial lightly-etched guidelines that precede a woodcut's bold, deep carvings. The craft of the colonial knife will be considered in the following few chapters.
CHAPTER FIVE

PLANS, SURVEYS, ROADS, BRIDGES AND FUNDING
Planning and Construction

[E]n lugares frios sean las calles anchas, y en los calientes angostas

[In cold places streets should be wide, and in warm places they should be narrow] (Felipe II, no date: 21).

This perplexing aphorism is the only regulation contained in the Recopilación de las leyes de estos reynos (1943) that directly concerns the actual planning of road construction in colonial Latin America, a subject that previous scholars have found to be only scarcely documented (Kubler 1948: 177). This dearth is somewhat puzzling when one considers that the Recopilación is a compilation of all the Laws of the Indies up to 1640, the body of decrees mandated by the Crown to govern the wide range of her subjects' endeavors in Latin America.

Chance fortuitously anticipated the Recopilación's deficiencies regarding road planning and construction and subrogated three invaluable sources. Happily, these sources derive from the planning and examination of the Puerto Caballos-Golfo Fonseca corridor.

As mentioned in chapter two, the final twelve years of the sixteenth century witnessed a resurgence of interest in moving Spain's transisthmian passage from Panama to Honduras. In 1588 King Philip II commissioned a survey of the corridor to determine the feasibility of the switch. The king included in his order several instructions to guide the surveyors (Bonilla 1955: 224-227). Appendix A of this
study is a summary of these guidelines. These detailed instructions indicate some of the concerns that guided road planning on the part of the Crown during the early colonial period.

By October of 1590, King Philip received two relaciones in response to his commission of a single survey. The principal authors of the respective reports were Juan Bautista Antonelli and Francisco Valverde. Appendices B and C contain summaries of the route information contained in these reports. As mentioned in the previous chapter, Antonelli and Valverde arrived at opposite conclusions about the corridor's promise as Spain's primary transisthmian passage. Valverde favored the idea. Antonelli thought that the project was too costly and impractical. King Philip heeded Antonelli's advice.

Antonelli's and Valverde's surveys complement the king's instructions by answering his questions in a comprehensive manner. They, thus, further illuminate road-planning and, in addition, explain some aspects of colonial road construction.

King Philip organized his instructions into twelve individual sections that addressed several primary concerns. Sections 1, 2, 3, 8, 9 and 12 were devoted to ocean transport and ports. The surveyors were directed to concentrate on essential information such as: 1) the nature of navigation to Puerto Caballos, and from Golfo Fonseca to
Spain's points of interest in the Pacific Ocean; 2) harbor depths, anchorages and the absence or presence of shipworms; 3) settlement possibilities near the ports and prospects for fortification of the harbors. Moreover, information contained in section 9 suggests that the King had indeed considered funneling all of Spain's Pacific transport, from Perú, India and the Philippines, into the Golfo Fonseca.

Sections 4, 5, 6, 7 and 10 pertained to matters of overland transport. Of initial concern was the physical characterization of the route, the surface of overland transport. Just what sort of land did/would the camino real traverse? Mountainous? Arcabuco [impenetrable thicket]? Could carts travel over it? Because the king, apparently, was aware of the importance of river crossings, he directed his advisers to pay close attention the qualities of the streams to be crossed by the road. Were the streams voluminous? Did they regularly spill their banks? How long did it take for high stages to subside? Were streams passable only seasonally, or year-round? What would be the most effective mode of crossing for each stream? Appendices B and C indicate that these royal inquiries prompted thorough rejoinders from the surveyors.

Beyond the route's physical nature, the sovereign wanted to know if the corridor's human population could support overland transisthmian traffic. Specifically, did the corridor's present inhabitants raise beasts of burden?
How many were there? How much did they cost? Did the corridor’s inhabitants grow sufficient staple crops to provision travelers? And again, at what price?

In item 11 the king projected the corridor into the future as his realm’s principal transisthmian passage and extractive development tool. In that particular future, because of a dramatic increase in commerce, the corridor’s population would significantly increase. The enlarged labor supply, in turn, finally would extract the colony’s mineral wealth and capitalize on the land’s latent fertility. Ultimately, of course, these boons would accrue to the Crown.

In item 8 King Philip demonstrated his understanding that suitable port sites, as intersections of travel upon road and sea, must combine the features essential for land and water transport. Previously, in his instructions he discussed the factors of ocean travel with regard to port location. However, available anchorages and defendable harbors were not sufficient determinants for choosing ports, especially for transisthmian traffic. Beyond accommodating ships, these ports needed to have the capacity to succor the recuas of mules, and horses and oxen that carried cargo along the camino real to the ports. Therefore, pasture and fresh water were needed. Because the ports also had to house the cargo and travelers, the king directed the surveyors’ attention to the availability of firewood and
building materials, especially stones and wood, near port locations. Lime and gypsum [cal and yeso] were desired as bonding agents. In item 8 the king also intimated his solution should coastal marshes have plagued prospective port locations. He inquired after the availability of "piedra bastante para los tremedales" [enough stones for quagmires] (1955: 225). Unfortunately, he did not indicate exactly how they should be used. It seems plausible that the stones simply were intended for use in building up a solid, elevated and reasonably dry road bed that would drain readily.

Sections 5 and 10 reveal the king's concerns about actually paying for the road and the return on the investment. Item 5 instructed the surveyors to make note of the flimsier, yet still costly, specimens of roads that recently had been built by the colonists, including Valverde, and funded by the Crown. Such an order, if obeyed, would no doubt have tempered the surveyors' optimism for the Honduran project. Even a cursory investigation would have revealed that during the sixteenth century road projects had experienced little success.

Item 10 suggests that merchants who conducted transisthmian commerce in the corridor already had established a means of paying for its maintenance. The king reported that export duties were said to have been collected for every cargo that crossed the isthmus. I have found no
document to corroborate this royal hearsay and consider it to be a case of "pie in the sky" boosterism on the part of some colonial promoter. To King Philip's credit, he directed his surveyors to investigate. He needed this information to plan the funding of such a project. Specifically, he wanted to know how much construction of the transisthmian camino real would drain the royal treasury. Beyond these calculations, as mentioned earlier, the king projected the economics of transport into the future. He reasoned that with whatever burden of payment he initially imposed on the colonists, he must also take into account the subsequent inflation of prices on travel-related goods and services that would result from the increase in the volume of transport across the Honduran corridor.

These survey instructions suggest a notable measure of forethought on the part of the king or his advisors. As a body of guidelines, they imposed a rigorous standard of inquiry on the project's surveyors. Accordingly, the resulting relaciones exhibited a corresponding degree of care. From these reports, and additional colonial sources, we can learn even more about colonial road planning and construction.

The Physical Character of the Corridor

Among the reasons that the attention of the Spaniards was initially directed to the Honduran corridor was that it was a relatively gentle pause in the region's rugged
topography that spanned the isthmus. This interruption in the east-west trending cordilleras is the surface manifestation of a series of north-south trending faults and grabens (Weyl 1980). The Sula Graben extends almost 60 miles inland from the Caribbean Sea. The Sula Plain lies atop this graben. This flat, lowland is shaped like a narrow isoceles triangle, with its shortest side lining the coast and the opposite vertex located between San Pedro Sula and Lake Yojoa. At the base of the Sula Valley’s southern rim, elevations are less than 200 meters.

The Sula Valley is separated from the Comayagua Graben to the southeast by approximately 40 miles of saw-toothed uplands that climb to elevations of 2000 meters. The Comayagua Valley sits atop the Comayagua Graben. At the valley’s northern end elevations are approximately 600 meters; at the southern end, 25 miles away, 640 meters. Twelve miles south of the Comayagua Valley, the isthmian divide rises to a low pass at 740 meters. The Humuya-Comayagua-Ulua rivers drain the northern side of the divide through the Comayagua Valley and the rest of the corridor.

South of the Comayagua Graben, the Goascoran Fault extends the remaining length of the corridor to the narrow Pacific Coastal Plain and on to the Gulf of Fonseca (Weyl 1980). The Río Goascorán follows the path of this fault as does the transisthmian corridor. Between the southern rim of the Comayagua Valley and the coastal plain, the
corridor’s topography is rugged like that between the Sula Plain and the northern limit of the Comayagua Valley. "Abriendo los caminos"

Unfortunately, there is little specific information about the actual construction of roads in colonial Latin America. However, the language used in Valverde’s and Antonelli’s reports and other colonial documents captures, at least partially, the essence of the work. *Abrir*, literally "to open", is the verb most commonly employed to describe the work of constructing roads. This term is apt because the construction of Central America’s colonial roads commonly involved the opening of a network of seams within a sometimes densely woven fabric of vegetation. In cases where colonial roads followed single-file Indian paths, these pedestrian creases necessarily were opened wider to accommodate recuas or carts. Both situations required that companies of men, like those previously mentioned in the service of Alvarado, armed with hatchets and spades or hoes, [*hachas* and *azadones*], cut open ribbon-like passages through the tangled arcabuco surface covering.

Antonelli and Valverde prescribed a similar solution for much of the humid, low-lying northern third of the Puerto Caballos-Golfo de Fonseca corridor. Both prescribed opening up a swath seventy to eighty *pasos* wide, approximately four hundred feet (Chardon 1980: 144), through the dense vegetation. So opened, the cleared corridor would
be exposed to the sun and wind and would, thus, dry out and allow road construction (Antonelli 1590: 12; Valverde 1590: 4).

Dimensions for the width of the actual roadbed are less certain. Kubler reported that according to plans for Mexico City from 1537, the calles [streets] were to be 14 varas, or about 52 feet, wide (1948: 160). More appropriate concerning our purposes, when seeking royal funding for Panamá’s transisthmian road, Pedrarias optimistically projected that the finished project would be a stone-paved roadway with a breadth of two cart widths (Rubiano 1944: 233-234). Unfortunately, Pedrarias did not provide the dimensions of the cart to which he was referring. There were numerous cart styles and widths in colonial Latin America. One of the few descriptions of cart dimensions comes from an account of travel in Argentina in 1776 which reported that an approximately twelve foot long axle passed through a carro’s [cart] wheels (Concolorcorvo 1942: 88). Such a span suggests quite a wide road across Panama. However, Ringrose has pointed out that these carts were much larger than those of Castile in the sixteenth century (1970: 44). Pedrarias undoubtedly had the Castilian cart in mind. Nevertheless, as mentioned in chapter Two, Pedrarias’ projections for a paved transisthmian cart passage were far from realized during his lifetime.
As noted previously, the king's instructions suggest that another common strategy for road construction in low areas involved establishing a solid elevated stone roadbed. Correspondingly, among the solutions that Antonelli offered for passage through the swampy lowlands near the Gulf of Fonseca was the construction of a "calzada," a stone causeway (1590: 20). The term calzada is derived from the Latin via calciata which means "road paved with limestone" (Webster's 1989: 235). From Valverde's survey (1590: 7) it appears that the necessary resource, limestone, was present in the vicinity.

However, construction of a stone transport surface extended beyond low, wet spots and beyond the sixteenth century. Presently, in the calles of the many isolated colonial settlements in Honduras one often can find the tidy, regular pattern of stone pavement. Field observation along the Honduran corridor has also revealed deeply incised sections of road that possessed a single layer of pavement composed of fairly large round, smoothly surfaced stones. The widths of these sections were approximately 3 meters. Other similar sections of incised stone road were discovered on the camino real that led from Trujillo to Sonaguera (Photograph 1). There is no evidence to confirm absolutely that these are road remnants from the early colonial period. However, it is not unlikely that these stone-paved sections were constructed with a level of technology and availability
Photograph 1. Sunken road stonework, 1993 (Photo by author)
of resources and for a mode of transport similar those which Antonelli and Valverde had in mind. Beyond stone pavement, Sidney Markman (1993: 44) cited a colonial document from 1690 that reported that during the rainy season in the district of San Pedro Solomá, north of Huehuetenango, slippery mountain roads were covered with logs to improve footing.

Antonelli and Quintanilla’s treatment of the route segment that led from Aguanqueterique, just south of the continental divide, to Goascorán near the Gulf of Fonseca indicated other construction strategies. Because of the tortuous terrain and seasonal torrents that plagued this stretch, the engineer called this "el peor camino que hay de Comayagua a Fonseca" [the worst road that there is from Comayagua to Fonseca] (1590: 19). Antonelli and Quintanilla believed that this route was unsuitable for the construction of a cart road. They suggested that the better location for a cart road through this section was on the west side of the Río Goascorán rather than on the east. Nevertheless, they described the measures that would be required for opening a cart road on the east side, the preferred location of transport at that time. Antonelli and company felt that a ridge would have to be levelled. The tools they suggested for this task were azadones and long spade-like tools with a long crooked bill called picos (1590: 20). Two leagues of the road would run along another ridge’s piedmont, a common
strategy in mountainous terrain and one that both survey parties prescribed for the road north of San Pedro. Despite the routine nature of this strategy, Antonelli foresaw great difficulty. As mentioned earlier, running water was the culprit. For the piedmont road to be passable throughout the entire year and functional for a substantial amount of time, Antonelli felt that "paredes" [retaining walls] were necessary. In some parts the walls could be built by simply stacking stones. In other, no doubt more vulnerable, places, Antonelli (1590: 20) thought that "mamposteria" [walls of rubble masonry] (Annis, 1968: 22), would be necessary. According to Antonelli, these measures would be very expensive.

It is interesting to note that either because of regional geopolitics [the Goascoran serves as a border between El Salvador and Honduras] or route inertia, travel between Aguanqueterique and Goascoran currently runs on the Rio Goascoran’s east side. However, out of respect for Antonelli’s prudent judgement from four centuries past, it should be noted that during three recent visits to this stretch of road, earth-moving equipment was always present. Moreover, bridges still are regularly washed out by the torrents that seasonally rush down the quebradas [ravines]. "No se puede vadear"

Gonzalo Menéndez Pidal (1951: 92) claimed that the Spaniards’ bridge-building was the most notable of their
improvements to early colonial transport in the Indies for it allowed more direct routes of travel. Such prominence was accorded to bridge-building because running water posed such a formidable barrier to road construction. As alluded to above, running water's erosive capacity was a particularly imposing hindrance to colonial road construction. Moreover, beyond overland flow, running water confined to stream channels provided additional, equally frustrating, impediments. Accordingly, and as ordered by King Philip, Antonelli and Valverde's parties paid careful attention to stream crossings. An investigation of these descriptions demonstrates additional route planning and construction methods in the early colonial period.

Antonelli and Valverde reported the number and nature of the streams that had to be crossed. Streams were designated ríos, arroyos and quebradas. Arroyos and quebradas generally were considered fordable in the dry and wet seasons. However, during the wet invierno travellers commonly were detained from fording these streams until pulses of high water subsided. Such delays could last several hours. Bridges and ferries were reserved for ríos. Yet, many ríos were also considered fordable and thus, did not require bridges or ferries.

The only fording strategy contained in the surveys was described by Valverde. Throughout the segment of the corridor that extended south from Estancia de Armenta in the
southern Ulúa valley to Maniani in the Valle de Espino, he reported that there were twelve fordable "ríos." According to Valverde, "no estorban el paso por tener la acogida cerca" [crossing is not hindered because the confluence is nearby] (1590: 6). Hence, ease of fording was attributed to the nearby presence of the confluence of that river with another. Presumably this situation allowed travellers to ford two relatively small separate streams rather than a single large united one. It is interesting to note that Antonelli only reported one actual río in this region. The other streams he designated "arroyos." He reported that several of these could be forded in the wet season, but only after waiting for high stages to subside. These discrepancies in the surveyors' accounts suggest that fording streams near their confluenes was effective primarily for arroyos and quebradas.

The surveyors found that fording was not sufficient for overcoming all of the streams or the deep, steep-sided barrancas [gorges] that bedeviled travelers throughout the Honduran corridor. Therefore, bridge construction or ferries would be required. As noted above, Antonelli, the engineer, and Valverde provided relatively detailed solutions for crossing each of the unfordable streams in their path. We will consider a few such cases that demonstrate the range of their solutions.
Proceeding south from Puerto Caballos, the first stream that required a bridge was the Río Chamelecon (refer to Map 1). Valverde reported that travelers presently relied on canoes for crossing this river (1590: 5). He thought a bridge of a width of about one hundred and twenty feet was necessary. The bridge would have to be especially solid, and therefore expensive, because of the avenidas [freshets] that regularly coursed through the channel. Upriver from the present crossing place Antonelli noted a suitable site for construction that provided a stone surface on which to erect the bridge and a supply of stones with which to build it. He envisioned a bridge with stone pillars that would support arches. He neglected to say how many. The arches would elevate the balustrade to a height safely above flood stages. To decrease the project’s expense, Antonelli suggested that the balustrade could be covered with large prepared tree trunks rather than stonework (1590: 13). Although stone arches do not necessarily require mortar, Valverde’s mention of the presence of lime on the site, suggests that they thought a bonding agent would be necessary.

All of the stone bridges throughout the corridor were prescribed to be arched bridges. Unfortunately, because Valverde and Antonelli omitted necessary information or gave conflicting reports in the few instances in which they actually mentioned arch widths, it is not possible to
determine whether there was a general pattern, specifically arch dimensions, for these bridges. To wit, both surveyors thought that the Río Goascorán needed a bridge near Aguangueterique because the projected cart road was to cross from the river’s east side to its west side at that point. Valverde reported that this crossing would require a bridge of forty-five pasos [equivalent to five feet, two 2.5 feet steps] width. He claimed that this distance could be spanned with one arch (1590: 7). Antonelli agreed that the bridge required only one arch. However, he estimated the span of that arch to be eighty pies [feet] (1590: 19).

Thus, despite the unequal estimates of distance, we at least can surmise that arches of at least 225 feet were considered either possible or practical. This appears to have been close to the limit, for when describing the construction of a bridge over the Río Goascorán near the pueblo of Goascorán, Valverde claimed that, even though there were stones and lime on-site, it would be particularly expensive because one of its arches would have to be more than 50 pasos, 250 feet (1590: 7).

However, in another case, Antonelli reported that bridging the Río Pasaquina would require "three large and one small arches" (1590: 20). Unfortunately, he neglected to state the width of the bridge. From a 1: 50,000 topographic map, the Pasaquina appears to be less than 300 feet in width (Honduras. Carta Topografia: Goascorán, 1987).
This suggests that Antonelli's "large arches" were smaller than Valverde's or that Valverde exaggerated.

Three and one half leagues beyond the Chamelecón the surveyors encountered another wide, caudaloso [voluminous] stream, the Río Ulúa, for which they suggested a different solution. Because this river widened from two hundred pasos to four hundred pasos following torrential rains they believed that constructing a bridge would be expensive (Antonelli and Quintanilla 1590: 5). Moreover, the river's banks were not solid. Thus, Valverde's and Antonelli's reports agreed that such a project was impractical. Nevertheless, that river had to be crossed and the present system of canoe passage encountered misfortune with unacceptable frequency. Therefore, the surveyors suggested that a ferry system consisting of a trio of flat-bottomed barcas [barks] with the capacity of carrying twenty to twenty-five mules be established (Antonelli and Quintanilla 1590: 13).

Four leagues beyond the Ulúa, Antonelli and Valverde planned another bridge. Valverde reported that the Río Blanco was no more than forty feet wide. At this width, the surveyors agreed that a relatively inexpensive wooden bridge would suffice. This solution reflected to some extent the availability of resources near the site. The trees that grew on the river's banks were considered to be of good construction quality. They included: "madre de cacao,
The solutions that Antonelli and Valverde sketched out for these three stream crossings encompass the strategies that they prescribed for streams throughout the corridor. In each case the surveyors reported that even though there were suitable sites and materials for construction, including quarries in some locations, the bridges would be expensive. This expense prevented prompt implementation of these solutions. Implementation was also hindered by an unfavorable distribution of technical knowledge in Central America. Kubler (1948: 152) noted that for central Mexico in the sixteenth century "peripheral provinces were initially devoid of adequately trained craftsmen". It seems likely that the Honduran corridor, peripheral to Santiago de Guatemala's core, also lacked the technical skill for planning and building a series of arched stone bridges.

Kubler (1948: 152) reported that in Mexico the Spaniards, especially religious orders, attempted to remedy
the spotty availability of construction skills by either sending trained craftsmen from the capital to the provinces, or by sending Indians from the provinces "to be apprenticed to craftsmen in the capital" and returned to their pueblos. Construction of the camino real across the Honduran corridor would have required similar flows of technical knowledge.

Funding

Funding for colonial public works, obras públicas [public works], like road and bridge construction came from three sources: the Crown, the colonies' Indian population, and the colonies' non-Indian population.

Pedrarias' attempts at roadbuilding in Panamá provided an early example of the dependence of such projects on royal grants or subsidies. Such grants were renewable. Pedrarias renewed his for three years. Kubler reported another example from mainland that demonstrates the extreme patience of the Crown's largess. In 1544, the Augustinians received a royal grant of 3,000 pesos to rebuild a church and convent in Mexico City. The grant was renewed annually until 1587 (Kubler 1948: 185). Kubler suggested that the Crown's generosity was among the factors that prolonged the project.

Admittedly, the construction of a religious edifice in the capital of New Spain must have claimed an exceptionally high priority for funding in comparison to road projects in the hinterlands of Spain's New World colonies. However, as demonstrated in Chapter Two, construction of a transisthmian
road also was accorded eminence among colonial projects. Thus, this example and that of Pedrarias aptly reflect the Crown's early willingness to support construction projects.

The contribution of the indigenous population to the creation of colonial Latin America is well known. Indians funded colonial projects with their free, or forced wage, labor and the tribute that they were obligated to pay as subjects of the King of Spain. An annual tribute payment worth two pesos was required from each healthy Indian male between the ages of eighteen and fifty (Wortman 1982: 25). In contrast to New Spain and Perú, where large mineral and agricultural based revenues were annually collected by the Crown, in Central America, tributes were most often in the form of some agricultural commodity rather than precious metals (1982: 25). The tribute contributed to the financing of the personnel and projects of the government and church. Thus, a portion of the Indian contributions to colonial public works projects was directed through the Crown largesse. As we will see later, in sparsely populated areas, like the Honduran corridor, Indian tribute payments scarcely supported large-scale public works projects like road construction.

Beyond their tribute, Barber claimed that the Indians' caja de comunidad, a community chest that held proceeds from each pueblo's common land, also was available to pay for public works projects (1932: 75).
Some form of tribute was also sought from the non-Indian inhabitants of the colonies. The Crown charged a five percent levy on minerals, the *quinto*, and the *alcabala*, a two percent sales tax on merchandise purchases (Wortman, 1982: 31-32). The colonists were also allowed to raise funds for their cabildos, which directed public works projects.

The Recopilación contains but a single law that specifically addressed the funding of road construction and maintenance. Nevertheless, this particular decree, issued in 1563, identified another source of funds for road-building. The colonists were instructed that

> si en sus distritos es necesario hacer, y facilitar los caminos, fabricar, y aderezar las puentes, y hallando que conviene alguna de estas obras para el comercio, hagan tasar el costo

[If in your districts it is necessary to build and repair roads and bridges for the purpose of commerce, collect taxes to cover the costs] (Felipe II 1563b: 55).

Thus, they were given permission to collect taxes to support road and bridge maintenance and construction. In a similar vein, Sherman reported that eighteen years earlier the Crown had ordered that public funds be used to open and maintain roads in Guatemala and Honduras (1979: 120).

Beyond taxation, colonial officials also sought road funds by requesting that in lieu of necessary road work the Crown temporarily release colonists from the obligation of paying the *quinto* on the gold and silver they mined (Cava 1536: 282). Wortman (1982: 26) reported that because of the
relative poverty of Central America’s mines, the rate was actually only ten and a half percent; moreover, because of a lack of colonial administrators, Honduras’ scattered mining operations often went untaxed.

In 1576, the alcabala was instituted to fund defense, government and church expenses. This sales tax was supposed to be imposed each time an item was sold (Wortman 1982: 31). Wortman claimed that it was not until 1602 that this tax was actually charged and that only the first sale of an item was taxed (1982: 31). However, Antonelli found that, already in 1589, the alcabala was being collected in Honduras (1590: 27). His report confirmed Wortman’s claim that the tax was only levied on the first sale. Antonelli projected a revenue windfall should the alcabala be exacted precisely.

As mentioned above, King Philip’s instructions to Antonelli and Valverde revealed that the king had been informed that transisthmian travelers had already established a system of funding for their transisthmian infrastructure. Apparently, merchants were charged an fee of two pesos for each load carried. The surveyors were instructed to investigate this matter. Neither of the subsequent reports confirmed this claim. Indeed, Antonelli included such a fee among his other solutions for funding road construction and maintenance. Antonelli thought the two pesos levy should also be imposed on the recua owners who used the road to transport merchandise (1590: 28). He
also suggested that a port fee should of eight pesos per cargo should be charged on merchandise leaving Puerto Caballos (1590: 28). Antonelli qualified his projections of the revenues these taxes would garner for the crown and colony in the following statement:

"Como se viniesen a poblar estas provincias, entonces vendrian a quedar muchas mercaderias en las dichas provincias y estas vendrian a pagar a dos por ciento y, sin duda que vendria a ser una gran suma"

[If these provinces were to be populated, trade would increase to the point that if a two percent tax was applied to each sale, a great sum doubtlessly would result] (1590: 28).

Thus, revenues depended on the region being populated.

Royal grants, Indian tribute and the "gran suma" notwithstanding, Antonelli ultimately concluded that the project should not be pursued, primarily, because it would be too expensive. He estimated that constructing a cart road through the corridor would cost two hundred and fifty thousand ducados (1590: 20). Unfortunately he did not itemize the projected expenditures. Instead, he itemized in great detail the manpower, horsepower and cargo demands of transisthmian traffic across the corridor (see Appendix D). Antonelli did indicate that the cart road and the bridges accounted for the majority of the expense (1590: 27). These costs were compounded by the lack of a labor force. There were numerous segments of the route where "no hay gente, ni naturales" [there are no people or Indians] (1590: 27). Antonelli thought the cost of filling this void by
transplanting populations from Spain and Africa would be prohibitive. Valverde did not specifically quantify the cost. Instead, he reported simply that it would "costará muy gran cantidad de dinero" [cost a lot of money] (Bonilla 1955: 232). Antonelli's conclusion demonstrated his doubt that settlement of the region would grow sufficiently to create and support transisthmian trade and pay for the maintenance of its infrastructure.

Antonelli and Quintanilla and Valverde responded to the king's instructions with thorough relaciones. The information contained in them portrayed the Honduran corridor, despite its advantages, as a difficult strip of earth on which to construct roads, for mules or carts. The low, densely forested and seasonally wet Sula Plain required clearing and draining. The rugged slopes between that flatland and the Comayagua Valley precluded a cart road as did the mountains south of the isthmian divide. Should a road between Puerto Caballos and the Gulf of Fonseca have been opened, a series of expensive bridges, and other earthworks, would have been necessary.

Despite these difficulties, Chapter Six demonstrates that the Honduran corridor possessed many of the raw materials necessary for such a roadbuilding project. However, as the king was obviously aware, such undertakings require funding too. Antonelli and Quintanilla reported that taxes on the province's population and trade could not
generate the funds to support such a project. The effort to remove Spain's transisthmian trade from Panamá, thus, represented a potential increased drain on the Crown's treasury. Such a potential doomed the project.
CHAPTER SIX

LABOR: ROAD CREWS AND TAMEMES
Encomienda and Repartimiento

As noted by Antonelli, human labor was a crucial feature in the establishment and maintenance of the colonial route network. Manpower was employed in primarily three ways: 1) the actual work of opening and repairing roads and bridges; 2) use as beasts of burden; and 3) provisioning travelers and their beasts of burden. The burden of these tasks, for the most part, fell upon the indigenous population. Their labor was exploited under the auspices of two colonial institutions that dominated the sixteenth century: the encomienda and the repartimiento.

The encomienda was a royal grant of Indians to Spanish settlers. In return for the Indians' tribute and labor, the encomenderos were obligated to protect them and instruct them in the Catholic faith (Villamarin and Villamarin 1975: 12). As mentioned previously, tribute came mostly in the form of precious metals or agricultural produce. As early as 1509 on Hispahola, Indian labor, often referred to as personal service, also was allowed for paying tribute in lieu of metal or produce (1975: 12). Barber (1932: 18-19) noted that various types of personal service, known by a variety of names, were known in various parts of the New World, especially Perú, before the arrival of the Spaniards. These different systems provided labor for projects such as mining, agricultural field work, domestic service, and the construction of public buildings and roads (1932: 19).
Similarly, the Spanish applied personal service to public works projects like road construction (MacLeod 1973: 206). Evidence of this practice in colonial Central America is found in a request made in 1545 by Alonso Maldonado, president of the Audiencia de los Confines. Maldonado asked that the Crown grant him the labor of the Indians who had once served Pedro de Alvarado, the deceased conqueror of Guatemala. Maldonado reported that many of these Indians were presently employed in public works. In the same letter, he reported that Indians in Comayagua were used for opening roads (1545: 348-349).

Aware that personal service, in many cases, had become a form of slavery Queen Isabella forbade the practice. However, her demands appear to have gone unheeded, for Carlos V issued decrees outlawing personal service in 1528, and with the New Laws of 1542 and again in 1549 (Barber 1932: 70-71). Thus, personal service, or unpaid labor, appears to have remained until 1550 (Kubler 1948: 134).

Despite the initial rejection of the Crown’s corrective legislation, soon after mid-century the nature of Indian labor changed as various systems collectively grouped under the title of repartimiento emerged. This institution was the primary source of labor in Central America between 1570-1630 (MacLeod 1973: 208). It co-existed with and then gradually replaced the encomienda. The repartimiento was essentially a draft system of forced wage labor (Kubler
1948: 134) that provided non-encomenderos access to Indian labor. Indians were allocated by Crown officials to Spaniards to work on a wide range of public projects and occupations (Villamarin and Villamarin 1975: 17). MacLeod captured the essence of the repartimiento in the following passage:

In theory the system worked as follows. A given village was ordered to supply a given number of its able-bodied males for a certain number of days per month. Within each village liability for this draft was to rotate among the villagers regardless of rank or wealth. The Indians drafted from the village were ordered to report to a predetermined place, usually the main plaza of the nearest Spanish town. There they would be met and counted by a Spanish official, the juez or judge of the repartimiento. It was this official's responsibility to ensure that the draft was fair, and that the village was not excusing its more privileged members by sending the same macehuales time after time (1973: 207).

The Indian caciques, or alcaldes [mayors], were required to provide four percent of their pueblos' male population for repartimiento. The regidores [councilman] and alcalde ordinarios of the region's cabildos, in turn, distributed these forced laborers to the haciendas and public works projects throughout the region (Wortman 1982: 66). In theory, this labor force was required to work Monday through Friday from eight in the morning until five in the afternoon with a two hour break for lunch. For their work, each laborer received one half of one real per day, while the Spanish recipients of their labor paid the cabildos one and one half of a real for the labor (1982: 13).
Thus, in addition to the lucrative privileges of tax collecting, butchering meat and selling liquor or water, the cabildos were responsible for distributing Indian laborers, the region's primary labor source, throughout their districts (Wortman 1982: 65-66).

Locational Labor, Locational Projects

The Recopilación contains no laws that specifically regulated the actual labor involved in road construction. Nevertheless, with colonial documents from Honduras and Guatemala and Kubler's (1948) two volume examination of Mexican architecture in the sixteenth century and Zavala and Castelo's (1963) eight volume collection of Mexican colonial documents related to labor practices during the early colonial period, a picture of early road construction emerges.

One facet of roadbuilding that can be drawn from these collections of documents is that the work was largely locational in nature. Road projects were manned by Indians who lived nearby. Conversely, unpopulated areas lagged behind in the extension of the colonial infrastructure.

Numerous documents establish that pueblos located near roads were responsible for their construction and maintenance (Enríquez 1579: 187; 1580: 281-282). One document from Zavala and Castelo's collection is particularly instructive. In the province of Ocoytuco in 1576, the alcalde determined that a deep barranca in the
path of the local road required a stone bridge. Hence, the alcalde divided the various responsibilities in a manner that he believed would "evitar la vejación de los dichos indios" [avoid harm to the Indians] (Enríquez 1576: 135-136). Pueblos located within one and one half leagues of the site provided wooden beams. Three pueblos located within one half of one league of the site provided lime. Other nearby pueblos provided "cincuenta indios peones y doce oficiales canteros (stone cutters) repartidos por el alcalde mayor de la dicha provincia de Ocoytuco" (1576: 136). The alcalde also required the Spaniards who owned labranzas [farms] near the site to contribute the use of their oxen to the effort.

The readily available labor and resources made the Ocoytuco project above a simple matter of putting all of the pieces together. However, Indian pueblos were not evenly distributed along all of the paths that the Spanish wanted to travel in colonial Latin America. In another document from Zavala and Castelo's collection, an alcalde excused his inability to maintain a mountain pass on lack of Indian labor (Parada 1599: 288).

The uneven distribution of repartimiento roadbuilding labor was especially detrimental to Indian pueblos. The case of Aguajapa, a pueblo located in the path of a camino real, bears repeating. Its men were distributed to work on nearby wheat-producing haciendas and:
the pueblo had to contribute labor to transport people and goods upon the road as well as provide work forces to the farms. When, in the first half of the seventeenth century, the next town along the royal road, Salpaltagua, was destroyed by an epidemic, the burden upon Aguajapa to transport goods and people on the road was increased by twice the old distance. The populace was now forced to bear the burden of communication and transportation over some seventeen leagues. Overwork on the road and the wheat fields caused illness, a decline in population and still greater pressure for labor (Wortman 1982: 13-14).

This situation was aggravated by the fact that the time taken by a "reparted" Indian to walk to the Spanish town, or work site, and back to his village was deducted from his time served (MacLeod 1979: 207).

Colonial officials in Guatemala frequently recognized the damage that depopulated road pueblos, particularly in productive plantation regions, would have on commerce (Markman 1984). To remedy the problem, highland Indians repeatedly were resettled in regions like Soconusco (Markman 1984: 49). Regular transplantings of Indian laborers from diverse regions, and speaking different languages, to camino real settlements might also have contributed to the extinction of local Indian languages (Markman 1984: 42).

Strangely, Indian labor on roads in more densely populated areas occasionally brought adjacent pueblos into dispute with one another. In the province Tapazcolula in New Spain, the pueblo of Tlaltepeque filed a grievance with the viceroy claiming that the nearby pueblo of Atoyaquillo had attempted to increase the land within its limits by
extending the reach of its road maintenance activities on the local camino real (Enríquez 1576: 149).

Tools

An important question related to colonial roadbuilding that has received little attention is the matter of what sorts of tools were available to the Indian laborers. As described in the previous chapter, in 1539 Alvarado’s men cleared a route from Puerto Caballos to San Pedro using hatchets and spades or hoes. It was not until some fifty years later that one encounters another mention of tools in relation to the Honduran corridor. Antonelli prescribed picos and azadones for cutting a road through an inconveniently placed ridge (1590: 20).

Kubler (1948) filled in some of the gaps of this incomplete record in his aforementioned study of sixteenth-century México. He found that in that region by the decade of the 1570s, European hand-tools such as "planes, chisels, plumb-lines, saws, axes, hatchets and knives," in addition to a plethora of metal tools for horse care, were commonly used. He found, moreover, that a pre-Columbian tradition of employers supplying laborers with tools for public works had persisted. However, the high cost of tools in México caused employers to protest this practice. Kubler cited a letter from Archbishop Montúfar to the Council of the Indies that complained of rental of tools in México often exceeding purchase prices in Spain (1948: 159). Thus, it appears that
except for jobs like fine woodworking or intricate stone cutting, whenever possible, Indian laborers did not use European tools. The luxury of free or cheap Indian labor made expensive tools unnecessary. As Kubler suggested:

in heavy manual operations, such as digging or piling earth and stone, the application of more labor was probably cheaper that the issue of metal picks and iron shovels (1948: 159).

In a region as remote as the Honduran corridor was in the sixteenth century it seems likely that European tools were even more expensive. Thus, Indian laborers on a road crew were even less likely to have a pick or shovel in their hands.

Imported Labor

Indian labor for roadbuilding seems not to have satisfied colonial demands in Central America. In 1543, President Maldonado wrote to the king that the Indians were not suited to the demands of colonial transport. Neither were they suited to the roadbuilding that was necessary to alleviate the Indians' bearing responsibilities. Maldonado, therefore, requested that forty Africans be sent to the colony to open roads (1543). Similar requests followed from Maldonado and other officials in ensuing years. There were three primary reasons for the requests: 1) the difficult nature of roadbuilding; and 2) the aforementioned shortages of Indians living near specific projects; and 3) the necessity to decrease the demand on Indians as beasts of burden.
An excerpt from one of Maldonado's pleas provides the essential features of colonial requests for Africans and reveals the contradictions that Maldonado spawned in the pursuit labor for his region. Prior to this passage Maldonado explained that the construction of roads leading from Gracias a Dios and Comayagua to Puerto Caballos was desperately needed because of the harm that travel to the coast caused the Indians.

[Y] mueren muchos en este camino; y esto no se puede hacer con indios, porque hay muy pocos. Ay necesidad que Vuestra Magestad haga merced de esta Governacion para este efeto, de quarenta negros que podra abrir los caminos; y los oficiales de Vuestra Magestad tendran cuidado de estas negros, como de cosa de Vuestra Magestad, y los venderan cuando se acaben los caminos, que se harán en poco tiempo

[A lot of Indians die on this road. Transport cannot be accomplished with Indians because there are too few. Your Majesty needs to grant 40 Africans to this province for opening roads. The officials of this province would care for these Africans as if they were possessions of Your Majesty. We would sell them when the roads are completed, which should not take a long time] (1545: 347).

This excerpt came from the same letter in which Maldonado asked for permission to use Indians for public works. Thus, almost in the same breath, he requested permission to use Indian labor and justified a request for African labor on the basis of the damage such labor caused the Indians.

Antonelli similarly prescribed the importation of a labor supply for the development of the Honduran corridor. The immigrants he sought were to come from Castile and
Africa: the Castilians to farm and pay taxes; the Africans to build and repair roads and travel with the recuas (1590: 28-29).

In contrast to Antonelli's plans, Africans brought to Central America were used primarily for mining. Documents also reveal that colonial officials desired their labor for other arduous endeavors. One such example was the clearing of the Río San Juan in Nicaragua for navigation (Espino 1544: 368). Ultimately, the request for African slaves is a testament to the harsh exertion that was roadbuilding.

**Human Beasts of Burden**

The extensive legislation contained in the Recopilación concerning tamemes reflects its importance to colonial transport and the Crown's concern about this practice. As can be seen throughout this study, the Crown's interest in roadbuilding was often a function of its distaste for the use of Indians as bearers. Repeatedly, colonial officials requested that the hardships caused by royal restrictions on this practice be alleviated by royal support for road construction. All know that until proper cart roads were built or until mules became more abundant and affordable, the colonists had no choice but to use the Indians as bearers.

An examination of laws from the Recopilación, and Sherman's *Forced Native Labor in Sixteenth Century Central America*, (1979), among other sources, reveals the character
of tameme use. The use of tamemes was a pre-Columbian tradition that served cultures that neither used wheeled transport nor possessed draft animals (1979: 111). The need to transport goods was, thus, met by a class of human bearers. Bearing constituted their primary economic function.

Transport demands increased with the arrival of the Spanish. Far from contenting themselves with the region’s extant goods and trade flows, the new settlers demanded regular infusions of merchandise like wine, oil, vinegar, books, paper, plants, etc. from Spain (Sherman 1979: 111). Thus, new traffic flows were established to connect lowland tropical Atlantic ports with the cool interior highlands. These new flows outstripped the construction of cart roads or mule paths, thus, increasing the demand for tamemes and perpetuating their use.

Beyond the mere expansion in cargo to be carried, the routes traveled were also more difficult. Travel to the ports forced tamemes to leave the cool, upland climates to which they were accustomed and descend into warm, humid Atlantic lowlands. The Spanish belatedly became aware that subjecting the Indians to such climatic extremes was detrimental to their health. In 1535 Bishop Marroquin, bishop of Guatemala, instructed the king that because of the climatic extremes experienced by travel from the highlands to the warm lowlands:
es muy necesario que V.M. mande que los de la una tierra no pasen a los de otra cargados, porque de diez no buelven a sus casas cinco

[it is very necessary that Your Majesty mandate that Indians not be forced to bear to unfamiliar regions, because five out of 10 will not return] (1535: 418).

Newson (1986) cited a report from Bishop Pedraza in which he likewise complained that when Indians were forced to carry loads of three to four arrobas [one arroba weighs approximately 25 pounds] from Comayagua in the highland interior to San Pedro and on to Puerto Caballos at least one third of the bearers died or became ill on the journey (1986; 105). In 1588, Felipe II, ordered that Indians could not be reparted to unfamiliar climatic regions (1588: 292-293).

Other decrees were issued throughout the century to regulate the system of transport. One particular order, issued in 1549 and reissued in 1579, granted that in areas where there were no open roads or beasts of burden Indians could be used as bearers. Limits on weight, distance and recompense were to be set by the Audiencia (Carlos 1549: 288). Within this decree is found the essence of the guidelines that directed the colonists' use of tamemes. From an ocean away the Crown threw up its hands and capitulated: "Do it if you absolutely must. But please follow these rules."

Among the rules, was a law preventing Indians younger than eighteen years of age from being forced to bear (Carlos
Another decree set the load limit at two arrobas, with adjustments in this amount according to the quality of the road (Carlos 1533: 289). In the previously cited report from Bishop Pedraza, he claimed that this limit was often exceeded, sometimes doubled (1986: 105). In the following passage, Sherman conjured up an image of a similarly overburdened tameme.

Picture the carriers traversing those slopes in driving rain, bent under packs of 75 to 100 pounds, slogging through mud, slipping and sliding, goaded on by a driver with a schedule to meet. If a tameme did not drop from exhaustion, he might well become ill from exposure, drowned in a river swollen by flash floods, or have some accident that would lay him up, perhaps crippled for life. The latter possibility would be seen by some as a blessing that would take them out of the carrying trade (115).

The crown's failure to rid the colonies of tameme use was a function of the snail's pace at which cart roads and mule paths were opened. The lethargic pace at which road construction progressed was not for lack of royal initiative. Sherman (1979) noted the instance in 1545 when, after hearing of an adequate supply of mules and horses in the region, the king mandated that roads be built in Guatemala and Honduras. Moreover, he ordered that roads be maintained semi-annually and the work be financed by public works funds. The purpose of this order was to remove the need for tamemes. Two years later, no roads had been opened (1979: 120). The presence of a supply of mules failed to induce travel by pack train because even after mules had become commonplace throughout the region, they were
expensive. The speed of tameme transport also appears to have been as much as 1 kilometer per hour faster than that of mule trains (Adams 1978: 27). Thus, tamemes, at very low cost, remained the colonists' favored beast of burden (Sherman 1979: 118).

The rare exceptions to the early colonial acceptance of tameme use failed. Rodrigo de Contreras unsuccessfully outlawed tamemes in Nicaragua to stimulate cart production and road construction in Nicaragua. Even in flat areas where transport was easy, only two carts were built in response to Contreras' order (Sherman 1979: 119).

The series of royal decrees issued throughout the sixteenth century reflected the crown's inability to remedy the onerous problem that transport posed for them and their colonists. A system of cart roads, or at least pack trails, supplied with an abundant supply of affordable hoofed beasts of burden was the solution. As was seen in Chapter Two with regard to developing the primary transisthmian passages and in Chapter Three with regard to developing the Honduran corridor, such a solution, though seeming simple enough, was long in coming.

The Honduran Corridor's Labor Supply

Funding for road projects, labor for road crews and labor for bearing cargo depended to varying degrees on the geographical distribution of colonial Central America's Indian population. Cabildos' public works projects were
limited by the amount of tribute paid by the pueblos in their jurisdiction. The amount of tribute was directly related to the Indian population. Encomienda and repartimiento labor was also dependent on the size of the Indian population. Laws that restricted the movement of tamemes resulted in a similar dependence of early transport on the distribution of the Indian population. Although the dilatory increase in the region’s mule population eventually deflated the importance of tameme distribution, colonial planners could not escape the need for the region’s indigenous people. Therefore, the success in early road construction, largely, was served by favorable distributions of the indigenous population. Conversely, early road failures often resulted from unfavorable distributions. Of all of the transisthmian passages, the dependence on the Indian population applied most profoundly to the Honduran corridor, because it was the longest passage and required overland travel over almost the entirety of its length. Overland travel required roads and beasts of burden, human or animal. The relationship between the Indian population and colonial overland transport did not escape Antonelli. As mentioned previously, he reported to the king that settlement throughout the corridor was essential should transisthmian trade be established. To wit, he recorded the population of the pueblos located on the proposed route, as did Valverde, and predicted the
number of people that the full development of this route required. Table 1 shows the results of Antonelli’s and Valverde’s population surveys. Because these surveys recorded only each settlement’s tributary Indians, married male Indians between the ages of 18 and 50, they are not accurate population estimates. Newson (1982: 265) has suggested that a multiplication factor of four could be applied to such tribute assessments to reach a figure for total population. The multiplication factor notwithstanding, Antonelli’s population survey did not reflect the corridor’s population. He noted only the several Indian pueblos located on the transisthmian camino real. Valverde’s survey, on the other hand, in addition to covering most of Honduras, also covered a wider transisthmian alley. He presented his memorial as a survey of

*todos los pueblos ... que están en el camino real del dicho puerto [Fonseca] hasta el de Caballos, y diez leguas comarcanas al dicho camino*

[all of the pueblos that are on the camino real from Fonseca to Puerto Caballos and 10 leagues adjacent to this road] (Bonilla 1955: 238).

It is uncertain whether "diez leguas comarcanas" extended on either side of the road, thus making survey path 20 leagues wide, or whether the road split the 10 leagues down the middle. In either case, Valverde’s survey represents the appraisal of the population, and their agricultural
Table 1. Population of Tributary Indians Residing in Settlements on the Camino Real, 1590

<table>
<thead>
<tr>
<th>Location</th>
<th>Valverde</th>
<th>Antonelli</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aramaní</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Meambar</td>
<td>60</td>
<td>70</td>
</tr>
<tr>
<td>Almaníame</td>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td>Comayagua</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Lamani</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Aguanqueterique</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Lauterique</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Aramecina</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>Goascoran</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>314</td>
<td>290</td>
</tr>
</tbody>
</table>

Sources: Antonelli and Quintanilla 1590; and Bonilla 1955.
production, of a wide road region as opposed to the settlements located immediately on a road.

The breadth of Valverde’s focus suggests that he conceived of the transisthmian camino real as channel of transport and commerce that could draw on the resources, and serve the population, of a surrounding tributary region. In practice, Valverde extended his survey to pueblos as far as 15 leagues from the camino real (1955: 241). By painting with such a broad stroke he counted 2177 tribute Indians within the route corridor (1955: 240-242) in addition to another 479 in the jurisdictions of San Pedro and Puerto Caballos (1955: 245-245). The total of Indian tributes thus, totaled 2,656.

Having been dispatched together to execute the surveys, it seems unlikely that Antonelli was unaware of Valverde’s findings or the wider corridor’s population. He, thus, reported the Crown that the corridor’s population would have to be augmented by the importation of 400-500 married farmers from Spain, with an additional 2000 African slaves distributed among them (1590: 26-29). Cognizant of the costs of importing farmers from Spain and slaves from Guinea, Antonelli listed the corridor’s lack of population among its primary drawbacks (1590: 27).

Honduras simply did not possess the manpower necessary to open and maintain new roads and bridges. Neither was there an indigenous population sufficient to serve as beasts
of burden until mules abounded and the roads were opened. Much less could the sparsely populated corridor provide the foodstuffs required to provison potential travelers and their beasts.
Resources and Roadhouses

In addition to financial support and Indian labor, colonial road construction during the sixteenth century depended on the availability of building materials like lime, wood and stone. Once Indian and African labor had transformed these materials into roads and bridges, and tamemes had begun to transport cargo upon their backs upon the roads, other transport matters commanded consideration. Whether in obedience to the Crown or according to the demands of commerce, colonial commerce demanded a population of hoofed beasts of burden. Pilgrims, muleteers and their beasts required a system of road settlements that would provide them, and their beasts, food and shelter. This chapter considers transportation resources of both an inanimate -lime, wood and stone - and animate - mules, horses and oxen - nature. The chapter also examines how the distribution of these resources influenced colonial road construction and settlement, and note the importance of the network of road settlements, regional resource dispensaries, to colonial transport.

Sticks and Stones

Among the essential materials required for colonial road construction were stones, timber, sand, and lime. Stones were used for paving and building up roadbeds. Timber was used for bridgebuilding. Sand and lime were used for making mortar. Of these materials, Kubler (1948: 167)
found that lime was most expensive, in some cases more so than labor and stone together. The great demand for lime explains the frequency with which reports of Indian labor being reparted to lime kilns appear in Zavala and Castelo’s collection of labor documents. From this collection one learns that labor in the lime kilns and stone-cutting were classified as "obra[s] publica[s]" (Mendoza 1606: 9). To underline the importance of this natural bonding agent, it is worthwhile to repeat that in his instructions to Antonelli and Valverde, King Philip directed them to determine the availability of lime or gypsum.

Kubler suggested that the dependence of early colonial Latin America on substances like lime influenced the placement of early colonial settlements. Outside of Mexico City, which was served by water traffic, colonists were served by a "backward and overburdened system of transportation" (1948: 163). There were few cart roads, and mule teams had not yet become plentiful. These deficiencies meant that transporting large loads of lime, stone and timbers was particularly difficult and time-consuming. These essential building materials were, thus, expensive. So expensive, according to Kubler, that colonists were drawn, or directed, to establish settlements as close as possible to resource sites like "sand-pits, quarries" and stands of timber (1948: 162). Such a location strategy ensured materials for initial settlement construction and
supplied settlements local resource(s) with which to trade once a road had connected it to the emerging colonial network. In contrast, valuable deposits of construction materials that lacked nearby settlements remained economically out of reach and, therefore, useless.

Barber (1932) cited a decree from the Recopilación that demonstrated the Crown’s endorsement of resource-based settlements. In 1601, King Philip ordered that settlements be established near quicksilver mines (Barber 1932: 97). Amalgamation of silver with mercury was introduced in Pachuca, México in 1556 (Barber 1932: 91). Hence, in this case King Philip promoted settlement to advance royal authority over colonial mining operations.

In contrast to settlement promoted by the availability construction materials, the lack thereof occasionally diminished the acceptability of a particular location for settlement. In 1598, one Jorge de Alvarado complained to the Crown that Puerto Caballos was an inappropriate site for a major Caribbean port because of its lack of lime for mortar and wood for lining trenches (Alvarado: 1598). Similarly, Kubler claimed that even near settlements with large populations colonial construction was limited by the availability of local building materials (1948: 164).

As mentioned previously, King Philip instructed his surveyors to investigate the availability of building materials near the Honduran corridor’s port sites.
Antonelli and Valverde extended this investigation throughout the length of their survey. Map 9 and 10 show the distribution of the materials reported by the surveyors. These materials can be grouped into several categories. In addition to building materials like stone, lime and wood, the surveyors, mindful of transport's eventual reliance on animal transport, appraised the distribution and quality of pasture and drinking water. They also noted the present and potential production of foodstuffs and livestock along the route. Cognizant of the power of precious metals to develop regions, they reported the mine locations.

Lime and stone deposits primarily were mentioned in association with bridge sites, some of which were discussed previously. These materials, Jorge Alvarado's despair notwithstanding, were available throughout most of the corridor. While addressing the fortification of the north coast, Antonelli reported that less than a quarter league from the Laguna de Alvarado, there was land good for "canteria [stone-cutting] y mamposteria y la piedra para cal" (1590: 9). These resources were also available at nearby Omoa and Utíla. Beyond construction, stone was also sought for use as ballast on visiting ships (Antonelli and Quintanilla 1590: 6, 21).

Adequate supplies of stone and lime were reported for both Puerto Caballos and Golfo Fonseca and throughout most of the corridor. The availability of stones, for bridge or
Route Resources, 1590:
Puerto Caballos to Maniani

Sources: Valverde 1590; Antionelli and Quintanilla 1590.
Map 9. Route Resources, 1590: Puerto Caballos to Maniani
Route Resources, 1590:
Maniani to the Gulf of Fonseca

Map 10. Route Resources, 1590: Maniani to the Gulf of Fonseca
road construction, is not surprising. As maps 9 and 10 show, the transisthmian route closely parallels the paths of two streams, the Río Goascoran and Río Humuya. Both streams have deposited smooth, rounded stones along much of their respective courses. Because the few sections of stone pavement that remain throughout the corridor contain stones identical to those in the streams, it is likely that the stream beds provided cobbles for the road. The close proximity of the road to those stream channels provided for a cheaply transported essential material.

As already mentioned, transport of lime and stones was expensive. Therefore road locations that lacked those materials were a liability. However, in the few instances where lime or stones were not readily available along the corridor, the surveyors reported that ample wood stores could be substituted for construction. In the case of the bridge over the Río Blanco, Valverde listed "madera de cacao, robles y encino" (1590: 5). In a more general manner, Antonelli described the composition of the forested slopes that lined corridor. Between Comayagua and Meambar he saw both mixed pine and oak forests ["pinos y robles revueltos"], and pine forests ["pinares claros"] (1590: 14). The slopes that surround the Comayagua valley contained "pinos, robles, cedros y árbole que dan bálsamo y aceite de liquidambar [Liquidambar styraciflua]" (Antonelli and Quintanilla 1590: 15). Wood from these forests served a
number of purposes. As already noted, they were used for construction of structures like bridges. They were also used for houses and cart construction. Beyond use as a building material, wood also provided fuel for lime kilns and for smelting.

Another use of wood that was more directly related to transisthmian transport, was the production of naval supplies. While describing the potential of Golfo Fonseca as a major Pacific port, Antonelli listed among its advantages the presence of forests on the "serranias [ridges] de Teculicelo" where "se hace cantidad de brea y alquitran" [one could secure a quantity of pitch and tar] (1590: 24). Brea and alquitran stores were necessary for sealing the hulls of ship. Choluteca, one day's journey to the east from the route's Fonseca terminus, also possessed a source of pitch, in addition to masts. Brea and alquitran were commonly collected from pine trees by tapping them or by burning them. The naval resources found in the abundant pine forests near Choluteca and extending southward contributed to the early emergence of Realejo as a Pacific port.

Sustenance

As map 12 shows, non-woody vegetation was also of interest to the surveyors, especially Antonelli. From San Pedro south to Fonseca, he noted the presence of "pasto y agua" (1590: 11-18). North of San Pedro the route crossed
densely vegetated, low swampy areas that supported no pasture grasses. Because recuas of mules and teams of oxen required pasture as did cattle, the lack of pasture in the region surrounding Puerto Caballos was among its more troubling disadvantages. Nevertheless, the remainder of the route was favored by available forage. Animal-powered transport across the corridor was further supported by the Spaniards' distinctive use of pastures, untilled lands and field stubble. A Castilian tradition that was transported to Latin America held that grass being "a gift of nature" was free and available to all (Chevalier 1970: 86). Thus, the simple presence of pasture along the route ensured that transisthmian travelers's beasts would have some food.

Map 12 also demonstrates the surveyors' attention to the route corridor's present production of foodstuffs and cattle. This information was necessary to determine the corridor's capacity to support transisthmian transport and contribute to such trade. Similar to the distribution of pasture, production of foodstuffs was limited to the portion of the corridor that stretched south from near San Pedro to Fonseca. Indians, distributed throughout a series of pueblos from Aramani to Fonseca, represented the primary producers of the maiz, legumes, wheat and other crops that Antonelli and Valverde observed. Spanish vecinos and some Indian caciques raised the corridor's livestock, including
ganado mayor [cattle, horses and mules], ganado menor [sheep, goats and pigs].

The surveyors' description of the Comayagua valley is worth considering in some detail because this large relatively well-watered upland near the corridor's center was viewed as a primary source of essentials such as food, cattle and mules among other items. Antonelli believed that were this valley populated with Spanish farmers it "podría proveer a doce y catorce leguas de ambas partes del camino" (1590: 16). Hence, up to 28 leagues of an approximately 67 league transisthmian passage could be provisioned by this central valley.

The Valle de Comayagua enjoyed all the advantages of the route segments that linked it to the north and south coasts. It was distinguished, however, from those portions of the corridor by its exclusive possession of other important features. Construction materials abounded. Within one league of ciudad de Valladolid de Comayagua, the valley's primary Spanish settlement, there was a stone quarry and lime kiln with a source of ample firewood nearby (Antonelli and Quintanilla 1590: 15). Valverde reported that bridging the Río Humuya would be relatively easy because there was "piedra y cal al pie de la obra, y la piedras muy cerca" [stone and lime on site and other stones nearby] (1590: 6). In addition, a plentiful supply of
timber was available from the forests that cloaked the slopes that surrounded the broad upland plain.

In addition to the wealth of building materials, the valley was favored by the presence of productive mines. Antonelli reported that just one half league from Valladolid a mine yielded copper, silver, gold and lead (1590: 17-18). A mercury deposit 12 leagues away along the route contributed to the mine’s productivity, as did the salt pans on the Golfo Fonseca (West 1958: 774). Antonelli reasoned that an effective use of the copper deposits would be the production of artillery. He, thus, suggested that an armory should be constructed at Comayagua. Its wares would supply the fortifications at Puerto Caballos and Golfo Fonseca, thereby reducing their dependence on expensive artillery from Spain. This plan was further supported by the fact that deposits of two ingredients of gunpowder, saltpeter [salitre] and sulfur [azufre], were also located near the settlement (1590: 17).

Valle de Comayagua was further favored and distinguished from the rest of the route by its production of foodstuffs and livestock. Antonelli reported that "todas las frutas de Castilla" [all the fruits of Castile] that were planted had flourished (1590: 15-16). In the cool cañadas [ravines] interspersed throughout the surrounding slopes wheat [trigo] was sown and produced 18 measures for each measure of seed. The fertility and climate of the
valley itself supposedly allowed four harvests of corn annually. Other crops included numerous varieties of legumes, lettuce, onions, grapes and quinces (Valverde 1590: 6). According to both survey parties, the valley’s agricultural productivity promised to increase in the future should the water in its numerous arroyos be channeled into crop irrigation.

Despite the glowing reports of the suitability of the valley for raising crops, at the time of the surveys cattle ranching dominated land use. Antonelli reported that the Comayagua valley and other valleys in the region supported 30,000 head of ganado mayor and somewhat fewer ganado menor (1590: 18). Valverde reported that 44 estancias [livestock ranches] located near Valladolid raised more than 12,000 ganado mayor and 5,000 ganado menor (1590: 12-13). Ranchers benefitted from the valley’s extensive tracts savanna grasses and numerous surface salt deposits (Antonelli and Quintanilla 1590: 15). Important for transisthmian transport, 460 mulas [mules] were included among the ganado mayor. Antonelli reported that the valle de Comayagua presently could produce 600 pack mules annually and increase this total to 1,000 within three years. The engineer, however, believed that for transisthmian transport the valley should be used for raising foodstuffs (1590: 16). The livestock would, thus, need to be moved to other nearby valleys. As was the case in the early colonial period
throughout Latin America, cattle destroyed primarily Indian-sewn food crops at will (Chevalier 1970: 96). This, understandably, prevented thorough cultivation of the valley.

As was the case throughout the corridor, valle de Comayagua's productivity and capacity for provisioning transisthmian transport also depended upon an increase in the valley's population. According to Antonelli, all that the valley lacked was for "Vuestra Majestad les socorriese con negros" [Your Majesty to aid the region with a supply of African slaves] (1590: 16). The Africans, in this case, were intended to replace Indian labor in the mines so that the Indians could work in the fields. Beyond African slaves and Indian agriculturalists, Appendix D shows that Antonelli also felt that 400 to 500 married Castillian farmers were necessary to support transisthmian transport.

The surveys by Antonelli and Valverde portray a route corridor that was relatively well endowed with the materials necessary for road and bridge construction. Stone, forests and lime could be found throughout the corridor. The transisthmian passage also possessed the potential to adequately provision transisthmian traffic with foodstuffs. Pasture lined much of the route. In many stretches the land was shown to be fertile. However, these areas generally were under-populated and, thereby, under-productive. Apart from resources related to transport, the corridor also
possessed wealth-producing resources like mines. Realization of the corridor's potential required an increase in its population.

*Mulas*

Beyond infrastructure and sustenance, transisthmian transport required a means of conveyance. As mentioned earlier, the indigenous population of Latin America provided this means for much of the early colonial period. With the drastic decline in this population and the recurring regulation of Indian labor on the part of the Crown, widespread use of tamemes gradually faded. Concurrent with this attenuation was the rise of animal-powered means of transport.

Aside from horses, which were used primarily for bearing Spanish riders, oxen and mules were the most prevalent beasts of burden. Teams of oxen or mules pulled carts of various sizes, with cart sizes depending on the cargo to be carried and the terrain to be traversed. Throughout much of colonial Latin America carts were small, primitive, low-cost vehicles operated by the farmers and miners who had built them (Ringrose 1970: 33). In contrast, valuable cargo, like silver from Zacatecas afforded large carts, like the large spoke-wheeled *carreta* [wagon], and a specialized class of laborers, *arrieros* [muleteers], to operate them as early as the 1550s (Ringrose 1970: 38). This mining boom allowed the Spaniards to build an expensive
cart road that led from the mines, across the grasslands of the Mexican plateau and on to Mexico City, and another much more difficult and costly road from the capital to Veracruz. The boom also supported the use of the more expensive, and swifter, of the two beasts of burden, the mule. Momsen (1963: 37) reported that a team of 12 oxen covered about two leagues per day, while mules could cover three to four.

Mule pack trains also transported cargo, particularly in regions that possessed tortuous mountain topography. Colonial Central America was included among those regions. Throughout its extent travelers in the cool uplands were plagued by, as Bishop Pedraza described it, "ascents to the heavens and descents to the abyss," while the tropical lowlands offered "mud up to a horse's belly" (1547: 7). Faced with such difficult topography, not to mention climate, not even the riches from the mines of Peru could support a cart road across Panama. Instead, this passage and the rest of colonial Central America primarily depended on the sturdy, sure-footed hybrid of a donkey and a horse, the mula.

Prominent among the questions that Antonelli and Valverde sought to answer about Honduras' transisthmian passage was whether cart or mule pack train was most appropriate for transport. The surveyors' journey to Honduras provided them ample opportunities for making this decision. The tour that brought Antonelli, Valverde and
other members of the surveying expeditions to the Honduran corridor led them from Havana to Veracruz where they planned improvements to the fortifications at San Juan de Ulúa. Upon completing their work, they traveled to Mexico City by way of the previously mentioned cart road. It is possible that by that time, 1590, the road had degenerated to a simple mule path because mining in northern Mexico had begun to decline (Ringrose 1970: 48). Nevertheless, the surveyors gained the valuable experience of not only traveling but also mapping one of the period’s and region’s best roads (Iñiguez 1942: 41). They continued from Mexico City, by way of Oaxaca, to San Miguel. This long, completely overland, journey necessarily exposed them to the region’s lower caliber roads. Thus, before examining the Honduran corridor, the surveyors understood the region’s modes of transport - cart, mule and tameme - and its paths for transport - cart road, mule trail and Indian track.

With this knowledge and that gained from their subsequent survey, Antonelli and Valverde agreed that a road for recuas was the best means of conducting transisthmian transport through the Honduran corridor. Mules, thus represented yet another essential transport resource. With uncanny detail Valverde and Antonelli itemized the amounts of this resource that were available and that would be required. A look at these projections and other information about colonial mule transport fleshes out an image of the
dominant means of colonial transport in colonial Central America.

The first mention of pack mules in relation to the Honduran corridor came from the pen of Don Pedro de Alvarado. As mentioned in an earlier chapter, in 1539 Alvarado sailed from Santo Domingo to Puerto Caballos. Two hundred of Alvarado's men opened a ten league long path in ten days that led from Puerto Caballos to Villa de San Pedro. Alvarado reported that the passage road was wide enough so that "podia ir una requa y venir otra" [two requas traveling in opposite directions could pass] (1539: 312-313). Alvarado's recua contained 24 mules.

For a number of reasons, it is doubtful that Alvarado's recua represented the standard size. Transporting these mules by ship probably limited the number that Alvarado could carry. The number was further limited by the fact that Central America did not yet possess a large mule population. In 1535, Fray Tomás de Berlanga, Obispo de Panamá, reported that even the crucial Panama crossing suffered from a scarcity of beasts of burden [cabalgaduras] (1535a: 533). Four years later, Juan de Lerma (1539) complained to the King that in contrast to Honduras' lack of recuas, Nueva España possessed a surplus of recuas and roads for them, recuas and roads that Honduras desperately needed.

In 1545, a letter by Don Francisco de Marroquin, Obispo de Guatemala, suggested that the region had sufficiently
increased its population of beasts of burden. The bishop, advised the King that in light of a recent royal prohibition on the use of Indian bearers, and because the region possessed

\[ \text{mucha superabundancia ... de cavallos y yeguas y bueyes y carretas con que se podrá sustentar la contracción} \]

[an abundance of horses, mares, oxen and wagons to support trade] (1545: 438)

he should mandate that roads be opened and maintained. The bishop appears to have been either overly optimistic or completely ignored, or both. Two years later, treasury officials reported that no roads had been opened and that travel was difficult (MacLeod 1973: 120). Nevertheless, in 1549, a colonial inspector in Honduras reported to the Crown that in that province trade depended upon mule pack trains, and that more roads were needed (1549: 120). Thus, it appears that, at this time, the region had sufficient animals to support pack train transport, not cart traffic.

Once a mainland supply of mules had developed, recuas seem to have numbered between 40 and 60 mules apiece. Thomas Gage (1958: 198, 200 and 309), the English friar who travelled throughout Mexico and Central America between 1625 and 1637, reported in a couple of instances that in the 1630s mules were divided into droves of 50 or 60. However, statements of his like "twenty recuas contain above a thousand mules" confuse the matter. A report from Momsen (1963: 37) that mule trains in colonial Brazil consisted of
seven to eleven mules further fluster attempts at generalization. Nevertheless, Antonelli (1590: 28) in his projections of the needs for transisthmian transport, Appendix D, assigned one foreman [capataz español] to every 40 mules.

The question about recua size notwithstanding, as trade and the mule population of Central America grew, certain regions emerged which specialized in the raising of mules and the leading of recuas. Gage's statement quoted in the paragraph above referred to one such region. At the time of Gage's visit to the Valley of Mixco and Pinola, located near the present site of Guatemala City, mules from this area were used to carry cargo all over the region, including to and from Santiago de Guatemala and the port at Santo Tomás. Owners of recuas kept African slaves, "Blackamoors" in the language of Gage, to work their mules. Gage (1958: 198) noted one Spaniard who owned six recuas of 60 mules and 100 slaves to work them. Indians were also allowed to be reparted for recua labor (Felipe II 1609: 300). Some Indians also appear to have enriched themselves in mule trade and transport. According to Gage (1958: 200), included among the inhabitants of the town of Mixco where "some rich Indians, who have learned of the Spaniards ... to traffic with mules unto the gulf," and that "the constant passage through [the town of Mixco] of these recuas, of rich merchants, of all passengers that go and come from Spain,
hath made it very rich". West and Augelli (1976: 289) noted other mule-raising areas in Central America. They include: Comitán in the highlands of Chiapas, which furnished mules for transport between Mexico and Guatemala; and Choluteca in southeastern Honduras, which provided mules for Panama’s transisthmian passage.

Aware of the importance of beasts of burden, King Philip instructed his surveyors to determine their availability throughout the corridor, their price and the status of pasture and grain for their sustenance (Bonilla 1955: 225). Table 2 shows the results of Valverde’s mule count. Table 3 shows the grain tally.

As stated earlier, the surveyors, especially Antonelli, provided highly detailed projections of the corridor’s transport needs. Antonelli’s projections are summarized in Appendix D. A glance at the projections immediately reveals that the region’s 2600 mules fell far short of the 16,660 that Antonelli believed transisthmian transport required. Antonelli’s number was based on the approximate weight of merchandise that one fleet ["flota de tierra firme"] would carry to Puerto Caballos annually, and on the distance the merchandise would need to be carried. That weight was 11,000 toneladas [tons]. The distance was 67 leagues.

Antonelli figured that each ton of cargo would be divided into eight approximately 255 pound units called cargas. Thus, each year the fleet would bring 88,000 cargas
Table 2. Mule Population 1590

<table>
<thead>
<tr>
<th>Location</th>
<th>Mule Population 1590</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ciudad de Guatemala</td>
<td>400</td>
</tr>
<tr>
<td>Ciudad de San Salvador</td>
<td>250</td>
</tr>
<tr>
<td>Ciudad de San Miguel</td>
<td>240</td>
</tr>
<tr>
<td>Ciudad de Gracias a Dios</td>
<td>240</td>
</tr>
<tr>
<td>Ciudad de Comayagua</td>
<td>460</td>
</tr>
<tr>
<td>Villa de Choluteca</td>
<td>600</td>
</tr>
<tr>
<td>Ciudad de San Jorge</td>
<td>180</td>
</tr>
<tr>
<td>Ciudad de Segovia</td>
<td>150</td>
</tr>
<tr>
<td>Ciudad de San Pedro</td>
<td>80</td>
</tr>
<tr>
<td>Ciudad de Chiapas</td>
<td>300</td>
</tr>
</tbody>
</table>


Table 3. Grain Production 1590

<table>
<thead>
<tr>
<th>Location</th>
<th>Maiz (fanegas)</th>
<th>Trigo (fanegas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ciudad de Guatemala</td>
<td>120,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Ciudad de San Salvador</td>
<td>no surplus</td>
<td>no surplus</td>
</tr>
<tr>
<td>Ciudad de San Miguel</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Ciudad de Gracias a Dios</td>
<td>abundant</td>
<td>&quot;</td>
</tr>
<tr>
<td>Ciudad de Comayagua</td>
<td>no surplus</td>
<td>no surplus</td>
</tr>
<tr>
<td>Villa de Choluteca</td>
<td>abundant</td>
<td></td>
</tr>
<tr>
<td>Ciudad de San Jorge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ciudad de Segovia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ciudad de San Pedro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provincia de Verapaz</td>
<td>5,000</td>
<td>abundant</td>
</tr>
<tr>
<td>Costa de Bacalar</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Ciudad de Chiapas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

to be carried across the isthmus. Antonelli suggested the enterprise would require 14,660 mules. Each mule would carry one carga and would make six transisthmian trips. In addition there was a need for 2000 mules in reserve.

The 255 pound carga exceeded the 8.5 arrobas, or 212 pound, load limit that the Crown later mandated for mules loading at Venta de Cruces on the Panama crossing (Felipe II 1614: 57). However, the carga represented far less of a burden than the 400 pound loads that Gage commonly saw in Guatemala (Gage 1958: 195). As mentioned in Chapter Six, tameme, the beasts of burden that mules only gradually replaced, were not to be required to bear a load weighing more than two arrobas (Carlos 1538: 288-289).

The 67 league crossing Honduras would have required approximately 25 days. This conservative estimate is based upon Momsen’s (1963: 37) previously mentioned estimate that fully packed mules could travel three to four leagues daily. Assuming that the galleons arrived in the Spring at Puerto Caballos instead of Cartagena and Porto Bello, and that the Honduran recuas departed from the port on the first of April with the first of their six cargas, they would not have completed their toil until the first of the next year’s February. During those ten months, the recuas and reserve mules and the arrieros’ horses would have consumed more than 100,000 fanegas [Spanish bushel] of corn daily, not to mention the food and required by 366 arrieros and their
2,993 slaves. A comparison of Antonelli’s projections with Valverde’s survey of mules and grain demonstrates how ill-equipped the Honduran corridor was to accommodate animal-powered transisthmian transport in 1590.

Assuming that the Crown had allowed transport exclusively by tamemes, and that each Indian carried a carga of two arrobas for three leagues per day, Antonelli’s model of transisthmian transport would have required almost 75,000 Indians. The previous discussion of the corridor’s population distribution immediately precludes any rational consideration of this means of transport. Thus, corridor’s general lack of population, grain and mules explain why Antonelli emphasized the need to settle the corridor with farmers, stockmen and African slaves.

This calculation of the time of transisthmian transport demonstrates one of the important differences between travel across Honduras and Panama. As noted in Chapter Two, a completely overland crossing of Panama required less than five days. Thus, with the same number of mules, only two months were required for transporting all of the merchandise from Porto Bello to Panama. In Honduras it required ten months. The complete Spain - America - Spain cycle normally required ten months. This difference in the time of travel mitigated the importance of Hermosilla’s claim that mules were three times more expensive in Panama than in Honduras (Bonilla 1955: 224). Thus, regardless of the foul nature of
the crossing, the Panama passage required shorter work periods for recuas, arrieros and slaves. Hence, less food was required, less port warehouse time, too. This all contributed to drastically less expensive transisthmian transport.

Thus, although favored by a well-watered route with ample "buen pasto" from the region's savannas and the potential to increase its mule supply, the Honduran corridor was too long to compete with the efficiency of the Panama passage. Nevertheless, mule-raising areas emerged or persisted around Gracias a Dios, Choluteca, San Miguel and Golfo Fonseca. The mules supplied mines at Tegucigalpa and Guascaran, transport needs within Honduras, and transisthmian transport across Panama (MacLeod 1973: 126).

Thomas Gage (1958: 309) reported seeing "six recuas from San Salvador and Comayagua only, laden with silver, which was the King's tribute from that country" in 1637.

Ventas

Beyond roads, mules and pastures, colonial pilgrims needed places to rest and succor themselves and their beasts. A system of ventas, posadas and mesones [roadside inns] filled this need. Understanding these roadhouses benefits from a look to the Old World.

In fifteenth century Spain, la santa hermandad [Holy Brotherhood] was a royal police force that tried and punished, without appeal, people who were accused of
committing crimes in rural areas in general, and along roads in particular (Lunenfeld 1970: 9). The ventas that were interspersed along the roads also fell within the hermandad’s jurisdiction. Ventas were inns that were supposed to provide travelers the opportunity to purchase food and shelter. However, they were notoriously hostile hostels. Proprietors, venteros, commonly charged exorbitant prices for their wares and services (Pidal 1951: 73). To rectify the situation the hermandad decreed that

*los viandantes sean dados en cada lugar que llegaren, si quisieren comer y beber y dar de comer a sus bestias, pan y vino y cebada y las otra cosas que quisieren comprar y hubiere en el lugar para vender*

[pilgrims who want food and drink for themselves and their beasts should be sold bread, wine and barley etc. in every place they visit] (López Martínez 1921: 32).

Beyond providing sustenance for viandantes and their beasts, the ordinance required reasonable prices.

La santa hermandad notwithstanding, at the end of the fifteenth century the ventas were in such a poor state and posed such impediments to travelers that the Crown attempted a solution. In response to the venteros’ claims that the tax imposed on their sales prevented them from offering adequate service, the Crown exempted them from the sales tax. King Ferdinand later went so far as to offer prospective venteros free land for constructing ventas and raising crops, especially in the lands recently reconquered from the Moors (Pidal 1951: 74).
Despite these inducements, roguish venteros remained the rule in the sixteenth and seventeenth century. In 1560 Philip II repeated la santa hermandad’s earlier decree (Pidal 1951: 87). And in 1616 the count of Gondomar wrote that all classes and nationalities of traveling merchants were robbed and maltreated because of the lack of safe inns. The count, therefore, claimed that

\begin{quote}
\textit{es menester caminar en España con bota y alforja y dormir en el suelo como por los desiertos de Armenia}
\end{quote}

[it is necessary to travel in Spain with wine flasks and knapsacks and sleep on the ground like in the deserts of Armenia] (Pidal 1951: 88).

The count also regionalized the qualities of ventas. The ventas of the north practiced policies of gratification and abundance in direct opposition to craven corruption of those of the south.

Despite their spotty service, ventas were unavoidable elements of travel in Spain. Pidal noted that the necessity of their function, and the travails and the occasional support that they provided travelers caused ventas to be immortalized in Spanish literature (1951: 88). Some of the more celebrated ventas owed their notoriety to their strategic positions. For example, the road between Toledo and Córdoba crossed extensive unpopulated stretches. Conveniently located in its path over the sierra Calderina, were two ventas, Darazutan and la Zarzuela. These inns had been constructed on the sierra’s opposite slopes and, thus, provided resting places for travelers preparing to climb or
having descended the sierra's summit. A traveler described a typical venta as a humble house that offered weary travelers

dos miserias estancias arriba, abajo una y un pajar [bar] tiene una chimenea en la sala baja, que sirve de cocina, y allí hubimos de pasar la noche bestias y personas juntamente

[two miserable upstairs rooms, one downstairs room and a stable. A hearth in the downstairs room serves as the kitchen. In this place we spent the night, people and beasts under one roof] (Pidal 1951: 89).

Similar to the repeated references to ventas in Spanish literature, mentions of ventas appear frequently in colonial documents and the Recopilación. This is not surprising. As we saw in chapter four, settlements that fulfilled similar functions existed in the New World prior to the arrival of the Spaniards. And, as has been demonstrated throughout, colonial pilgrims in Latin America also traveled great distances, often through depopulated or unpopulated regions. These pilgrims also required sustenance.

As mentioned in chapter one, Rees (1975) employed a series of nine regularly-spaced ventas to reconstruct the camino real that led from Veracruz to Mexico City. These settlements were established between 1525 and 1527, relatively early in the history of Nueva España. The early start to the work reflects the importance of the ventas to travel. Rees (1975: 330) envisioned the ventas as "fixed points" that anchored an anastomosing network of wet and dry season trails, shortcuts and mulepaths.
Barber (1932) noted that during the early stages of conquest and settlement in the New World the Spanish substituted Indian pueblos for ventas. The numerous laws regulating Spanish use of these pueblo-ventas indicate that this substitution obtained, at least, throughout the sixteenth century. Travelling Spaniards merchants were limited to a stay of three days in the pueblos (Felipe III 1600: 212). During their stay in the pueblos, the caminantes [travellers] were prohibited from taking anything from the Indians by force and required to pay for everything that they required (Carlos 1528: 213). In an apparent attempt at preventing abuse of the pueblo-ventas, local encomenderos and were not allowed to own houses in, or to lodge in pueblos (Felipe III 1618: 266). Likewise their family, guests and servants were prohibited from staying the night in a pueblo-venta (Carlos 1550: 266-267).

As demonstrated previously, the pre-Columbian networks of roads and paths did not completely satisfy colonial trade flows. And so colonial roads were constructed. These roads did not always pass near Indian pueblos. Ventas, thus, emerged to serve travelers on these roads. These new ventas were manned by Indians and Spaniards. Repartimiento labor was made available for maintenance of ventas (Felipe III 1609: 300). The labor included provision, but not the service, of bread, wine and meat to travelers, and grain to their beasts (Felipe II 1595: 300). Similar to the pueblo-
ventas, travelers were required to pay the Indians for their wares (Felipe II 1563c: 300). In the absence of a venta, travelers were permitted to lodge in the house of an Indian, with payment required of course (Felipe II 1563a: 213).

Spanish ownership of ventas can be implied on the basis of decrees in the Recopilación intended to correct abuses on the part of ventero. It seems unlikely that Indians reparted to ventas had the power to exploit wayfaring Spaniards.

Apparently the similarities of travel in Spain and her New World colonies extended to the roguish management of ventas. The following decree from the Recopilación contains language almost identical to that of the decrees directed to venteros in Spain.

*Mandamos á los Vireyes, Presidentes, Gobernadores, y Justicias, que dén las órdenes convenientes, para que en las posadas, mesones y ventas, se dén á los caminantes bastimentos, y recaudo necesario, pagándolo por su justo precio, y que no se les hagan extorsiones, ni malos tratamientos, y todos tengan arancel de los precios justos, y acomados al tragin, y comercio*

[We mandate to the Viceroy, Presidents, Governors and Justices that they legislate that inns must provide travellers provisions at reasonable prices, without maltreatment and with a proper tariff, and accommodate trade and commerce] (Carlos 1538b: 56).

Beyond extortion and maltreatment Spanish venteros also occasionally terrorized pilgrims who, ever seeking more direct passages, rejected established lines of movement for newer, shorter routes. Such a situation reduced the original ventas to river ports whose channel had wantonly
meandered away from them; thus, leaving them high and dry, obsolete. In response to traveling merchants' complaints about the barrier that such vengeful acts posed for trade, the Crown decreed that innkeepers must

\[
\text{provean lo que convenga, para que cada uno pueda caminar con libertad por donde quisiere}
\]

[provide for those who come, so that every one may travel freely wherever they wish] (Felipe II 1568: 56-57).

This portrayal of ventas in colonial Latin America leans heavily on decrees found in the Recopilación. Sherman (1979: xi) has expressed his skepticism about conclusions, drawn from such a body of literature because it records the "royal putative intent" rather than what actually happened. Such a caution is well-founded. However, the "royal putative intent" offers an image, admittedly idealized, of the workings of colonial society. Because these decrees were corrective in nature, one also can employ them to construct an implied negative image, one that highlights the abuses of colonial society. These two images, taken together, the one tempering the other, possibly approximate 'what actually happened'.

Beyond the source and nature of labor, and the abuses associated with colonial ventas, another important and particularly perplexing question is: what determined the distribution of ventas along individual roads? As mentioned above, Indian pueblos were the earliest ventas. Hence, in the early colonial period the distribution of pueblos
matched the distribution of ventas. But did the dominance of the demands of colonial travel produce an alternate standard of venta distribution? Was there a standard spacing, according to the amount of time or distance traveled, between individual ventas? Could a pilgrim depart from a venta at dawn and arrive at the next one at dusk? Or would he have to travel two days and spend one night without shelter between ventas? I have found no document that referred to or legislated the distribution of ventas in Spain or her colonies. Nevertheless, an examination of the route across the Honduran corridor offers some insight into this matter.

As previously cited, Pedraza created an image of the state of travel of Honduras in the 1540s. Travel between San Pedro and Puerto Caballos was characterized as

el lod [mud], hasta las barrigas [bellies] de los caballos, y subiendo [climbing] muchas veces hasta el cielo [heavens] y descendiendo hasta los abismos (1547: 7).

The prelate complained, moreover, that these conditions were aggravated by the lack of sufficiently populated Indian pueblos and ventas along the journey:

porque como no hay mesones ni ventas como en Castilla, a cada paso cierto padecia muy gran trabajo

[because there are no inns like in Castile, at every pass one is certain to endure difficulty] (1547: 6).

More than forty years later Antonelli and Valverde discovered that those conditions obtained. Though rarely in explicit terms, the surveys of Antonelli and Valverde
suggest that while examining the character of the Honduran corridor they had the matter of ventas in mind. The word venta appears but once in each survey. Antonelli suggested that for transisthmian commerce the corridor would require "caminos proveidos de bastimentos en las partes a donde se han de hacer ventas" [roads that would provide sustenance in those areas where there were inns] (1590: 16). Valverde indicated that the vicinities of the pueblos Lauterique, Apazapo and Goascorán were appropriate sites for ventas (1590: 7). In agreement with Barber's generalization for colonial Latin America, Valverde thought that those pueblos would help to provision the ventas during the early stages of their development.

The surveys contained additional information that was useful for planning the establishment of ventas. Cognizant that ventas, as well as roads, required labor to service and provision them, surveyors administered the previously mentioned census of pueblos that were located along the proposed route (see Table 1). Beyond Indian populations, the surveyors also noted the crops grown in each pueblo and the availability of pasture. More importantly, concerning venta distribution, the surveyors noted the distances between the route settlements. Table 4 is a compilation of these distances. Also included are travel times of other more recent foot and hoof travelers along Honduras' transisthmian corridor and distances measured from maps of
Table 4. Distances Recorded by Travelers on Camino Real

<table>
<thead>
<tr>
<th>Camino Real Segments</th>
<th>Antonelli</th>
<th>Valverde</th>
<th>Munro</th>
<th>Brady</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puerto Caballos to San Pedro: High Road</td>
<td>10 L</td>
<td>13 L</td>
<td></td>
<td>56 km</td>
<td>41.5 km</td>
</tr>
<tr>
<td>Low Road</td>
<td>12.5 L</td>
<td>13 L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Pedro to Rio Chamieicon</td>
<td>1.5 L</td>
<td>2 L</td>
<td></td>
<td>8.5 km</td>
<td></td>
</tr>
<tr>
<td>Rio Chamieicon to Rio Ulua</td>
<td>3 L</td>
<td>4 L</td>
<td></td>
<td>20 km</td>
<td></td>
</tr>
<tr>
<td>Rio Ulua to Rio Blanco</td>
<td>4 L</td>
<td>5 L</td>
<td></td>
<td>18.5 km</td>
<td></td>
</tr>
<tr>
<td>Rio Blanco to Estancia de Armente</td>
<td>2 L</td>
<td>2 L</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Estancia de Armente to Estancia de Medina</td>
<td>3 L</td>
<td></td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Estancia de Medina to Aramani</td>
<td>1.5 L</td>
<td>4 L$^*$</td>
<td>8 hrs.$^f$</td>
<td>19 km</td>
<td></td>
</tr>
<tr>
<td>Aramani to Miambar</td>
<td>4 L</td>
<td>4 L</td>
<td>10 hrs.</td>
<td>9 hrs.</td>
<td>36.5 km</td>
</tr>
<tr>
<td>Miambar to Los Ranchos</td>
<td>3.5 L</td>
<td>4 L</td>
<td>5 hrs.</td>
<td>4 hrs.</td>
<td>15 km</td>
</tr>
<tr>
<td>Los Ranchos to Maniani</td>
<td>4 L</td>
<td>3 L</td>
<td>4 hrs.</td>
<td>14.5 km</td>
<td></td>
</tr>
<tr>
<td>Maniani to Comayagua</td>
<td>3 L$^+$</td>
<td>3.5 L</td>
<td>1 day</td>
<td>26.8 km</td>
<td></td>
</tr>
<tr>
<td>Comayagua to Alamani</td>
<td>5 L</td>
<td>5 L</td>
<td></td>
<td>30.5 km</td>
<td></td>
</tr>
<tr>
<td>Alamani to Rancho del Obispo</td>
<td>5 L</td>
<td>4 L</td>
<td>3.5 hrs.</td>
<td>19.5 km</td>
<td></td>
</tr>
<tr>
<td>Rancho del Obispo to Aquanquetiquique</td>
<td>3 L$^+$</td>
<td>3 L</td>
<td>3.5 hrs.</td>
<td>14.5 km</td>
<td></td>
</tr>
<tr>
<td>Aquanquetiquique to Lauterique</td>
<td>3 L</td>
<td>3 L</td>
<td>4.5 hrs.</td>
<td>16 km</td>
<td></td>
</tr>
<tr>
<td>Lauterique to Aramecina</td>
<td>3 L</td>
<td>3 L</td>
<td>4.5 hrs.</td>
<td>16 km</td>
<td></td>
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<tr>
<td>Aramecina to Goascorran</td>
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<td>3 L</td>
<td>3 hrs.</td>
<td>16 km</td>
<td></td>
</tr>
<tr>
<td>Goascorran to Estancia de Batres</td>
<td>3 L$^+$</td>
<td>4 L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estancia de Batres to Rio de las Guacamayas</td>
<td>2.5 L$^+$</td>
<td>2.5 L</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^+ =$ "Leguas largas"  $^*$ = "Leguas grandes"  $^f$ = used when intermediate location was omitted

Sources: Antonelli and Quintanilla 1590; Bonilla 1955; Munro 1983.
the road that currently spans the corridor. The travelers include Dana Munro and the author.

This table shows that the surveyors organized their reports into segments of three to five leagues in length. These segments correspond roughly with the four to eight league intervals that Cobb (1949: 25) reported for the spacing between Incan tambos. They agree more closely with Momsen’s (1963: 37) previously mentioned three to four league estimate day’s travel on a loaded horse on the mule paths of colonial Brazil. Unfortunately, the league in these cases can not be readily converted to a measure of linear distance, and, thus compared. This is because the league was a measure that depended on a variety of factors, most importantly, mode of transport and the nature of the terrain. These factors varied in the preceding examples. Hence, one should hesitate from drawing conclusions about venta distribution on the basis these apparent similarities.

However, Valverde did designate Lauterique, Apazapo and Goascoran, three pueblos separated by three leagues, as venta locations. The organization of the surveys and Momsen’s research suggest that three leagues represented one day’s journey. Therefore, the route across Honduras apparently benefitted from a spacing of pueblos that mirrored the need for ventas.

There was, however, a large section of the route devoid of Indian pueblos. Valverde reported that in the 25 leagues
between Aramani and Puerto Caballos:

> no hay pueblos de indios y está todo despoblado, salvo las estancias que hay en el camino que en la que más gente hay, hay un negro y tres o cuatro indios

[There are no Indian pueblos. The region is totally depopulated. With the exception of some ranches on the road which possess most of the people that there are, only one African and three or four Indians remain] (1590: 6).

Thus, instead of regularly-spaced Indian pueblos that existed south of Aramani, this section the route is punctuated by irregularly-spaced stream crossings and estancias, or hatos.

According to Chevalier (1970: 88), "estancia" was coined in West Indies "to designate the point where wanderers and their flocks finally came to rest." It, thus, represented a grazing site. By 1530, use of the word evolved near Mexico City to mean a fixed grazing location for formerly free grazing droves, or hatos (1970: 88). As cattle barons increased the reach of their permanent squatting rights near Mexico City, hato faded from use. But in regions of the Latin America, like Honduras, where nomadic herding persisted hato and the early meaning of estancia persisted (1970: 88). Valverde used the two words interchangeably when discussing the Hato del Fraile (1590: 5). Hence, it seems that "hato" was also used to designate a grazing spot. The names and presence of slaves at these sites suggest that Spaniards had been granted exclusive
rights to these spots. Nevertheless, as sites for forage, hatos and estancias made logical venta sites.

Examination of a 1: 50000 scale topographical map of the Río Ulúa (Honduras, Carta Topografia: Villanueva, 1987) suggests that the Spaniards also chose river crossings for establishment of ventas. At the intersection of the Ulúa and the path of the transisthmian road there exists a settlement called La Venta. As mentioned earlier, both surveyors felt that bridging this stream was impracticable. They suggested, instead, that a ferry be established. Such an enterprise, doubtlessly required permanent occupation of the site. It, therefore, is not inconceivable that La Venta emerged as a ferry settlement.

This inventory of the Honduran corridor’s transport resources demonstrated the nature of early colonial transport in Central America, and informed an assessment of the corridor’s capacity to support road construction and transisthmian trade. As has been mentioned, the corridor, although blessed with an abundance of inanimate resources like, wood, lime and stone, suffered from an underpopulation of productive farmers and mules to sustain transport. Moreover, the simple length of corridor undermined hopes for efficient transisthmian conveyance.

Nevertheless, however slowly, Honduras was settled in the early colonial period. Its inhabitants mined precious metals, raised subsistence and cash crops, raised livestock
and paid tribute to the Crown. Thus, people and products circulated throughout the province. Honduras' transisthmian corridor was vital to this circulation. The next chapter examines these trade flows and linkages.
CHAPTER EIGHT

LINKAGES
The Colonial Network

Although hopes for attracting the bulk of colonial Latin America's transisthmian trade to the Honduran corridor never materialized, early flows of labor, resources and wealth converged on and diverged from this passage. Puerto Caballos at the corridor's northern terminus accounted for much of this movement. The bulk of colonial Central America's population resided in the tierra templada [temperate land] of the isthmus' interior. Puerto Caballos, despite its significant deficiencies, provided those colonists one of the few Caribbean outlets to Spain (MacLeod 1973:26). Comayagua, a colonial capital, mining center and agricultural heartland located in the broad upland plain at the corridor's center spawned connections linking it to locations scattered throughout the mountainous interior. The corridor's southern one-third linked it to the Pacific coastal camino real, a route that anticipated that of the present Pan-American Highway. Muleteers and their recuas, loaded down with precious metals or reporting for service in Panamá, followed this trail south through ports such as Iztapa, Acajutla and Realejo as well population centers like León, Granada and Cartago. Thus, although it rarely supported the flows that Montejo had intended, the transisthmian corridor, was incorporated into the colonial trade network. Moreover, it served as a trunkline for movement within Honduras. In this chapter we will track the
development of Honduras' colonial circulatory system, noting its connections to the larger Central American network (Map 11) and the tributary routes that emerged linking the transisthmian camino real to resource deposits located throughout Honduras.

Macleod (1973: 33) has written that a comparison of Central America's pre-Columbian patterns of transport with those of the colonial period demonstrates "amazing continuities in these patterns and routes." Among the route continuities are the series of trails that Cortés followed from Coatzocoalcos through coastal Tabasco, across the base of Yucatán and on to Honduras. Similar to the traces of the region's aboriginal maritime traders, Spanish shipping lanes, and those of predatory corsairs, also skirted the north coast of Honduras and led to the east coast of Yucatán. Antonelli (1590: 5) reported that Puerto Caballos still received corn, honey, wax and salt from the Yucatán. Both the aboriginal and colonial trade also depended on trails, roughly perpendicular to these east-west routes, that led from the relatively densely populated highlands to the Caribbean lowlands. Honduras' transisthmian camino real numbers among these. The journey of Fray Alonso Ponce (1873) in the 1580s demonstrated that on the isthmus' Pacific side a similar continuity persisted. Ponce's 26-day, 150-league trek from Guatemala City to Granada followed a coastal camino real that linked up an interrupted series
Primary Colonial Routes in Central America


Map 11. Primary Colonial Routes in Central America
of Nahua-speaking settlements (1873: 357); thereby suggesting that it was an aboriginal trace.

As mentioned in the introductory chapter, in his study of the established aboriginal routes and the initial Spanish passages that led from Veracruz to the Valley of México Rees (1975: 334) warned against uncritically accepting that colonial routes were simply superimposed over aboriginal routes. Colonial routes served external trade and, thus, followed direct paths from raw material deposits to ports. Aboriginal routes served internal trade in a web-like arrangement of trails linking interior markets. These differences notwithstanding, within the Honduran corridor aboriginal and colonial aims appear to have indeed coincided to a significant degree. Aboriginal flows in the corridor were drawn to the north coast as were those of the Spanish. However, the indigenous folk of Honduras had new economic masters. With them came a divergence in flows with regard to the ultimate destination: from Chichén Itzá or Tenochtitlán to Seville.

A more appropriate discussion of colonial routes with respect to the Honduran corridor came from the previously mentioned Taafe, Morrill and Gould (1963) study of transport expansion in underdeveloped countries. These authors placed primary importance on the opening of the first penetration line from a port to the interior. This route would then serve as a trunkline from which farther expansion of the
route network would extend. The authors identified three motives that have driven the opening of penetration lines in the past. Each of the three, to varying degrees, drove the colonial interest in the Honduran corridor. The motives included:

(1) the desire to connect an administration center on the seacoast with an interior area for political and military control; (2) the desire to reach areas of mineral exploitation; (3) the desire to reach areas of potential agricultural export production (1963: 506).

The insalubrity of Puerto Caballos' environs defaulted its claim to administrative importance. However, as we have seen, the balance of the early Spanish military campaigns into the Honduran interior repeatedly departed from this poorly protected port. The remainder of this chapter will demonstrate viability of the latter two motives.

Montejo Reconsidered

Adelantado Francisco Montejo demonstrated an early understanding of the importance of the development of a colonial land transport infrastructure in Honduras. Montejo grasped that a system of roads would promote his province's development by drastically reducing transport costs, by alleviating the suffering and high mortality of Indians bearers, and by opening the region up for settlement. In letters to the Crown in 1539 he described some of the lines of communication that would dominate movement during the colonial period (Map 12). Transport on these connections depended on trails. Montejo, thus, sought royal funds for
Montejo's Planned Route Network: 1536-1539

Map 12. Montejo’s Planned Route Network: 1536-1539
road construction. Despite repeated pleas on the part of Montejo, other colonists and later colonial officials, these linkages remained, at best, mule paths into the seventeenth century and beyond. Map 12 is, therefore, an infrastructure road wish list and a trail map.

Montejo’s plan included two north-south penetration lines. One line led from Puerto Caballos to the Gulf of Fonseca and linked three of the province’s primary centers of population: Puerto Caballos, San Pedro and Comayagua. The other led from Trujillo to the mineral-rich Olancho Valley. Augmenting the Honduran corridor’s trunk-line were several east-west lines that connected Gracias a Dios with Comayagua, and Guatemala City with Puerto Caballos (Montejo 1539b: 251). Additional insights into transport flows emerge when mining and agriculture are considered.

Mining

Relatively soon after Montejo’s initial pleas, other colonists further sketched the region’s network. In 1543 Alonso Maldonado identified two new lines that needed to be opened: one from Gracias a Dios to Puerto Caballos and another from Olancho to Puerto Caballos. The need for these roads was especially urgent because of the high mortality of Indian bearers that were forced carry loads of gold and silver from these mining locations in the temperate interior to the sultry vapors of the lowland coast (Maldonado 1543).
Transport in sixteenth-century colonial Honduras was dominated by mining, the region's most important colonial economy. West (1958: 767) has noted that during the colonial period mining set the pattern for much of the settlement of central Honduras: it encouraged associated industries, such as agriculture, stock raising, salt production, and trade.

The establishment of mining in Honduras progressed chronologically and spatially from the early gold placering in streams that flowed to the north coast, to the lode mining of vein deposits in the mountainous interior. Spanish placering on the Río Aguán began as early as 1527 (1958: 768). Northern tributaries of the Chamelecon, in the Quimistán valley, were producing by 1534 (Chamberlain 1953: 112). Placering also extended to the interior reaches of streams. By 1531, for example, placers were established around Gracias a Dios. More important than all of these, were the gold strikes in 1539 on the Río Guayape in the Olancho valley. These were the richest gold placers in all of Honduras (West 1958: 767). The gold washed from the sands and gravels of this river spurred the region's period of greatest mineral exports, 1539-1542 (MacLeod 1973: 58). It was this peak in production that motivated Montejo's plans for a road from Olancho to Trujillo. Indian transport of this mineral bounty, despite the lack of such a road, prompted Maldonado's earlier-mentioned request to the Crown. Following a brief abandonment in the early 1540s, the Guayape mines were reopened. These mines persisted as one
of the Audiencia's largest producers of gold until chronic labor shortages brought about their decline by 1560, despite imports of African slaves, as many as 1500 in 1543 (MacLeod 1973: 58). Thus, the chronic dearth of labor, even in Honduras' most productive areas, thwarted colonial efforts to establish an economy, much less an infrastructure.

With the exception of supply centers near the mines in Quimistán and Olancho, the wealth generated by placer mining did not translate into the establishment of permanent mining settlements. Regarding roads, the scattered distribution of placer mines and their short life spans precluded the expensive, labor-intensive, time-consuming construction of trunklines leading to the mines. Of the placer-mining areas, only the mines in Olancho would have warranted such a road, leading either to Trujillo or Comayagua. However, with no labor for the mines there was even less for road crews.

Because road construction linking the scatter of placer mines was virtually impossible, the difficult nature of ground transport required that a scatter of fundiciones [smelting centers] be established. And it was only in smelting settlements like Trujillo, San Pedro, Gracias a Dios and later, Comayagua that mining-related activities of a more lasting character occurred. At these places, the gold was officially registered, the royal severance tax assessed, and the gold refined and smelted into bars (West 1958: 769).
The focus of mining activities shifted from the placers of the Caribbean slope to the silver vein deposits of mountainous interior soon after the Guazucarán strike in 1569 (MacLeod 1973: 148). The wealth of these veins and the difficult extraction of their silver fixed the focus of the Spaniards' economic endeavors on this region southwest of Tegucigalpa until almost the end of the colonial period. Officials previously had reported the presence of silver vein deposits near interior locations like Gracias a Dios and Comayagua as early as 1537. However at this early date the Spaniards possessed neither adequate knowledge of silver metallurgy and vein mining, nor absolute control of those regions (West 1958: 769).

In the eleven years after the discovery at Guazucarán the Spaniards discovered, or were led to, numerous lodes and, subsequently established at least 30 silver mines to the southeast of Comayagua (MacLeod 1973: 148). The supply center, and later administrative center, Tegucigalpa emerged within this region. The mines that surrounded Tegucigalpa "dominated mineral production throughout the colonial period" (Newson 1986: 151). The region's production quickly peaked in 1584 and declined gradually thereafter. As with placer mining the "most important cause of decline, however, was the lack of sufficient cheap labor in the mining areas" (West 1958: 771).
Mining silver vein deposits, by virtue of its longevity and productivity, established the earliest and most lasting pattern of settlement and colonial transport in Honduras’s mountain interior. Similar to placer mining, interior mining settlements themselves were small and temporary. The asientos de minas [mining centers], administrative towns and the royal fundición at Comayagua provided permanence and prominence in the colonial cultural landscape. Miners from a collection of dispersed mining settlements carried their ore to the nearest asientos de minas for smelting or amalgamation. Because of the interior’s difficult terrain and the dispersed distribution of mines, miners used tamemes or mules for transport to asientos (Valverde 1590: 16). The refining of ore spurred additional lines of transport. Lead-free ores were amalgamated by adding lead (Newson 1986: 155). Routes that led from lead mines at Agalteca to the north of Tegucigalpa and Chiquimula in eastern Guatemala thus were established (West 1958: 774). Another method of amalgamation involved the use of mercury and salt. The miners who could afford it secured mercury from administrative centers (Newson 1986: 156). Salt was transported from salt pans situated just inland from the Gulf of Fonseca’s coastal fringe (Bonilla 1951: 240), where the activity persists until today.

After amalgamation the silver was carried to the royal fundición at Comayagua to be assayed for the purpose of
assessing taxes. The silver was then melted into bars, and carried to Puerto Caballos (West 1958: 772).

Honduras’ colonial mining economy created numerous lines of transport. However, like the majority of mining settlements, especially during the period of gold placer mining, many of these lines were temporary. Interior shaft mining created more lasting routes. Mule trails connected asientos de minas with administrative and supply centers, which were connected to Comayagua and to the transisthmian camino real. Also, routes led to sources of materials used in the ore refining process.

Thus, similar to Taaffe, Morrill and Gould’s model, one can summarize the Honduras’ colonial mining route network as a trunk-line, a portion of the transisthmian camino real, which led to the region’s interior. Mining expeditions departed from this corridor in search of vein deposits in the rugged, interior uplands. Successful mining ventures spurred the establishment of multiple secondary routes that led from mines, to asientos de minas, to administrative centers, and finally to Comayagua and the transisthmian corridor. The concentration of productive mines near Tegucigalpa impelled the trunkline to diverge from transisthmian corridor at the southern rim of the Comayagua Valley. From this location the camino real led to Tegucigalpa (West 1958: 773). Trails from nearby mines, lead sources, salt pans converged on the Tegucigalpa area.
Similarly, Comayagua, site of the royal fundición, attracted a collection of secondary routes that originated near mines remote from the Comayagua-Tegucigalpa link. In addition to secondary trails, colonial mining stimulated the development of other economic activities, livestock raising and agriculture (West 1951: 774), that further contributed to the colonial transport network.

Presently, Honduras' primary north-south traffic artery, La Carretera del Norte, follows a path from the north coast to Tegucigalpa that is similar to the mining camino real. This coincidence is a testament to the importance of mining to the colonial economy. Considering the route inertia generated by the silver strikes around Tegucigalpa, it is tempting to move hypothetically those rich silver veins closer to the transisthmian corridor, between the Pacific Coast and the southern rim of the Comayagua Valley, and to wonder if Montejo's dream of transisthmian trade would have materialized. Because long-term mining operations stimulated the development of agriculture and stock-raising, the concentration of mining activities along the corridor would have helped to meet the needs of transisthmian transport.

Cattle

The hypothetical shift notwithstanding, Honduras' colonial route network incorporated routes that linked the mines with cattle source areas. Stock-raising and
agriculture developed in upland valleys, like Comayagua, Liquitimaya, Talanga, Yeguare and others, that are interspersed throughout the highland interior. Maize and wheat were grown to feed miners and slaves. Cattle ranches in these valleys provided

dried and fresh meat for food, hides for ore sacks, and tallow for candles used as illumination in the mines (West 1958: 774).

As discussed in Chapter Seven, the colonial economy depended on mules for transport. Thus, ranches, especially those in Choluteca, raised mules to supply recuas. The beasts also powered stamp mills.

Stock-raising in Honduras began before the silver strikes around Tegucigalpa in the 1580s. Already in the 1570s a cattle trade network served interior settlements like Comayagua and Gracias a Dios and the audiencia's capital in Guatemala. The subsequent silver discoveries increased the demand on cattle in Honduras' interior. At the same time Guatemala maintained its demand for Honduran cattle and offered higher prices than Honduran miners. Colonial officials in Tegucigalpa attempted to force cattle herders to fill Honduras' needs before exporting their cattle. Nevertheless, this interregional competition instituted a semi-regular round of cattle drives from Honduras' upland valleys west to Guatemala in the colonial route network (MacLeod 1973: 214).
Antonelli and Valverde identified the Comayagua valley as a ranching area with the potential to produce large biannual mule herds. However, at the time of their surveys, Choluteca was the region's dominant mule-producing area. Choluteca's haciendas' produced 600 mules annually, the balance of which were sent to Panamá. Demand from interior silver mining operations in Honduras also created a regular flow of mules from Choluteca. The region's pastures also supported cattle and by the seventeenth century the region possessed 30,000 head of cattle (Antonelli and Quintanilla 1590: 25). Because there were no local markets for meat, hides were their principal products of value (MacLeod 1973: 304). Despite the size of its herds, Choluteca was marginalized because it was located on the "wrong" side of Central America for this trade, and the transportation of hides across the isthmus added to the cost and cuts into profits. Moreover, the owners could not be sure when the fleets would arrive, or how many hides had been collected in any given year in Hispaniola, Cuba, and Jamaica (MacLeod 1973: 304-305).

Hence, cattle-ranching in the early colonial period appears not to have been particularly dependent on Honduras' transisthmian corridor and its trunk-line. Neither did it create a regular flow of traffic from coast to coast.

Indigo

Aside from subsistence crop production and cattle ranching for domestic use, Honduran colonists also experimented with indigo production for export during the early colonial period. Production and trade of this low
bulk, high value dye persisted throughout the colonial period. Trade in this plant product, however, peaked in Central America between 1580 and 1620 and thus represented the region’s last great major export industry before the Honduran fleet was discontinued (MacLeod 1973: 176). In the seventeenth century and throughout the colonial period Guatemala financed much of its import trade by exporting indigo (Rubio Sánchez 1952: 325). Indigo, añil or xiquilite, thus is counted among the early colonial trade flows.

Similar to silver vein mining and livestock ranching, indigo production in Honduras was concentrated on the Pacific side of the isthmus, specifically the tierra caliente [hot land] of the gentle Pacific slope. Nicaragua was an early center of indigo production and export. During the 1570s, Spaniards seized former cacao-producing lands on the well-drained soils of Pacific coastal plain for indigo cultivation and established obrajes [workshops] for dye extraction (MacLeod 1973: 178). In this manner the colonists appropriated an indigenous industry in their search for a stable, valuable export product. Spanish indigo plantations extended from the northwestern corner of Guatemala to Lake Nicaragua (Smith 1959: 182). By 1575 San Miguel was exporting the blue dye. Indigo production eventually extended at least as far north as Aguanqueterique within the transisthmian corridor (Anonymous 1670: 324-12)
and was produced on a smaller scale near Comayagua, Tegucigalpa, Gracias a Dios and Sensentí (Rubio Sanchez 1952: 316).

Indigo production created several flows. Obviously, the actual transport of the dye to ports numbered among these, as did the flows of native labor to obrajes and colonial officials regulating that labor. Puerto Caballos was the primary port of exportation and thus it appears that, on their way north, dye shipments were funneled into the transisthmian corridor. The dye was then shipped to market at Havana (MacLeod 1973: 195). Peruvian merchants also visited the region, some traveling as far as Puerto Caballos, to trade wine and olive oil for indigo (Hermosillo 1589). During the 1630s cargoes of indigo also were carried by recuas to Granada and shipped on to Porto Bello by way of the Desaguadero (Gage 1958: 198).

Indians provided the labor for indigo production. Alarmed by the dramatic decline in the region’s native population and the unhealthful conditions in anil obrajes by 1563 the Crown prohibited the use of Indian labor (Felipe II 1563d: 307-308). However, similar to previous royal edicts concerning Indian labor, the prohibition went unheeded (MacLeod 1973: 186). The emptiness of the law notwithstanding, its putative intent did introduce yet another traveler into the colonial route network. By 1592 alcaldes in the indigo-growing areas were required to make
annual inspections [visitas] of obrajes in Guatemala (Smith 1959: 187). By 1607 these tours had expanded to San Salvador, San Miguel and Choluteca. MacLeod has claimed that the visitas represented a sort of corrupt theater in which poorly paid visitadores [traveling inspectors] accepted bribes from obraje owners in return for overlooking their labor abuses (MacLeod 1973: 186). Honduras' national archives contain numerous complaints filed on behalf of coerced Indian obraje laborers that confirm MacLeod's claim (see for example, ANH, Anonymous 1670: 324-12).

Flows

Conquest, mineral extraction and agricultural exports were all served by Honduras' transisthmian corridor. These activities, in turn, entrenched the transport trunkline within the corridor as a focus of early colonial economic activity and settlement. From this trunk-line, secondary routes branched out into the interior.

The development of interior silver mining directed extraction to the mountainous interior and opened up flows between mines and service centers and mills. An important extension of the transisthmian route was opened to connect the productive mines surrounding Tegucigalpa to the Comayagua Valley. Mining flows were further articulated by the livestock ranching and foodstuff production that emerged to supply miners.
Livestock ranches and indigo plantations on the Pacific slope extended trade flows all the way to the Gulf of Fonseca. However, because of their proximity to the Pacific coast camino real, the prohibitive expense of transisthmian transport and the irregularity of the Spanish fleet products from these endeavors often flowed to ports and markets to the south.

Much as the continental divide near Rancho Grande separates the headwaters of the Río Goascorán and the Río Humuya, flows of overland transport within Honduras’ transisthmian corridor also were cleft. Were the Puerto Caballos-Golfo Fonseca corridor divided into thirds, Rancho Grande, south of the Comayagua Valley’s southern rim, would lie at about the two-thirds mark. North of Rancho Grande, streams flow northward into the Comayagua Valley, ultimately emptying into the Río Humuya, the Uluá, which enters the Caribbean Sea just east of Puerto Caballos. As has been demonstrated, much of Honduras’ colonial trade followed the path of the Humuya-Uluá drainage to the Atlantic.

South of the divide at Rancho Grande, the Río Goascorán and its tributaries drain the transisthmian corridor’s waters to the Gulf of Fonseca. Similar to the Goascorán’s waters, indigo and livestock from the corridor’s southern third and, Choluteca to the east, flowed to the south and east. Near the gulf, traffic could diverge to the east and follow the Pacific coastal camino real to Nicaragua. An
alternative was to continue to the gulf, whereupon canoe transport was available (Ponce 1873: 375). Both means of transport led to markets in Nicaragua and beyond to Panamá.

The next chapter demonstrates that the continental divide continues to mark an interruption in current transport flows within the transisthmian corridor.
CHAPTER NINE

THE CROSSING
A Collection of Trekkers

Although Montejo's vision of a transisthmian corridor bustling with interoceanic traffic and blooming with settlement did not come to complete fruition, travelers did cross the isthmus by means of the Honduran corridor and the camino real it contained. Fortunately, a few of these wayfarers saw fit to record their observations of travel through the corridor. Beyond the details of movement, travelers described the landscape through which they passed. With these records and related travel accounts we can construct a transisthmian travelogue that will capture the experience of travel on a colonial trunkline and portray the depression that stretches across Central America. For purposes of comparison, description of current transport along the corridor will be interspersed throughout the travelogue.

Among the travelogue's sources from the early colonial period are Antonelli and Valverde's surveys. Appendices B and C summarize these accounts. Other, previously cited, colonial documents provide additional information.

Latter-day surveys come in the form of E. G. Squier's (1858) promotional efforts on behalf of an interoceanic railway through the corridor, and the writings of a particularly effusive, if occasionally imprecise, latter-day writer-traveler on our transisthmian camino real, Mary Lester. Under the pen name of Maria Soltera, Lester
described mule trip she took across the isthmus in the 1880s in *A Lady's Ride Across Spanish Honduras* (1964).

To the company of these two nineteenth century travelers can be added a class of travelers that I call Tramp-Geographers. Early in the present century these young men sought adventure and self-cultivation through travel south of the US border. Their excursions to Latin America can be viewed in the same light as the Grand Tour or *Wanderjahr* taken by northern Europeans to the Mediterranean. In both cases, the general direction of travel was south and the destinations' principal attractions were the remnants of antiquity. In the case of the Grand Tour, Europeans went south to crawl about Roman and Greek ruins. North American tramps went south to inspect the ruins of Aztecs and Mayans and to see their descendants.

Paul Fussell (1980) characterized these travelers in his book *Abroad*. For them, "travel was conceived to be like study ..., the travel book ... a record of an inquiry and a report of the effect of the inquiry on the mind and imagination of the traveler" (1980: 39). As travelers, they were by necessity concerned with, and wrote about, facts geographical. However, unfettered by academia's decorum, their observations are often humorous and, at the same time, right on the mark.

Three representative examples of such travel writing are Munro's (1983) *A Student in Central America, 1914-1916*;
Cunningham’s (1922) *Gypsying Through Central America*; and Franck’s (1916) *Tramping Through Mexico, Guatemala, and Honduras*. Cunningham, Franck and Munro all visited Honduras between 1914 and 1923; hence, their observations are of a landscape that lies outside this study’s period of inquiry. Nevertheless, because of the torpid rate at which Honduras developed, especially concerning means and venues of transport, and the travelers’ preferences for foot travel, it is appropriate to use their accounts, as well as Squier and Lester’s, as surrogates for still undiscovered travel diaries from the colonial era.

All three travelers commented on the nature of camino reales and the land they traversed. Franck (1916: 284-285) found that "the difference between a ‘buen camino’ and a ‘mere road’ is slight in Central America" and that "the road ... seldom represents anything better than a rocky, winding trail with rarely a level yard." Both of these descriptions could be aptly applied to numerous stretches of the transisthmian camino real.

A final source for the travelogue will be field notes that I recorded during my own tramp on the transisthmian camino real.

**Puerto Caballos to San Pedro**

San Pedro on the western margin of the Uluá Plain was connected to Puerto Caballos on the Caribbean coast by land and stream (refer to Map 1). In 1539 Alvarado made use of
both during his second visit to Honduras. While some of his men hacked out a road, others floated their provisions up the Río Chamelecón. Fifty years later Antonelli and Valverde identified two possible land connections, one a high road the other a low road. At a distance of approximately 56 kilometers (34 miles), the low road was the longer of the two. It skirted the base of the Sierra de Omoa and led inland through the swampy flats of the Uluá Valley’s northern reaches. Valverde (1590: 5) believed that a road on this section would be impassable during the wet season and still difficult during the dry season.

Beyond the potentially boggy roadbed, both surveyors found this area’s vegetation to be an additional barrier. Much of the distance between the port and San Pedro was covered, in some cases totally closed, by a vegetation association that both surveyors called arcabuco. It seems likely that it was through just such an arcabuco forest that Alvarado’s company swung their picks and axes. And that was the surveyors’ remedy for this damp, dense thicket -- open a wide swath so that it might be exposed to the sun and wind and thereby dried (Antonelli and Quintanilla 1590: 12; Valverde 1590: 6).

San Pedro is situated at about 100 meters of elevation. Hence, the journey inland followed a slight incline so that at about two-thirds of the way to the settlement, the low, moist arcabuco gave way to drier monte. The roadbed became

In contrast to the low road’s gentle grade, the high road led over the Sierra de Omoa, a steep climb of at least 300 meters. In 1590, mule traffic could thread through the range’s narrow passes and cover the distance between San Pedro and the port in one day. Conversely, the tedium of travel on the low route necessitated an overnight rest near Rio Blanco, a spot remote from sufficient pasture. Despite the savings the high road provided in time of travel, progress along this route was not without its own obstacles. Numerous arroyos crossed the route. During invierno the water in these rocky streams rose as high as a horse’s belly.

An additional obstacle, at least for the foot traveler, was the precipitous descent out of the mountains and down to the Ulúa flats. On a hike from the north coast settlement of Tulian over a present route that approximates the high road described by Antonelli and Valverde I encountered a woman with the unenviable task of ascending the sierra. We paused on the trail, the remainder of a joint-jolting descent ahead of me and a taxing climb facing her. Much as discussions among farmers regularly turn to the topic of weather, pedestrians’ conversations usually visit the subject of the road or trail. The climbing woman, barefoot and with six kids in tow, confirmed Antonelli and Valverde’s
surveys with knowledge gained from experience. For this woman, the camino arriba [high road] was worse than a "camino malo," even worse than a "camino feo," she said; this was a "camino triste...que triste."

Valverde presented the Rio Chamelecón as an alternative to the high and low road. He envisioned a road that would connect Puerto Caballos to the river, from which point barcos propelled by palancas [poles] would carry merchandise the ten leagues up river to Hato del Fraile. Valverde described this stretch of river as calm as an estuary with a channel one and a half brazas (nine feet) deep and 60 paces wide. In a few places the stream was choked with vegetation. However, once those places were cleared, the river would provide an artery in which travel was less subject to the rains of the invierno and the damage caused to roadbeds by regular traffic (Valverde 1590: 6).

According to Valverde's plan, Hato del Fraile would serve as a break-in-bulk point. Merchandise would be transferred from water transport to warehouses for storage or directly onto the backs of pack animals. In addition to its proximity to the river, Hato del Fraile was favored by ample pasture to sustain pack animals.

The utility of the low route has persisted. Currently, the traveler between San Pedro (now called San Pedro Sula) and Puerto Caballos (now called Puerto Cortés), can travel this route by rail or automobile. The railroad was built by
European interests in the 1870s. Although originally intended to span the transisthmian corridor’s length, the railroad only extends inland from the port about 55 (88 kms.) miles to Potrerillos near the southern vertex of the triangular Ulúa Plain. It first offered regular service between San Pedro Sula and Puerto Cortés in 1877 (León Gómez 1978: 178). Between that time and the midpoint of this century, this line spawned numerous spurs that connected it to the tropical fruit plantations interspersed throughout the plain. The early-rising traveler can still experience travel on this stretch of track. The Ferrocarril Nacional train departs the San Pedro Sula station most mornings at 6:30 AM en route to Puerto Cortés (Photograph 2). Progress is suitably slow, primarily because of the train’s frequent stops. The Honduran tradition of hailing a bus from an assortment of random locations rather than at a very few stops extends to rail traffic. The trip north leads through sparsely-populated pastures and infrequent hamlets. Yet, it seems that not a mile is covered without several riders, sometimes separated by less than 100 yards, appearing on the tracks with hands a-waving. Without fail the train forfeits its momentum and eases to a halt to accommodate the would-be passengers. After which, it once again struggles to get up to speed.

A venue that provides more rapid transport between Puerto Cortés and San Pedro Sula is the recently constructed
Photograph 2. Ferrocarril Nacional, 1993 (Photo by author)
northern four-lane, expressway-like extension of the Carretera del Norte. This stretch of the corridor presently is the primary focus industrial development in Honduras (Davidson 1994: 324). The Carretera del Norte is a two-lane highway with wide shoulders that connects Puerto Cortés with Tegucigalpa. Much of its route coincides with that of the transisthmian camino real. In the Uluá Plain the carretera, like the railroad, follows the colonial low road.

San Pedro Sula to Meambar

Between 1914 and 1916, a North American student named Dana Munro took the Ferrocarril Nacional to its terminus at Potrerillos. Upon disembarkation, Munro’s progress assumed a colonial comportment as he left the train and mounted a mule. He carried with him a pouch filled with silver because paper currency was of little value in the sparsely settled, poorly developed areas through which he would pass for most of the rest of his trip. His destination was the Pacific coast of Honduras. Munro captured the general pattern of colonial transport when he summarized the Honduran infrastructure of 1914-1916. He observed:

little communication between the coast and the interior, or between different parts of the interior.... Travelers had to go on horse or muleback, through rugged mountains. ... a few stretches of road existed for oxcarts, but elsewhere there were more less unimproved bridle paths (1983: 53).

Munro’s path carried him over large sections of the transisthmian camino real. After eight leagues and 10-11 hours on the back of a mule he arrived at the pueblo Meambar
(1983: 53). More than three centuries earlier, Antonelli reported the full distance from San Pedro to Meambar as 19 leagues. Valverde thought it was 21 leagues. According to map measurements, this distance is 61.5 miles (102.5 kms).

The lack of past landmarks obscures the exact path of this section of the transisthmian camino real. Only the three rivers, the Chamelecón, the Uluá and the Blanco, remain of the features noted by the colonial surveyors noted in 1590. Therefore, the route measured on the map was the route that presently is most commonly taken by foot, mule or four-wheel drive travelers.

The path leads due south from San Pedro Sula. The Chamelecón and Uluá rivers are the primary obstacles found along this level, if occasionally quagmurous, path. Antonelli and Valverde prescribed bridges and ferries for these voluminous rivers because fording could be delayed for several days during freshets. In addition, the surveyors suggested that low, wet spots could be readily avoided because the route followed the piedmont along the western side of the Uluá Plain.

After the Uluá crossing, the path veered to the southeast, away from the drier slopes, over more low, wet arcabuco lowlands. These difficult conditions obtained to the Río Blanco, a tributary of the Uluá that also required a bridge. Two leagues beyond the Blanco travel conditions improved as the route ascended out of the bottomlands of the
Uluá basin. This point marks one of the few interruptions in the transisthmian roadway’s primarily fluvial course.

In the drier uplands the royal surveyors once again found ample pasture and reported the first sizeable settlement, the Indian pueblo called Aramani, since San Pedro. Aramani is the only pueblo from the 1590 surveys that has vanished from the route corridor. Assuming that the transisthmian route established the sort of spatial inertia previously discussed, it seems likely that the present settlement of Santa Cruz de Yojoa is located near, or possibly on, Aramani’s former site. No documents support this claim. Neither have a couple of visits to the town for interviews with local historians uncovered any recognition of this toponym. The only evidence supporting my claim is that at least as far back as 1853 when E.G. Squier mapped his proposed transisthmian railway the road from Meambar to San Pedro Sula has passed through Santa Cruz de Yojoa. Almost 50 years later, the German geographer Karl Sapper (1902) trekked the length of the corridor along a similar route. Mary Lester’s path also carried her from Meambar to Santa Cruz (1964: 250). Moreover, Santa Cruz is the only significant settlement between Meambar and San Pedro Sula that lies approximately four leagues north of Meambar along this route.

Beyond possessing a vanished pueblo toponym and departing from its fluvial course, the section of route
between the Río Blanco and Meambar is noteworthy on additional points. Within this section travelers first encountered the rugged, folded terrain that distinguishes the Honduran interior. Concern with stream crossings and wet roadbeds gave way to worries about climbing out of deep ravines and avoiding rugged passes. Vegetation changed with the terrain. Arcabuco thickets gave way to the mixed oak-pine forests that still cloak many of the country’s interior upland slopes. Sections like this favored mule transport and diminished hopes for a continuous interoceanic cart road. The author’s experience of this stretch of trail confirms the pertinence of Harry Franck’s following description:

the trails of Honduras are like spendthrift adventurers, struggling with might and main to gain an advantage, only to wantonly throw it away again a moment later. (Franck 1916: 292)

Currently, motorized travel through the uplands of this route segment requires four-wheel drive vehicles.

Meambar to Comayagua

From Meambar the trail continued to the southeast through slopes cloaked in mixed pine-oak forests similar to the previous section (Photograph 3). Presently transport over much of this steep, rocky land is served only mule trails. Cunningham (1922: 201-202) aptly described one such trail as

a mere cleared track across the country, rocky and choked with dust, seeming to twist out of its course to find a hill to climb.
Photograph 3. Mixed Pine-Oak Forested slopes between Meambar and Maniani, 1993
(Photo by author)
Because the paths in this region often lead over resistant stone, sometimes even long-term transport fails to etch a clear trace. Strangers to the region can easily lose the trail. Fortunately, a telegraph wire often persists in sections of the old camino real that have long since faded from regular use. This peculiar example of continuous use, thus, provides disoriented trekkers a ready line of reference.

After approximately seven leagues of travel, the trail descends onto the savannas of the north-south trending Espino Plain. Accompanying the return to relatively flat land is the route’s return to a major stream course, the Río Humuya or Comayagua. This river is a tributary of the Río Uluá. Thus, after quite a few leagues of steep climbs and precipitous pitches the transisthmian camino real returns travelers to a familiar stream. There are several possible reasons that explain why the Spaniards previously directed the route away from the Río Humuya. First of all, the mountainous route, despite its difficult relief, appears to be more direct than a route that simply would have followed the Río Humuya. A second possibility is that the mountainous route was favored because it allowed travelers to avoid the muddy lowlands that bracketed the Humuya’s course and the stretches where the encised river lacked places along its banks to walk. Previous experience north of this section must have demonstrated the merits of
progress over arduous, moist advance. The third explanation is simply that the Spaniards let the indigenous folk solve this matter long before they arrived. This course of action provided them with a somewhat entrenched trail and population of Indians along it.

The path of the camino real returns to the Humuya where it runs through the Espino Plain. From there, it continues south along the Humuya to the vast Valle de Comayagua.

**Comayagua to the Isthmian Divide**

The Comayagua Valley is a north-south trending upland basin that occupies the transisthmian corridor’s center. As a large, flat, sufficiently-watered interruption in the surrounding region’s tortured topography, the valley was an obvious early focus of Spanish development. Early during colonization, Honduran interests promoted the Comayagua Valley as the greater region’s capital, the central hub linked to population centers and resource deposits by a collection of spoke-like caminos reales. Beyond the valley’s regional potential, the transfer of Spain’s transisthmian traffic from Panamá to the Honduran corridor would have catapulted the basin into prominence among New World urban centers. These plans, hastily sketched on parchment, must have tantalized men such as Montejo and Cerezeda who were intent on developing their New World territorial allotments.
Present travelers must experience a sense of relief upon entering the valley’s northern reaches. After days, or hours, of climbing and descending and pausing at vistas that offered only disorienting views of scrambled cuestas and barrancas, the mostly treeless valley soothes the eyes. The foothills of the pine-oak forested Sierra de Montecillos to the west and the pine-oak forested Sierra de Comayagua to the east, though separated by 10 miles (16 kms.), seem immediately accessible. Even the 25 miles (40 kms.) of open country that separate Comayagua in the valley’s northeast corner from the valley’s southern rim appear to be easily spanned afoot or mounted. Elevated on the valley’s border slopes, one views the valley as a map spread out before him. Where settlement often had been hidden in the tangle of slopes up corridor, in the valley the collection of grid-pattern communities nestled on the valley margins are readily perceived and the roads linking them traced.

Reflection on Montejo and Cerezeda’s plans for the Valle de Comayagua as a bustling center of commerce, transport and government presents a stark contrast to the present situation. With its abundance of savanna grasses for pasture, the region developed into an early livestock center. However, in 1959 Carl Johannessen interviewed local cattlemen and learned that the valley’s once lush savannas had experienced significant alteration in the recent past. The grasses that once had covered the valley had been
intruded upon by dense thickets of carbón (*Mimosa tenuiflora*) and jicaro (*Crescentia alata*). Johannessen came away with the impression that in the Comayagua Valley he "looking on the last chapter of a long history of excessive grazing pressure" (Johannessen 1959: 113). Twenty-five years later, thorntree thickets persist as prominent lifeforms in the valley.

Although the valley certainly remains an important agricultural region in Honduras, from atop a foothill or footloose on the camino real, it is distinguished by calm vacancy rather than bustling congregation. In contrast, the population of Honduras' ill-sited present capital, Tegucigalpa, continues to swell. In response, the capital's central business district is increasingly paralyzed by congestion and asphyxiated by exhaust fumes while shanty-settlements climb up the surrounding slopes. The divergent development of these two colonial centers accentuate the untapped settlement potential of the original capital, Comayagua. Considering Tegucigalpa's overcrowding and Comayagua's vast spaces, Honduras appears to be ripe for a capitol transfer.

Travel across the valley was easy. There were no slopes to climb, few streams to cross and an adequate water supply. The camino real generally followed the course of the Rio Humuya to the valley's southern rim. However, in the valley travelers were less dependent on the flat
surfaces provided by the river than in the mountainous stretches of the corridor.

Present travelers can cruise the valley in the comfort of passenger or second-hand yellow school buses motoring on the Carretera del Norte. This highway rejoins the transisthmian route at northern end of the valley and follows a north-south path on the valley’s eastern margin. The carretera is the primary line of attraction in the valley. Much of its length is occupied by latter-day incarnations of the economic actors Montejo had hoped to attract to the corridor 450 years earlier.

Regular bus connections to locations within the valley and beyond are available at frequent intervals along La Carretera. Produce vendors, pulperias [rural Honduran convenience stores] and brightly painted wooden roadside comedores [down-scale eateries] offer travelers sustenance while they wait for the bus to Ajuterique or Yarumela. Another group of food vendors specializes in serving passengers already on-board. In a manner similar to the tray girls of the early A&W drive-in restaurants, these vendors greet arriving bus passengers with food and drink hoisted up to their windows on a stick (Photograph 4). Other vendors, often children, steer a more direct course and simply board the bus with their wares (Photograph 5). To service automobile travelers, a series of modern chain service stations, complete with uniformly uniformed
Photograph 4. Food vendors along La Carretera del Norte, 1993 (Photo by author)
Photograph 5. Food vendor on-board, 1994 (Photo by author)
attendants, have emerged along La Carretera. Such travelers not afflicted with "destination fixation" (Siddall 1987: 314) can pass the night at one of several motels.

La Carretera departs the transisthmian corridor for good at the Comayagua Valley’s southern end as the dominant flow of traffic veers to Tegucigalpa to the southeast.

The pueblo Lamani, at the Comayagua Valley’s southern border, marks the point at which present transport along the transisthmian corridor departs dramatically from that enjoyed on the Carretera del Norte. From this settlement, the transisthmian route leads up into the pine-oak forested slopes that ring the Comayagua Valley. The terrain resumes its tortured character. South of Lamani, the corridor’s inhabitants still are served by public transport. However, the buses are of a poorer quality, their trips less frequent. Annual grading, filling and resurfacing over the past five years have improved the road. However, erosion caused by the rains of invierno seasonally reduces the thoroughfare to a rocky, rutted and uneven road that offers only slow progress to travelers and accelerated wear to their vehicles.

Five leagues in 1590 and three and a half hours in 1993 brought travelers from Lamani to the isthmian divide at approximately 740 meters above sea level. These five leagues tempered any hopes for a cart road that the flatness of the Comayagua Valley might have encouraged. The
unevenness of the roadbed was further aggravated by the torrents that coursed down the quebradas and over the roads between June and December. These difficulties notwithstanding, Squier, in his role as railroad promoter, described the isthmian divide as a "beautiful valley, a savanna, or natural meadow with cattle grazing" (1858: 688). Presently little traffic passes over this difficult but picturesque stretch of the transisthmian corridor.

**Isthmian Divide to Goascorán**

Except in size, as I have remarked before, the average Central American pueblo might have been poured out of the same mould as its neighbors up and down the road. The difference is usually in the size. Unless some peculiarity in the nature of the country has caused a change in the customary plan of town-building-development, rather, there will be the same rows of one-storied whitewashed adobe or stone houses and shops converging upon a central plaza, with the pole-walled, palm-thatched huts of the poor on the ragged outskirts of the pueblo. The spires of the churches frown down upon the plazas in every town I have seen, and it seems fitting that the pleasuring of these people, whose lives are so overshadowed by the padres, should be done beneath the shadow of the church-tower. (Cunningham 1922: 203-204).

In this passage, Cunningham neither identified nor precisely located these pueblos but a Latin Americanist field geographer can recognize immediately the kind of places he means. Within the transisthmian corridor, between the isthmian divide and the Gulf of Fonseca, there are four surprisingly uniformly-spaced pueblos that fit this model: Aguanqueterique, Lauterique, Apazapo and Goascorán. Spaced at four league, or ten-mile intervals, these towns occupy a stretch of road that Antonelli described as "the worst ...
there is from Comayagua to Fonseca" (1590: 10). The consistent spacing of the pueblos surprises because it was achieved not in a vast plain like Comayagua, but on rugged, uneven slopes.

This stretch of the road follows the Río Goascorán (called the Río Rancho Grande near its headwaters) as it flows south to the Pacific. Bordering the Goascorán on both sides are slopes that reach some 1500 feet above the river's level in a matter of five to six kilometers. The aforementioned pueblos lay on the east side of the Goascorán nestled along tributary quebradas within three to four kilometers of the river.

The primary flow of traffic at the time of Antonelli and Valverde's surveys followed a series of senderos [foot paths] that connected the pueblos. However, because of the rugged nature of the terrain traversed by these paths, both surveyors agreed that construction of a cart road over this section would require considerable earthwork and prohibitive expense. They, therefore, scouted out and recommended an alternative route on the unpopulated right bank of the river. Remnants of this alternative, or some later incarnation, persist in the region's route network. Presently a gravel road leads west from Aguanqueterique to a sturdy automobile bridge that crosses the Goascorán. The road continues on to a pueblo called San Juan. From San Juan an extremely difficult road leads south, roughly
paralleling another road on the river's east bank. This westbank road leads to this small region's largest settlement, San Antonio del Norte. The only other gravel road that departs, or enters, this San Antonio del Norte leads to the east across another bridge over the Goascorán. Just four kilometers past the bridge, this road intersects the route between Aguanqueterique and Lauterique. Thus, at some time, Antonelli and Valverde's suggestion was acted upon, if incompletely.

Despite Antonelli's dire description of the Goascorán's eastbank's infrastructure and the surveyors' attempts to avoid it, a few, albeit later, travelers discovered desirable qualities on this stretch of road. Lester, while on her leisurely mule ride through the corridor, judged the area to possess

rock, wood, tree, shrub and water ... on a grand scale - all so to speak, the best of their kind; and the humble wild flowers, adorning the far-stretching fertile valleys which slope between the clefts, are rich in colour, and far from wanting in perfume. (1964: 164).

Several hikes in the hoofprints of Lester's mules in recent years have demonstrated to this author the validity of Lester's assessment.

Two hundred and seventy years after the royal surveys, another surveyor with a similar purpose visited this stretch of the corridor and arrived at a different conclusion. E.G. Squier, ever the promoter, raved about the resources that this stretch of the corridor had to offer for the
construction of the transisthmian railway. Rather than emphasizing the route's difficult grade, Squier stressed trees.

At Aramacina the yellow pine appears on the hills, and at San Juan and Aguanqueterique it is to be found of good size and in inexhaustible quantities in the immediate vicinity of the road. The pine attains a size of thirty inches, and from 50 to 75 feet of altitude, differing in no respect from the best of North Carolina. The oak is also to be found in considerable quantities, as well as many other useful and valuable woods in any desirable abundance (1858: 689-690).

In addition to cross-ties, wood was necessary for the numerous bridges that would be required to cross quebradas and the barrancas they had cut. Squier envisioned the Goascorán's tributaries as sawmill streams. Presently, the southern pine line has been moved farther inland from Aramecina almost to Aguanqueterique. The formerly forested slopes now are crisscrossed by cattle terraces.

Interviews with elderly residents of Aguanqueterique revealed the changing nature of the area's roads. Presently, Aguanqueterique is linked to the Comayagua Valley to the north and pueblos to the south by a gravel road that residents call the "carretera." Although Honduras' highway department has regularly improved the carretera during the past five years, automobile travel on this road is still difficult during the dry season and occasionally impossible when quebradas wash out fords during the wet season (Photograph 6). According to interview subjects, the carretera is approximately 15 years old. Previously, pueblo
Photograph 6. Automobile ford washed out during invierno, 1994 (Photo by author)
residents used what they alternately called "el camino real" or, more recently, "el camino de las bestias" [road for pack animals]. Photograph 7 shows a representative remnant of this road's cobbled stonework. The roadway is approximately 15 feet wide and often bordered by stone walls. Photograph 8 shows a particularly incised stretch of this road. The incision provides evidence of the road's antiquity and that its path has become part of the region's drainage network.

In addition to its width and surface, the camino real differs from the carretera in the character of its path. Where the carretera attempts to follow the gentlest grade, the camino real follows a steeper but more direct path. This difference relates directly to the differing means of conveyance.

Between Aguanqueterique and Goascorán the carretera is paralleled by similar caminos de las bestias. Some possess intact stonework, others only traces. Occasionally, past routes coincide with the carretera. In such cases sunken traces intersect the carretera and, in places, its surface is interrupted by stone cobbles.

Apazapo marks the transition between the region's mountainous interior and its is narrow Pacific coastal plain. Near Apazapo the Goascorán's valley broadens significantly and the surrounding slopes fall farther away from the stream's channel. At this point the route improved as the land became more level. The path led south down a
Photograph 7. Stone-cobbled "camino real" north of Aguanqueterique, 1992 (Photo by author)
Photograph 8. Incised "camino real" north of Aguanqueterique, 1992 (Photo by author)
gentle grade to pueblo Goascorán located directly on the east bank of the Río Goascorán. South of this settlement the camino real led to the Gulf of Fonseca, its ultimate destination.

Goascorán to the Gulf of Fonseca

Just two kilometers south of Goascorán the Pan-American Highway, the present-day rendition of Fray Ponce's route on the old colonial coastal camino real, intersects the path of the transisthmian camino real. Ten kilometers to the west of this intersection, across the El Salvador-Honduras border, the Pan-American Highway encounters another north-south trending road. This road leads to La Union, El Salvador, the major port on the Gulf of Fonseca. La Union is Puerto Cortés' transisthmian twin. However, the El Salvador-Honduras border and recent hostilities between these two states preclude any significant and direct transisthmian flow between these two ports.

At the time of Antonelli and Valverde's surveys apparently no major settlement existed on the Gulf of Fonseca. Accordingly, the Spaniards charted a route from Goascorán to the site they felt was most appropriate for a Pacific port. Unfortunately, the names of reference points that they used to locate this site largely have vanished from the current landscape and the map. Information from the surveys and contained on the map that resulted from
Antonelli's survey (Map 13), however, does provide some general information about that site's location.

According to the surveys, both parties thought that the Pacific port settlement should be established to the west of the Río Goascorán, approximately six leagues from the pueblo Goascorán and two leagues south of the Río Cirama. High land was at this location in distinct contrast to the low, occasionally swampy, land that was traversed en route from Goascorán. The surveyors' map is misleading in that it overextends the route's north-south trend. Because of this mistake the proposed settlement site was drawn at the northern head of one of the Gulf's primary inlets, facing directly south. Actually, according to the distances and the mention of the Río Cirama in the surveys, the proposed settlement site would have faced eastward much as La Union does presently. In fact, La Union appears to occupy a location near to that which the surveyors described.

Site location notwithstanding, a recent hike and dugout canoe trip demonstrated that this final stretch of the transisthmian corridor offered travelers a dramatically different ambiance. From Lauterique south to the Gulf's shores, movement was achieved in the tierra caliente of the coastal plain rather than the tierra templada that prevailed over much of the corridor. Exhilarating cool vistas of pine and oak forested slope upon forested slope gave way to drudgery in the muggy, flat lands. Both Antonelli and
Map 13. Planta del Puerto de Caballos de la Bahía de Fonseca y del camino que hay de un puerto a otro, 1590
Squier described stretches of this land as savanna. Presently, portions of the rocky land between the Pan-American Highway and the Gulf possess all the meanness of the Comayagua Valley's carbón and jícaro without its moderate temperatures.

Progress across this hot land eventually brings one to water. For much of the Gulf region, this intersection between the Pacific Ocean and the mainland occurs in mangrove-lined tidal inlets [esteros]. The Gulf of Fonseca contains one of Central America's most extensive mangrove formations (West 1976). Though neither surveyor mentioned it, the morass of stilted roots must have presented an imposing coastal barrier. So much so, that it is not unreasonable to consider that the mangrove of the inlets might have persuaded the surveyors to site the port settlement to the west of the corridor's path on the Gulf's western margin on higher ground. In a nod to the merits of spatial and economic inertia, presently sections of the mangrove littoral have been cleared for the construction of salt pans. As was mentioned previously, Spanish miners exploited the Gulf of Fonseca for salt in the 16th century.

Travelers' ultimate vision of Honduras' transisthmian corridor required that they abandon the strictures of overland transport and take to the sea. Water-borne progress brings the traveler out of the confining mangrove galleries and into the open spaces of the Gulf proper.
Amidst this watery expanse cone-shaped and other less symmetrically formed volcanic islands emerge like great sea turtles (Photograph 9). A glance back at the collection of similar contours to the north possibly suggested to colonial travelers that an extension of the mainland’s tortuous interior had been submerged in the Gulf.

Prospect

With about 25 pages of text and several photographs, I have retraced one transisthmian trip along the Honduran corridor. Four hundred years ago the trip would have taken 25 days for a recua loaded with colonial cargo. Presently, during verano in a sturdy 4-wheel drive vehicle with plenty of clearance, the trip probably could be made in a bone-jarring 25 hours. Within two and a half years a paved carretera will line Honduras’ transisthmian corridor and the experience of colonial comportment will vanish from Honduras’ transisthmian corridor while vestiges remain in the landscape.
Photograph 9. Gulf of Fonseca, 1993 (Photo by author)
CHAPTER TEN

AFTERMATH
Route Geography

This study is a historical route geography. Its emphases were drawn from an exhaustive review of historical route geographies. Themes that loom prominently in this body of literature include: the road or route's value as a cultural-historical artifact; the question of a road's origin, its persistence and influence on pioneer settlement; the strong relation between physical geography and the routes humans' have created to conquer distance; and finally the interdependence between routes and the technology of conveyance. This study has combined these themes. In addition, I have pursued the notion that it is useful to consider the road as a region in and of itself by virtue of the distinctive activities that surround it.

This historical route geography has identified and evaluated the constellation of human and physical factors that influenced the life of Honduras' transisthmian corridor between Spanish contact in the 1520s and the discontinuation of the Honduran fleet in 1633.

In the process, I have described the historical and spatial contexts that focussed Spanish colonists' attentions on the problem of overland transisthmian transport throughout Central America. Mindful of Meinig's (1962: 413) call that historical geographers should understand decision makers' "geographical visions," I have presented the geographical facts about each of the four primary
transisthmian crossings. From these facts and the decisions made, it is clear that then, as now, the high costs of overland transport caused the Spanish to favor Panamá, site of the narrowest isthmian crossing, over the others despite its deficiencies and the others’ potentialities. The choice of Panamá also reflected the willingness of the Spaniards to forfeit advantageous settlement opportunities on the isthmus’ interior in favor of a rapid, if arduous and pestilential, crossing. Tracking the Tehuantepec and Nicaraguan crossings beyond the colonial period demonstrated that, despite the failure of each to capture the flow from Perú, varying degrees of spatial inertia were established with regard to transisthmian transport.

The scope of inquiry sharpened to focus on the Honduran corridor, its early history, its primary actors and their "geographical visions." Francisco Montejo, the principal actor, was shown to be an administrator with a clear vision of how he intended to develop his province. For Montejo the transisthmian corridor would be the province’s spine of settlement and economic activity. The relocation of Spain’s transisthmian transport to this corridor can be thought of as the "catalytic action" (Burghardt 1969: 435-436) to focus settlement activity along the length of the corridor. This notion of Montejo’s finds the adelantado in agreement with Vidal de la Blache and Brunhes’ that the road could "sow seeds of life." In contrast to the development of the
Panamá crossing, Montejo believed that the flow from Peru could stimulate the development of his province's interior. Montejo desired that those seeds of life germinate in the broad upland Comayagua Valley, located at the center of this spine. This site would become Central America's transport hub and commercial center. Puerto Caballos at the corridor's northern terminus would be the region's major port. Montejo's pursuit of his plans was interrupted abruptly and he never got to press his case for rerouting the Spain's transisthmian traffic. Neither the silver strikes in the Tegucigalpa area in the 1570s nor indigo or cattle production were activities sufficient to catalyze settlement.

The review of pre-Columbian transport studies suggested that aboriginal travellers and their products might have coursed through the Honduran corridor. Historical sources demonstrated that some indigenous flows coincided with the Spaniards' primary colonial route network. This information was insufficient to conclude that Montejo simply appropriated an indigenous trace.

The early focus on the Spaniards' attempts to simply get across the Central American isthmus revealed traces of the problem of colonial route planning and construction. With the Interlude and ensuing chapters these concerns were further developed. Cognizant of the need to consider colonial transport and road-building from the standpoint of
"former occupants ... needs and capacities" (Sauer 1941b: 10), information concerning route and transport factors including funding, labor supply, means of conveyance, means of sustenance, construction strategies, agricultural potential, and settlement potential were collected. The result is arguably the most comprehensive collection of documents on colonial Latin American transport.

Transport and road-building factors were discussed and appraised for the region in general, and the Honduran corridor in particular. This survey demonstrated that, in addition to Montejo's brief tenure, the development of transport along the Honduran corridor suffered from a general lack of resources. Specifically, transport and road-building in Honduras were undermined by the province's lack of labor, mules, agricultural potential and general economic activity. The length of the corridor and its difficult topography further maligned its promise.

With Chapter Nine I attempted to capture vestiges of the experience of colonial travel by combining my field notes with travel accounts from early in this century and royal surveys from 1590. The resulting travelogue and photographs show the reader Honduras' transisthmian corridor. Scattered descriptions of current travel along the corridor reveal continuities that demonstrate that the unique characteristics that distinguished this strip of region in the past persist in the present.
Montejo's Honduran Pipe Dream

I call Montejo's planned route network a "pipe dream" for three reasons. Firstly, pipe dreams rarely come true. And Montejo's dream of transforming Honduras' transisthmian corridor into Central America's primary colonial transport artery did not come true. Secondly, pipe dreams are founded upon fantastic notions. And Montejo's plan, indeed, depended on extremely tenuous circumstances. For it to have succeeded, Spain's transisthmian traffic would have had to have been shifted from Panama to Honduras. Because Honduras possessed neither the population, human or animal, to support transisthmian traffic, the corridor would have had to have been settled by a large contingent of slaves and farmers, not to mention mules or oxen (Antonelli and Quintanilla 1590: 16). The final reason for calling Montejo's plan a pipe dream is that pipe dreams promise a finer future. And had the plan succeeded, Honduras' colonial development would have followed a dramatically superior course. Instead of lagging behind as a forgotten and fairly empty colonial backwater, Honduras would have emerged as Central America's center of commerce.

Montejo's pipedream was undermined by a host of internal and external factors. Among the external factors were: 1) the brevity of Montejo's administration; 2) the early entrenchment of the Panamá crossing; and 3) the regional hegemony of Guatemala. The internal factors
include: 1) the lack of human or animal power; and 2) the nature of the canvas on which Montejo sketched his plans. For while the corridor’s fluvial route occasionally provided a relatively gentle grade, it also demanded the construction of numerous bridges of seasonally torrential streams, and forced travellers to slog through quagmireous stretches of low floodplains. The corridor’s span also was simply too long for economic overland transisthmian transport, given the technology available.

Despite the utter failure of Montejo’s plan during his lifetime, two more maps demonstrate the clarity of his vision. Map 14 shows Honduras’ current network of paved roads. Map 15 results from the superimposition of Map 14 with Montejo’s planned route network (Map 12) and allows a comparison of the two. The similarities are readily apparent as are several differences. Most of the routes that Montejo sought have been paved. Puerto Cortés, Central America’s largest port, occupies Puerto Caballos’ former location at the northern end of the transisthmian corridor. This port is linked to Comayagua by Honduras’ trunkline, La Carretera del Norte. Paved roads also connect Puerto Cortés to Guatemala City and Trujillo. Olancho, moreover, is linked, if indirectly, to the corridor.

Significant differences in the two networks are found in the corridor’s southern half. Rather than extending the entire length of the corridor, La Carretera del Norte veers
Map 15. A Comparison of Networks
to the southeast at the Comayagua Valley's southern rim. This resulted from the contrasting fortunes of two areas.

Since the time of Montejo, the Goascorán basin never experienced a lasting economic boom that stimulated substantial settlement or investment in transport infrastructure. Therefore travel over this stretch of the corridor currently is served by a poorly graded cobble and gravel road.

Conversely, Tegucigalpa, the trunkline's present southernmost destination, enjoyed dramatic growth as a result of two silver mining boom periods, one in the 1570s (MacLeod 1973: 148; West 1958: 769) and another in the 1800s. These and other related developments drew the focus of infrastructure investment away from the transisthmian corridor and established Tegucigalpa as the route network's hub.

In conclusion, Montejo's plan to secure Spain's transisthmian trade was a colonial pipe dream. That trade never coursed through the corridor to a significant degree. The Comayagua Valley remains a fairly empty site waiting to be filled while the settlement spills out of the overcrowded Tegucigalpa basin. Nevertheless, practicality of Montejo's route network is proven by the persistence of his routes in the modern Honduran road network. The earliest intense road building effort occurred between San Pedro and its port, and today that precise route is the only divided, four-lane
expressway in the country. As a complement to the other extreme of the early 16th century, the eastern frontier road between Trujillo and Catacamas in Olancho is being paved.
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Explanation of Document Collection Abbreviations

AGI = Archivo General de las Indias

ANH = Archivo Nacional de Honduras

CDIA = Colección de documentos inéditos relativos al descubrimiento, conquista y organización de las antiguas posesiones españolas de América y Oceanía. 42 vols. Madrid, 1864-84.


RABN = Revista del Archivo y Biblioteca Nacionales (Honduras).

RAH = Real Academia de Historia, Madrid.


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APPENDIXES
APPENDIX A

KING PHILIP II'S INSTRUCTIONS FOR ROUTE SURVEY (1588)

Translated and abstracted from:

1. Travel to Honduras considering the navigation and ease or difficulty of arriving at Puerto Caballos.

2. Punctually and precisely sound the port from its entrance, proceeding to its shores. Carefully examine possible anchorages. Seek places where ships can be boarded from land and not like Nombre de Dios where people must walk and carry cargo in chest-deep water to board and disembark a ship. This regrettable practice causes the majority of sickness and death there.

3. Examine and sound the bay, noting its prospects for unloading and unloading. Is it sheltered from wind? Can its entrance be fortified? At what price? How many ships can it accommodate? Are there heavy downpours? When? Are there shipworms or other inconveniences natural to the site? Are the environs suitable for healthful settlement?

4. Travel the road from Puerto Caballos to the Bahía de Fonseca with Francisco de Valverde, Juan García de Hermosilla, Captain Pedro Ochoa de Leguízamo and see if it conforms to past reports, if it is used, if it has opened anew, if it is rough, if it leads over mountains or through thickets or other bad places. Determine whether it is rocky or has swamps or other inconveniences. What sort of rivers must be crossed? Are they voluminous rivers or small rivers that swell greatly with the onset of rain? Are they crossed with bridges or boats? Are they passable year-round? If the route can be made to accommodate carts, how much will it cost and how long will it take?

5. Observe with great care the province's roads that are very difficult and flimsy. Landecho, Villalobos and now Valverde have opened roads at great cost. Some have become so bad that transport is not possible and beasts perish on them. Observe whether work and cost have become unfruitful. Keep your findings confidential. And go about your survey as inconspicuously as possible.

6. Consider the population of Indians and Spaniards who live along the road and the surrounding area. Observe whether they are healthfully and well situated. Consider the inhabitants' standard of subsistence. See if you can obtain the essentials at both ports, and at what price.

7. See if they raise, and if there exist, beasts of burden in abundance for transport. What is the current price for these beasts? Do they have the corn, pasture ... sufficient for their maintenance?

8. In both ports see if there is fresh water for provisioning fleets and ships. Are there enough rocks for
quagmires? Is there hemp, nails, wood and other materials necessary for building and repairing ships? Is there lime, gypsum, wood and stones for buildings? Where are the most convenient locations for populations to be settled near the ports? Note the healthfulness of the locations and the availability of the resources necessary to provide for the people who come with the fleets and overland trade. There will be a demand for firewood and pasture and watering holes for cattle.

9. It has been reported that the Bahía de Fonseca is a good point of departure for ships sailing to Perú. This is because the trip is said to be shorter and safer than the trip from Panamá. The same applies for trips to Nueva España, the Philippines, India and China. In the course of your investigation try to verify these claims.

10. It has also been reported that Honduran residents can transport merchandise from Puerto Caballos to Fonseca for less than half of what it costs to travel from Nombre de Dios to Panamá and that they pay two pesos for every load. The money collected is used to repair roads. With less than this amount the roads could be repaired. If the change should take place, conservation of the roads would require me to provide some funding. It has also been reported that merchants, mariners and passengers would be quite rebellious at the increase in price that would accompany trade and the royal rent. Because it is necessary to understand clearly the situation, learn from the people who presently collect the fare approximately what price would be tolerable.

11. I have been informed that in all of the land there are many mines that, with work, could produce much profit and benefit the poverty of the citizens. If the change of routes is made, the land will become populated. This will provide the necessary labor and will result in great profit, especially if the good, fertile land is cultivated. And if for any reason hostilities should arise the citizens could be defended and aided by citizens in neighboring regions. In the same situation, those threatened could discover passages of escape from there (north coast) by the south coast to Popayán and Nueva Reino de Granada. This could be of great importance. They also could establish treaties with people in the lands in between where it is understood there is a lot of risk.

12. Learn from people who have knowledge of the north coast the nature of the wind. When do they blow? What impediments do they cause for navigation from Puerto Caballos to Habana? Is it an easy, safe passage? Which route is best?
13. In all that you collect, learn and examine that which can be used. Those discoveries that seem useful should be pursued and the inherent ease or difficulties involved with their execution should be determined. For everything compile an extensive report and include designs for demonstration to enhance understanding.
APPENDIX B

SUMMARY OF ANTONELLI AND QUINTANILLA’S ROUTE SURVEY (1590)

Translated and abstracted from:

<table>
<thead>
<tr>
<th>Starting Location</th>
<th>Ending Location</th>
<th>Distance Traveled (leagues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puerto Caballos</td>
<td>San Pedro</td>
<td></td>
</tr>
</tbody>
</table>

(Two routes)

**Camino por abajo**

<table>
<thead>
<tr>
<th>Starting Location</th>
<th>Ending Location</th>
<th>Distance Traveled (leagues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puerto Caballos</td>
<td>Rancho del Chamalucón</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Río Blanco</td>
<td>2+</td>
</tr>
<tr>
<td>Río Blanco</td>
<td>Estancia del Tesorero</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>San Pedro</td>
<td>4</td>
</tr>
</tbody>
</table>

Low, bad road; barriers of hills and swamps because road runs on low land at the base of mountain; totally closed by thickets.

Wet, thicket-covered Chamalucón stretch; not as bad as previous stretch.

Follows piedmont; better than previous stretch; yet covered with big trees; cutting trees and opening a path of 70-80 feet breadth to expose road to sun and wind would improve present road.

Good level road that passes through grasslands with ample pasture for livestock.

**Camino por arriba**

<table>
<thead>
<tr>
<th>Starting Location</th>
<th>Ending Location</th>
<th>Distance Traveled (leagues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puerto Caballos</td>
<td>San Pedro</td>
<td>10</td>
</tr>
</tbody>
</table>

First 4 leagues very bad road; passes through hills and several narrow passes suitable for pack animals; road leaves uplands 1 league north of Tesorero; could move part of the old road (camino abajo) and improve the remainder by clearing the thickets and exposing it to sun and wind; this road is better for pack animals and shorter than low road; takes one day for mules to travel from
Puerto Caballos to San Pedro on the high road; by way of the low road travellers are forced to camp at Río Blanco where there is no pasture for pack animals.

San Pedro  
Río Chamalucón  1.5

Level, firm road; río is voluminous and overflows often; but locals report that waters subside quickly; requires a bridge; there is a good site complete with stones; could make pillars of stone; and an arched bridge that could be covered with thick trunks of the trees that grow in the vicinity; in this manner, much expense could be avoided.

Río Chamalucón  
Río Ulua  3

2.5 leagues through thickets with flat land and good soil; one-half league of grassland; Río Chamalucón is voluminous and rapid and floods extensively; waters do not ebb readily and can delay fording for two to three days; it has a wide bed and presently is crossed with canoes; because of its width it would be too costly to construct a bridge; instead two or three chatas (flat-bottomed boats) each with a capacity of 20-25 mules could readily accommodate a mule-team; river is bounded by two steep banks that have bypasses.

Río Ulua  
Río Blanco  4

Two equally bad roads; one goes through wet lowlands and is used in dry season; the other is a rocky road that skirts the foot of a mountain; possible to build a wooden bridge across Río Blanco because it is narrow.

Río Blanco  
Estancia de Armento  2

Bad road.

Estancia de Armento  
Estancia de Medina  3

Good road; good pasture and water supply; only one hill; bypasses around both sides of it.
Estancia de Medina  

Aramaní  

1.5

Two hills of good land and two intermittent streams; streams flood in wet season; Four to six hours wait before fording.

Aramaní  

Miambär  

4

Steep hills and deep ravines; good pasture and water; mixed oak-pine forest; good soil; possibility to remove some passes and ravines from route to make it suitable for droves of mules.

Miambär  

Los Ranchos  

3.5

Good, firm road that leads over some foothills; mixed oak and pine forests; good pasture for cattle and many arroyos that cross the road; two leagues out of Miambär is Cuesta Blanca, a steep slope of about one-half league; one arroyo swells considerably because of the many slopes nearby; land of bad quality.

Los Ranchos  

Maneání  

4

First 3 leagues steep; land of good quality and dry; good pasture, water and open pine groves; crosses the Río Comayagua where a bridge like that prescribed for Chamalucón is needed for pack animals; beyond river, road is level and runs through grassland with ample pasture for both cattle and sheep.

Maneání  

Comayagua  

3*

Two leagues of gentle slopes followed by one league of level land with very good soil; lots of pasture and water for livestock; possible to reroute road out of Maneání by skirting the foothills of a mountain that trends toward Comayagua.

Comayagua  

Alamaní  

5

Leads across Comayagua Valley; good, firm, level road that leads across many streams and through pasture for livestock; Río Comayagyu'a's ravines are very gentle.
Alamaní Ranchos del Obispo 5

Two roads; one presently used is adequate for mule droves ... pasture and grass all the way to Fonseca; the other is presently only a path but the best possibility for a cart road; one league out of Alamaní route climbs to the crest of a mountain; this stretch would be difficult to open for a cart road; route leads over ravine of level land and fertile soil then descends to a place called El Palmar; cross an arroyo with high banks where a bridge is needed for carts; take road to the right on a one-half league stretch of level piedmont; a level stretch through ample pasture and water leads to Rancho del Obispo; must cross a river that requires a bridge because of its volume before arriving at Ranchos del Obispo.

Ranchos del Obispo Quequanterique 3+

Some moderate-sized hills and ravines; good road and soil.

Quequantequerique Estancia de Batres

(Two routes)

Present Camino Real

The four leagues south of Quequantequerique are "the worst road there is from Comayagua to Fonseca"; it would be expensive to open those 4 leagues for carts; would require: two bridges over two large gorges, many culverts and embankments and ramparts of stone and lime, the levelling of a hill with picks and hoes, stone and stone and masonry walls to protect road from seasonal torrents that drain the abundant watersheds that line the route; road would be ruined every year and stymie trade and require extensive, expensive repairs annually.

Quequantequerique Loqueterique 3

Hills and ravines; ample pasture for livestock; this segment of road is presently used.
Loqueterique                  Apazapo     3
Two leagues of hills and ravines; ample pasture and water for livestock; land appears to be dry because even with much water there is no mud; road is as good as that behind.

Apazapo                       Goascorán  3
Level road; good soil and ample pasture and water for livestock.

Goascorán                    Estancia de Batres  3+
Level road with bypasses around swamps; one-half leagues north of Goascorán is best site for a pack animal bridge across Río Goascorán because of boulders in the middle of stream; from Alamani to Batres the camino real presently used could be upgraded for mule-teams inexpensively.

Proposed Route

Quequanterique                 los Llanos    4
One-half league north of Quequanterique is a good place to bridge the Río Goascorán and bypass that settlement; the west side of the river is best for opening a cart road; there is a level stretch from crossing to one league south of Loqueterique.

los Llanos                      Río de Paralox  4+
Good level road with pasture and water for livestock; river is voluminous in flood but locals say it ebbs with time; nevertheless, high banked river requires a bridge.

Río de Paralox                 Río de los Sauces  2+
Level terrain with ample pasture and water for livestock; high banked river requires bridge.
Río de los Sauces  Río de Pasaquina  3.5

Reasonably good road; borders Río Goascorán; one mountain that can be bypassed; river is voluminous because of large watershed; requires a bridge.

Rio de Pasaquina  Estancia de Batres  2+

Level road, somewhat rocky in some places and swampy in others; bypasses possible and in wet places, causeways; estancia is located on Río de Cirama; similar to other streams in the vicinity, the river swells considerably but ebbs within one day and night; nevertheless, a bridge is required.

Estancia de Batres  Río de las Guacamayas  2.5+

Level road with ample pasture and water for livestock; climbs some hills in the vicinity of the river; this is where the main Fonseca settlement should be established; alternate route over this stretch is very swampy and contains some bad passes; this completes the road from Puerto Caballos to the Gulf of Fonseca.

* = leguas largas
+ = leguas grandes

The cost of opening these roads and building the bridges: 250,000 ducats. Opening road for carts from Comayagua to Fonseca is very expensive. This stretch would be less expensive if it was made for pack animals because fewer bridges, culverts and other costs would be avoided.
APPENDIX C

SUMMARY OF VALVERDE'S ROUTE SURVEY (1590)

Translated and abstracted from:

Starting Location  Ending Location  Distance Traveled (leguas)
Puerto Caballos  Hato del Fraile
(Three Routes)

*Camino por bajo*

Puerto Caballos  Rancho del Chamalucón  4

Total stretch covered by thickets; land of poor quality, humid and swampy; would be extremely difficult passage even during dry season; this route could be improved by opening it but it would still be ruined every wet season and difficult in dry season; no pasture because of thickets.

Rancho del Chamalucón  Río Blanco  3

Thicket-covered stretch; not as bad as previous stretch but still not good; lots of mud during wet season.

Río Blanco  Hato del Fraile  3

Better than previous stretch; covered with thickets; three leagues of forest; road leads over some ravines that have cut down into the surface and some lagoons associated with Río Chamalucón; this stretch of thickets could be bypassed by putting the road on the piedmont of the nearby range and opening it as suggested for previous sections; need to open road 80 paces wide so wind and sun can dry it; presently it is closed year-round.

*Camino por arriba*

Puerto Caballos  Hato del Fraile  10

Because of the poor quality of the low road, muleteers prefer another road they call the high road; it is three leagues shorter than the low road; this road leads over arroyos of stones and water that ordinarily rises to the level of a horse’s belly during the wet season; the second two-thirds of this road leads over similar arroyos; there are also slopes of very poor quality because there are hogbacks that with the passage of time and lack of
maintenance have cut deep alleys that are presently hazardous to use; could repair these passes so that passage from Puerto Caballos to the savannas of Hato del Tesorero could be made in one day; the distance would be 6.5 leagues; passage would be less taxing than the low road with its lack of pasture.

**Por Río Chamalucón**

Puerto Caballos  Hato del Fraile

To avoid the inconveniences of the two roads, a river route is possible; Río Chamalucón passes about one league from the bay near Puerto Caballos; it would be easy to carry merchandise to the river and ship it upstream to Hato del Fraile; build warehouses at Hato del Fraile to break bulk; ample pasture at Hato to maintain and restore pack animals; a crew of negroes and Indians cut a path from Puerto Caballos to Chamalucón with machetes then traveled up river to Hato; another crew traveled down river sounding and examining navigation possibilities; from Hato to mouth of river is ten leagues; the channel that Rancho Chamalucón is on is the best to follow to arrive at the caldera; Rancho is four leagues away from Puerto Caballos and 2.5 leagues from the bay; channel is 1.5 fathoms deep from Hato del Fraile to its mouth and is 60 paces wide; it is not voluminous and is as calm as an estuary; at its mouth it is 8 spans deep with good bars such that loaded frigates and barks ascend the river with ease to Hato del Fraile using their poles; there are several narrow passes in the river choked with vegetation; these can be cleared easily and inexpensively; from the mouth of the river to Puerto Caballos is 3.5 leagues; with the land breezes blowing all year it would be best to leave Puerto Caballos at midnight arriving at the river by dawn; and if the breeze has risen, boats can proceed full speed; if not, they can tie up with ease.

Hato del Fraile  San Pedro  3

Good, level road.

San Pedro  Río Chamalucón  2

Level road; river can be forded most of the year; in the wet season canoes are used to cross; need to build a bridge of 120 paces width; a little upstream is a good site; bridge will be expensive because the great volume of the river requires it; supply of stones and lime on-site.
Río Chamalucón  Río Ulua  4

Río Ulua is very voluminous in concordance with its large confluences; it would be difficult and expensive to build a bridge the river is more than 200 paces wide and in the wet season more than 400 paces; in addition, the banks are of unsteady material; could use barks for crossing; the road between San Pedro and Río Ulua crosses more marshy areas that should be opened so that passage is possible during the wet season; there are scattered thickets.

Río Ulua  Río Blanco  5

The low road crosses many swamps, one called Cimarron that in the height of the wet season is particularly difficult for mules; there are some bypasses possible that have not been opened by those who use this road because of some boulders that cannot be moved because of the erosion that would result; this situation occupies one-quarter league of the route.

Río Blanco  Estancia de Armenta  2

Río Blanco is voluminous and requires a bridge because it cannot be forded in the wet season; good situation for a wooden bridge because river is not wider than 40 feet neither is the current rapid nor does it fill its banks; on its banks are ample supplies of wood: madre de cacao and oaks; a durable wooden bridge will suffice; a stone bridge would be expensive because the banks do not possess proper building stones; lime would have to be carried from two leagues away.

Estancia de Armenta  Aramani  4

Land is drier and of good quality; ford two rivers easily; however, the river near Aramani is almost big enough to cause delay; however, the locals say the confluence is nearby.

Aramani  Miambar  5

Rugged, folded terrain; ford three rivers easily; it seems easy fords result from nearby confluence; road is firm and has some good shortcuts to avoid several rugged passes.
Miambar

Firm road of good quality that traverses a rugged stretch; ford three rivers easily because of nearby confluences.

Los Ranchos

Firm road; for the most part over rough terrain; ford one arroyo twice; the good water in Comayagua’s river is the city’s source of drinking water.

Los Ranchos

Maniani

Ford 3 rivers; the river near Maniani causes no delay because the confluence is within 1.5 leagues.

Maniani

Comayagua

Firm road; from Puerto Caballos to Comayagua is 46 leagues by the low road and 43 by the high road; it seems impossible to open this stretch for carts because of the ruggedness of some areas and the wetness of the level areas that make them worse than the rugged areas; between Armenta and Puerto Caballos carts would have to swim through the mud; because of these qualities it is difficult to plan bypasses, especially from Maniani to Estancia de Armenta; upon hearing from Comayagua’s citizens that a cart road to Armenta was impossible, Leguizamo assembled a survey party that included Indians from Miambar and Maniani; the Indians were included because they were reported to have milpas scattered four to six leagues from their homes and thus had a good walking knowledge of the area; the party searched for 10 or 12 days and Leguizamo reported finding a passage for a cart road that could be opened without much cost.

Comayagua

Amani

Crosses a river that, will require a wood bridge 80 paces in width; there are stones, lime and good quality chalk nearby; valley is seven leagues long and 3.5 wide; it presently contains many estancias of cattle and produces a variety of crops, especially wheat and corn; the land seems capable of growing anything that is planted; could irrigate whole valley because of principal river and five others; should farmers come, valley is prepared to eventually provide plenty; presently area surrounding valley proper is principally in wheat and corn; for some reason Indians ate plantains instead of corn this year; in
the valley a *hanega*, or *fanega*, of wheat cost 14 reales, they felt it necessary to buy some at that price for the trip back to Puerto Caballos.

Amani  Ranchos del Obispo  4
Firm road over rough terrain; opening this stretch for carts would be costly and difficult because of floods.

Ranchos del Obispo  Agüenqueterique  3
Total segment is rocky and rough, but can be made suitable for cart traffic.

(Two Routes)

Present *Camino Real*

Agüenqueterique  Locterique  3
Firm, if uneven road of good quality for pack animals; seems impossible to open for cart route; for floods, can make bypasses in some especially difficult places.

Locterique  Apazapo  3
Two leagues rough, firm land; impossible to open for carts; good quality for pack animals; need to bypass several turns in a few places where it is possible.

Apazapo  Guascorán  3
Good road that only requires the bypassing of two or three passes to make it suitable for carts.

Proposed Route

Because of the difficult nature of the six leagues that separate Agüenqueterique and Apazapo they explored another road that Leguizamo had already scouted.
Agüenqueterique  

San Francisco  

Crossed the Río Guascorán one-half league from Agüenqueterique; because of its volume and the fact that it sometimes detains people for many days, river needs a bridge; apparently possesses a natural foundation for bridge; must be 45 paces wide, one arch; limestone and quarries on-site; road to San Francisco is good.

San Francisco  

Cacualpa de Tecla obra  

2.5

Most of this distance is impossible for cart road because of numerous slopes, and bypasses filled with thousands of large holes or cracks; the cost of opening cart road would be high and road would not be durable because land is easily eroded by water; Antonelli and Quintanilla believe it is feasible; respects Antonelli’s experience and judgement; this stretch would be better than present road for mule-teams; and described bridge would be cheaper than the one proposed just outside of Guascorán.

Cacualpa de Tecla  

Guascorán  

3.5

Firm, flat road through depopulated area; three easily crossed rivers; Río de los Sauces requires a bridge; in place of the Locterique, Apazapo, and Guascorán, one Francisco Pérez has an estancia with places that travellers could use to pass the night; need to establish inns; until the pueblos can provide sustenance.

Guascorán  

Estancia de Batres  

4

Can be made into a road of good quality; need three or four bypasses to avoid swamps; road also crosses Río Goascoran and Pazaquina and one by the old settlement of Cizama near Batres; bridge over Goascoran should be constructed 1000 paces north of pueblo; it will be expensive; however, stones and lime are on-site; because of the river’s volume one of the arches must be at least 50 paces; also need bridges over Río de los Sauces and Pazaquina.

Estancia de Batres  

Fonseca  

2.5

The best place for a settlement near Fonseca is at Asiento de Francisco López Quintero; this location is not on a current road but there is another that would be good, firm and suitable for carts.
To construct a cart road from Comayagua to Fonseca would require alot of culverts in addition to the bridges already mentioned. To open the road I have described would cost alot.
APPENDIX D

ANTONELLI AND QUINTANILLA'S ROUTE PROJECTIONS (1590)

Translated and abstracted from:

Assumptions:

1. One fleet, "flota de tierra firme", carries approximately 11,000 tons of cargo to Puerto Caballos.

2. Every one ton of merchandise will be divided into eight cargoes for land transport to the Gulf of Fonseca.

Requirements for Recua Transport:

1. 88,000 cargoes will require 14,660 mules to make six trips per year.

2. Each mule will require approximately five pounds of corn, "a medio celemín de maiz", per day for a total of approximately 13,900 bushels of corn, 87,916 fanegas.

3. One African to care for and lead five mules: 2,933 Africans

4. One foreman, "capataz español o un negro de razón", per 40 mules: 366 foremen.

5. Foremen ride horses: 366 horses and corn for them and Africans.

6. 2,000 additional tame, harnessed mules to replace deaths incidental to transport.

7. Additional mules and sustenance for transport of passengers across Honduras.

Requirements for Cart Traffic from Comayagua to Fonseca:

1. Each cart will carry eight cargoes: 1,833 carts making six trips per year.

2. One African and other person to service cart: 1833 men.

3. One foreman per 40 carts: 46 foremen.

4. Three pair of oxen per cart: 10,998 oxen.

5. Additional replacement oxen.
Settlement Requirements:

1. 400-500 married farmers from Castile with their families to be distributed throughout the route to raise wheat, corn etc.

2. 2,000 Africans to be distributed among these farmers.

3. Require mule-team owners to begin building up their individual populations.
VITA

This dissertation's author was born in Baton Rouge, Louisiana on October 11, 1963. The first 15 years of his life were spent living in numerous locations outside of his home state and the Deep South. His family returned to Louisiana in 1979 and he graduated from Thibodaux High school in 1982.

The course of his undergraduate education retraced a pattern similar to that of his adolescent years. He departed Louisiana in 1982 to study at Southern Methodist University in Dallas, Texas. A few years later his interests drew him to the University of California at Santa Barbara. Finally, he returned again to Louisiana to earn a baccalaureate degree from Louisiana State University in German Literature in 1988. Two years later at LSU he completed his Master's degree in human nutrition. His thesis was a dietary survey of a Garifuna village in coastal Belize.

The author had come under the sway of the Department of Geography and Anthropology during the last semester as an undergraduate. Upon completing his Master's program, he petitioned for admittance as a doctoral student in Geography. He was accepted and has trained himself in that discipline ever since.

The author's course has been made pleasant by his mate Eleonor and their two "Bedlam Boys" Gulliver and Sebastian.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

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Major Field: Geography

Title of Dissertation: Honduras' Transisthmian Corridor: An Historical Geography of Roadbuilding in Colonial Central America

Approved:

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Date of Examination: March 6, 1996