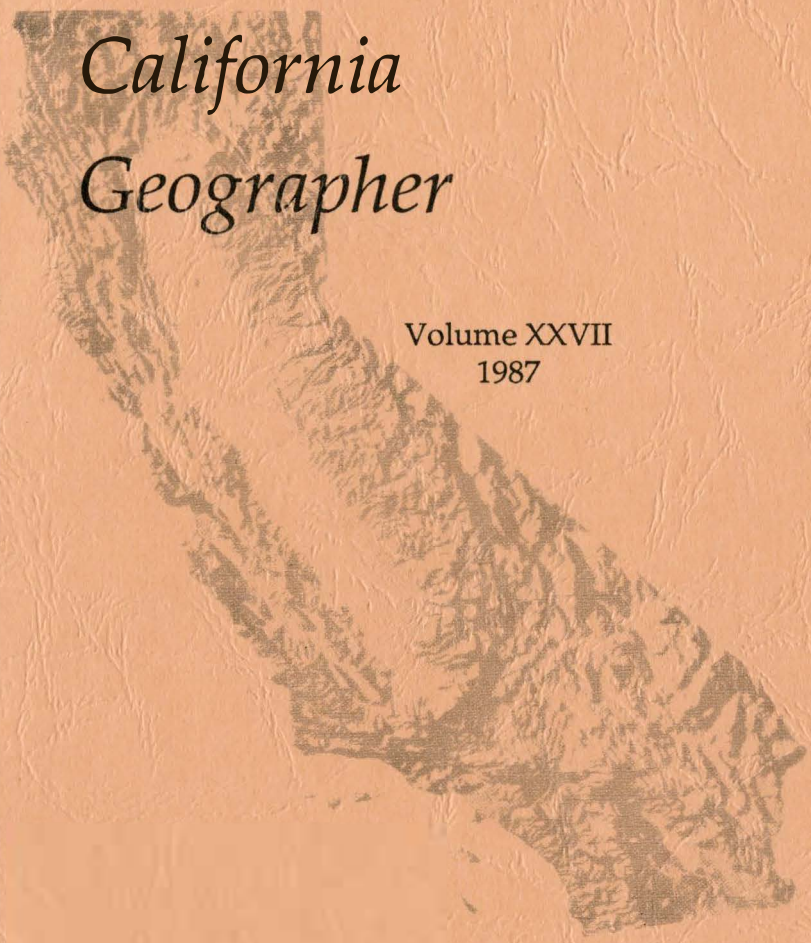
The California Geographer



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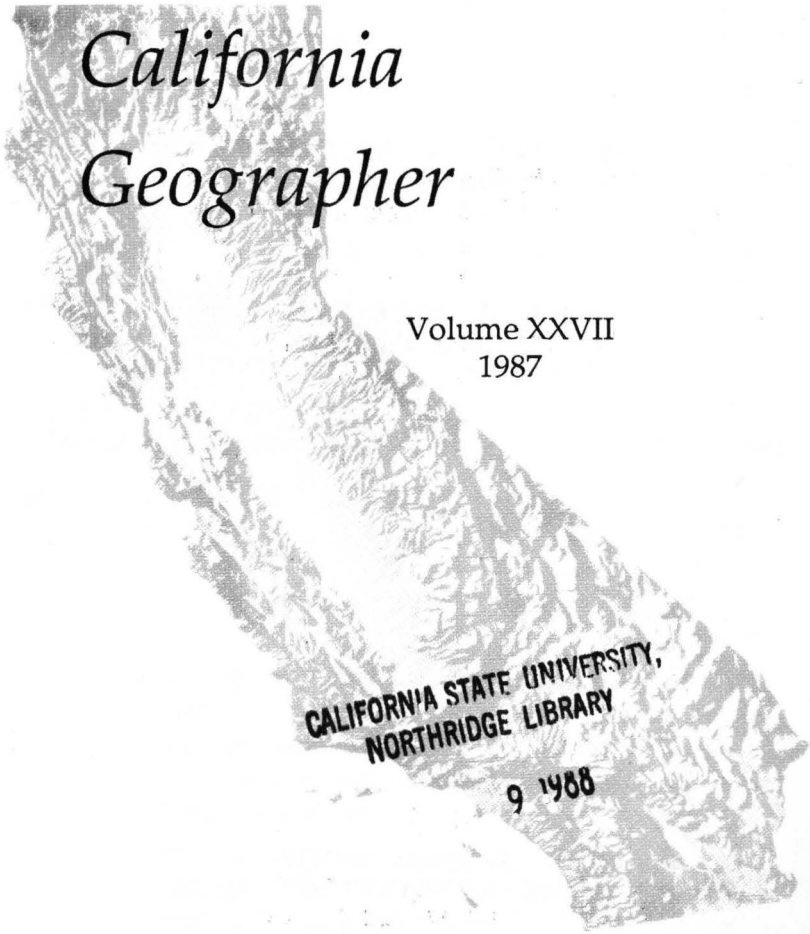

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CALIFORNIA GEOGRAPHICAL SOCIETY
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SPAIN'S FANTASTIC VISION AND THE MYTHIC CREATION OF CALIFORNIA

*William T. Little**

Introduction: The Myth

Since at least as long ago as 1862,[1] English-speaking scholars of Californiana have known that in 1535 the Spanish conquistador Hernán Cortés, or one of his men, named the Golden State for a fictional character named Calafía and her equally fictional land. Both the land and the character were created *ex nihilo* in the late fifteenth or early sixteenth century by the Spanish writer Garci Rodríguez de Montalvo in his novel of knight errantry titled *Las sergas de Esplandián* (1510).[2] More recently, James D. Houston begins his word map of the California dream by suggesting that the state of California is a product of both the contemporary mind and an older one:

> On Shell station and National Geographic maps, it is clearly a region of the earth. Yet by another set of charts it is an elaborate, Byzantine, unwieldy work of our communal imagination, perhaps a vast novel, begun in the mind of Montalvo back in 1510 and still being written.[3]

Every major historian of California from Bancroft to Houston correctly identifies the origin of the state's name; but none, except Charles E. Chapman,[4] has really read the

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"unwieldy" original novel in order to decipher the mythical map of the mind fabricated by Rodríguez de Montalvo, energized by Hernán Cortés, implanted by Junípero Serra, and lived daily by more than 26,000,000 Spanish- and English-speaking residents of the place many refer to as the nation's testing ground, window on the future, or cutting edge. The purpose of this article is to investigate some of the ways in which the fiction of *Las sergas de Esplandián* represents the Medieval and Mediterranean Spanish myths that inspired discoverers, conquistadors, missionaries, and map makers to create a vision so powerful that it remains the central myth underlying the common cultural heritage of all contemporary Californians.

A myth is a narrative or story, passed on and elaborated by succeeding generations in a culture, which serves to represent and dramatize a major aspect of that culture's value system. Some common features of myths are: (1) the author is generally unknown, although in the Post-Medieval or Modern world the author may be known (for example, Tirso de Molina is the creator of the Don Juan myth); (2) myths are generally known by the people in one culture; (3) they are used to explain the nature, origin and customs of that culture; (4) they are composed of mythemes (narrative component parts); and (5) they are a powerful source of a culture's self-knowledge and creativity. While major Western myths such as those of the Earth Goddess, the Messiah/Christ, the Hero, the Suffering Servant, and Don Juan certainly undergird California culture, these myths merely place California within the context of universal Western experience and values. In addition to maintaining vital contact with all universal myths, however, every culture has its own local myths which enable its members to explain the distinctiveness and uniqueness of their own culture. The Argonauts, the Golden Gate, the Forty-Niners, Joaquín Murrieta, John Muir's campaign to preserve the high Sierra, and Hollywood, are several particularly Californian myths. These myths, though, only

represent collective experience from the discovery of gold in 1849 to the present. They do not cover the entire span of Western civilization in California; they tend to cut off contact with pre-Western culture; and they are more or less monocultural or Anglocentric.

A myth with deeper roots and with more explanatory power is the one that is centered on *Las sergas de Esplandián* (Figure 1). Initially, what this novel offers seems little more than a relatively simple narrative entertain-

Figure 1. *Las sergas del virtuoso caballero esplandian hijo de amadis de gaula.* Title page, 1525 edtion.

ment. Upon close inspection, however, one discovers that it actually contains the symbolic power to expand to mythic proportions. Through the force of events at the dawn of the Modern Age, and through the imagination, will, and energy of a nation and its highly individualistic champions, the myth can be seen to encompass: (1) the Spanish Mediterranean-oriented Crusade of Reconquest against the Moslems from 711 to 1492, with a special focus on the period of the thirteenth through fifteenth centuries; (2) the conflict between the Roman Catholic religious orders of the Franciscans and the Dominicans and their fierce debate over Llullism, the doctrine of the immaculate conception, and the treatment of the natives who were the object of their missionary zeal; (3) Columbus' search for the Indies and his 'discovery' of the New World; (4) Cortés' conquest of the Aztec empire and his naming of an island he sighted and explored "on the right hand of the Indies"; (5) Junípero Serra's spiritual conquest of California; (6) the Anglicizing cult of the "halcyon days of the dons"; and (7) the massive immigration which is fueling the recent re-Hispanicization of the Golden State. In other words, the premises of this article are the following: (1) the *Ur*-myth of California culture is from Mediterranean Spain; (2) the *Ur*-myth was operative from its historical inception in Cortés' naming of California; (3) the *Ur*-myth is still productive and is growing in strength and explanatory power; and (4), by virtue of having been created in Spain, transferred to New Spain, and inherited by contemporary California, this *Ur*-myth presupposes cultural and mythic syncretism.

Montalvo's novel is a typical novel of knight errantry in that it focuses on the chivalric deeds of a hero who fulfills his pre-ordained, magical destiny by incarnating (Christian) good and defeating (pagan) evil. It has a Byzantine plot, formulaic characters, eloquent style, and exemplary moral posturing. In terms of its place in the history of a genre that was as popular then as science fiction is

now (its earliest editions were 1510, 1519, 1521, 1525, and 1526), *Esplandián* marks a turning point that is especially significant for the founding of California. Like its four eponymous predecessors,[5] (Figure 2) *Esplandián* is set in a time vaguely close to the beginning of the Christian era. Yet unlike the other four volumes, this novel is rooted in specifically contemporaneous events and attitudes. For example, by having the protagonist lead all of the forces of Christendom in the *defense* of Constantinople against the assembled pagan hordes, among whom the *californianas*

Figure 2. *Amadís de Gaula*. Woodcut from an early edition.

are prominent, the plot addresses the pain caused in the Christian world by the Moslem conquest of Byzantium in 1453. In addition, the narrator interrupts the action by singing the praises of the Catholic Kings of Spain, Fernando and Isabel; and by using the pagan queen of an island at the farthest reaches of the Indies as an ironic catalyst for victory by Esplandián's Christian forces, he features the exotic reality of the New World. Also, the novel ends with the queen's exemplary conversion.

As mentioned above, the Esplandián myth, like all myths, is made up of mythemes.[6] In this instance the principal mythemes are: (1) the hero (Esplandián); (2) the ship (*La fusta de la Gran Serpiente*) [The Great Serpent caravel]; (3) mysterious writing (by the magician-narrator, Elisabat, and on the hero's chest); (4) the holy city or island (Constantinople and California); (5) the hero's courtly lady (Leonorina); and (6) Calafía (the pagan queen of the Amazons who converts to Christianity). Like the well-defined, unambiguous — indeed, almost muscular — building blocks (that is, phonemes) of the Spanish language, these six mythemes carry the symbolic message of a myth that would permit Spain to construct one of the most extensive empires the world has ever known. It is no coincidence that the first grammar of any modern language was the one about the Spanish language which was presented to Fernando and Isabel by the Humanist Antonio de Nebrija in the axial year 1492. In the act of presentation he asserted that language is a weapon of conquest: "*siempre la lengua fue compañera del Imperio.*" The first five mythemes listed above are common to virtually all European novels of knight errantry or romances up to the time of *Esplandián*. The element which gives this particular novel, the culminating volume of the Amadís series, extraordinary creative power, is the added sixth mytheme. In Calafía and her island of gold, griffins, and sister Amazons, one finds the quintessential symbol of the always elusive, yet ironically real, goal of conquest and con-

version which, at the end of the Middle Ages and the beginning of the Renaissance, drove Spaniards to such fabulous achievement.

The Hero

As a fictional hero Esplandián is the son of Amadís de Gaula. As Spain's equivalent of Lancelot, Siegfried, or Parcifal, Amadís was actually the most popular fictional hero throughout Europe during the late Middle Ages. By force of chivalric character and by leading the Christian victory over the pagans in the battle for Constantinople, Esplandián is a synthesis of the two sides of the Christian Reconquest of Spain which culminated in the victory over Moslem Granada in 1492. By contrast, Amadís is more of a unidimensionally secular chivalric figure. The two sides—the secular warrior and the crusading missionary—are exemplified on the one hand by Amadís in fiction and by El Cid[7] (Figure 3) in history, and on the other hand by Ramón Llull (1232-1316), the thirteenth-century

Figure 3. Statue of El Cid in his native Burgos, Spain.

Mallorcan theologian, mystic, missionary, and martyr. In this way, Esplandián embodies the new type of the Christian conquistador, and he thereby prefigures many of those who will make the history which leads to the creation of California. Among these figures are Christopher Columbus (1451-1506), Hernán Cortés (1485-1547) and Junípero Serra (1713-1784).

Esplandián, like his father Amadís, is cast in the mold of the Arthurian, or Celtic, cycle of novels of chivalry or romance. He upholds the code of chivalry, defeats evil knights, helps damsels in distress, and serves both his king and his chosen lady. However, Esplandián departs from the prototype in significant ways. Amadís is a purely secular and worldly figure who becomes king of the *Insola Firme* [Firm Island] (the mysterious blend of an unidentified island and *terra firma*) after successfully undergoing a supreme test of killing the *Endriago*, a giant dragon. On the other hand, Esplandián is a pious Christian knight (he is *"humilde, católico y muy piadoso"* [humble, Catholic, and very pious]),[8] who begins his career by killing a large snake and then consciously assuming his destiny as the supreme defender of the Catholic faith. Unlike his father who moved in a vague, legendary landscape, Esplandián moves in the more or less real space of the Mediterranean; he focuses his energy on the real place of Constantinople; and he even demystifies his father's kingdom by identifying it as Great Britain. Clearly, with our new hero, the fogs of pseudo-history and Medieval cosmology gave way to the concreteness of Modern history and geography. In the same vein, the fantasy of fictitious islands such as Antillia and St. Brendan's Island gave way to the increasingly accurate maps of the New World.

The Ship

All is not realism and rationalism in *Esplandián*, however; for, along with Calafía and her Amazons, the novel is populated with powerful magicians, strong giants, a

magical sword, a sorcerer who doubles as the narrator's second voice, and a quasi-magical ship which the sorceress Urganda la Desconocida places in the hero's service. The ship, called *La fusta de la Gran Serpiente* [The caravel of the Great Serpent], is a lateen-rigged, fifteenth-century vessel used for exploration. It is described as a giant caravel, built mysteriously in the shape of a plumed serpent. At the beginning of the novel, Esplandián is called the Black Knight because of the color of his arms; however, during the culminating battle against Calafía and the pagans, he replaces this title with that of *el Caballero serpentino* or *el Caballero de la Gran Serpiente* [The Serpent Knight or the Knight of the Great Serpent]. As a prelude to the final battle, there are two *mano a mano* battles, one between Esplandián and Radiaro, the sultan leader of the pagans, and the other between Amadís and Calafía. After these two individual victories and after the Christians' collective victory on land and at sea, Calafía is so attracted by Esplandián's beauty and his heroic prowess that she wants to marry him. He cannot marry her, however, because he is already promised to the emperor's daughter Leonorina; but, after Calafía is converted to Christianity, Esplandián marries her to his cousin Talanque. The latter then takes Calafía back to her island kingdom, which happily converts to the new faith.

As a plot device the ship enhances Esplandián's heroic traits, and it symbolizes the mysterious destiny by which he travels throughout the islands and ports of the Mediterranean winning glory and immortality. Its function as a mytheme becomes even more apparent when one considers how it recapitulates other Medieval ships and how it prefigures later ships and historical events that bear on the discovery of California. Just as Esplandián's caravel is governed by Urganda la Desconocida, the grand female protector of Christian knights, so in the Middle Ages, Santa María was often seen as a guarantor for the safety of ships and sailors. A significant example of this from

Spanish iconography is *cantiga* No. 36 from the great Medieval illuminated manuscript of Alfonso X el Sabio, *Cantigas de Santa María* (Figure 4).[9] Another example is Columbus' special devotion to the Virgin Mary. Like Esplandián, he was, according to his contemporaries and to a recent biographer, "a soldier of the faith."[10] In this regard, he purposefully changed the name of the flagship on his first voyage from *La Gallega* — whose owner was Juan de la Cosa, the cartographer of the famous 1500 map of the New World (Figure 5) — to *Santa María.* Also, threatened by severe storms on his return voyage in early 1493, he and his crew, after vowing to the Virgin Mary to undertake a pilgrimage to the nearest shrine in her honor, were saved from perishing by being able to land at the village of Nostra Senhora dos Anjos [Our Lady of the Angels]—a most unsuspecting model for the present-day capital of Southern California—on the most westerly island in the Azores, Santa María.

In addition to the aspect of the ship mytheme, which deals with the ship's magical or holy female guardian, the aspect of the mytheme relating to the image of the plumed serpent brings us a step closer to the actual discovery and naming of California. Furthermore, in much the same way that the Spanish myth of Santa María and the Aztec myth of Tlazoltéotl (the goddess of the earth and procreation) fused in the syncretic myth of the Virgin of Guadalupe, so, too, Hernán Cortés (1485-1547) fuses two unrelated but remarkably homologous myths—the Spanish myth of Esplandián, the Knight of the Plumed Serpent, and the Aztec myth of Quetzalcóatl (Figure 6), the Aztec plumed-serpent god of wind, life, the arts, and civilization—into the syncretic figure of the New World Christian conquistador of which Cortés himself is the prototype. Almost as soon as he landed on the eastern shore of Mexico in 1519, Cortés willingly exploited the belief of many natives, including the emperor Moctezuma, that he, a bearded white man arriving from the

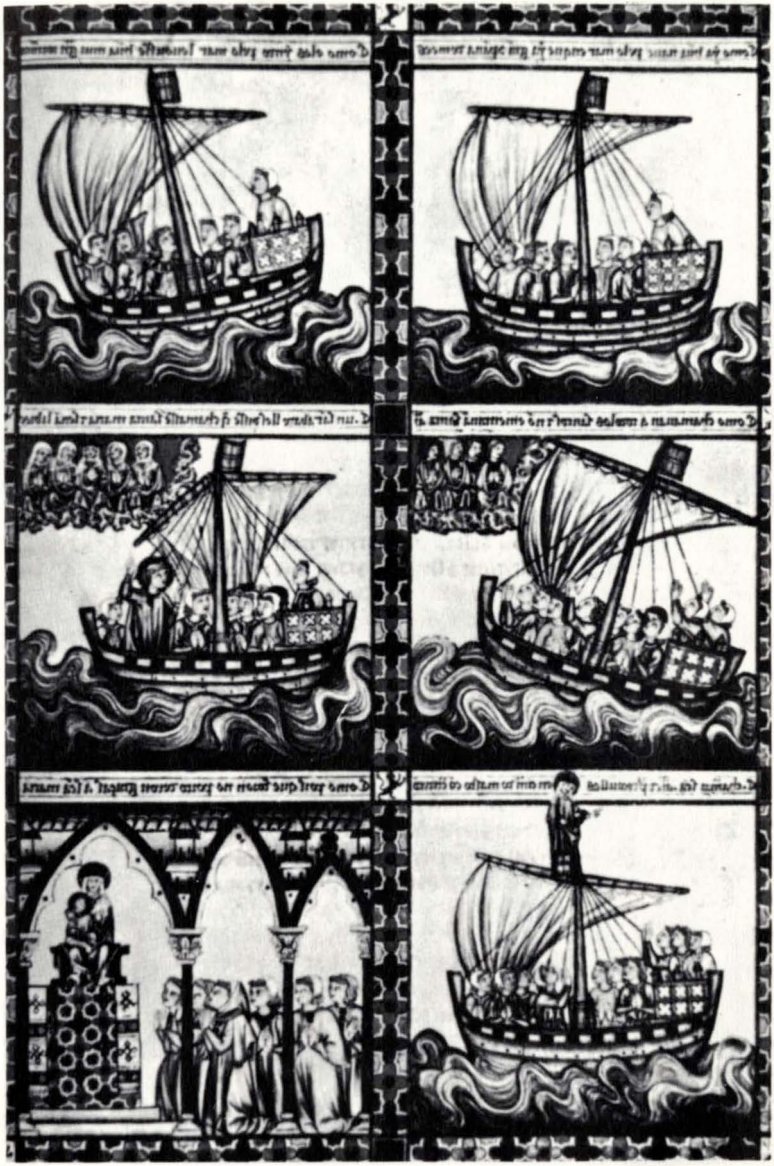

Figure 4. From *Las cantigas de Santa María.*

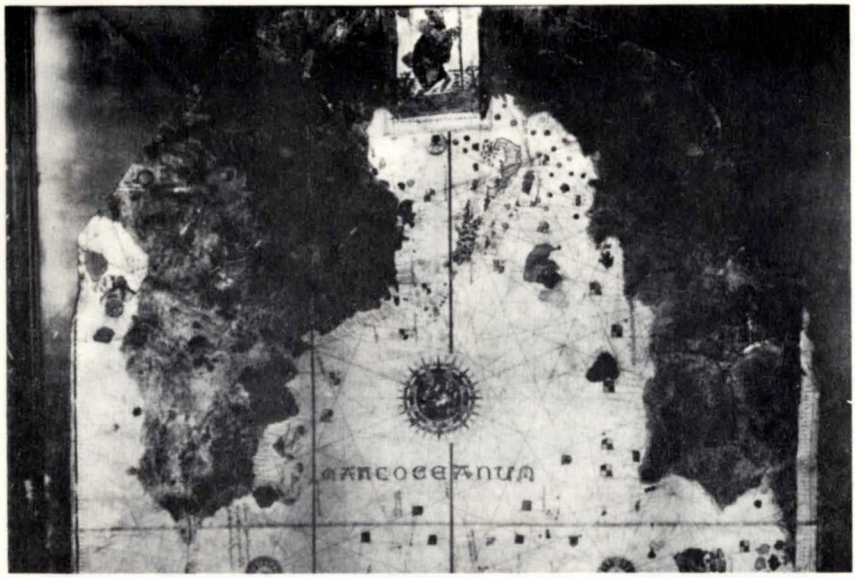

Figure 5. Map by Juan de la Cosa, 1500.

eastern sea, was Quetzalcóatl returning as legend said he had promised he would half a millennium before. Although it is not known specifically that Cortés read *Esplandián*, we do know that he and other conquistadors were familiar with novels of knight errantry, that these novels circulated widely in the New World, and that the conquistadors were conscious of the parallels between the fictional heroes and their own real actions. For example, Bernal Díaz del Castillo (circa 1492-1580), in his detailed chronicle of the conquest of Mexico (1568), compares the enchantment-like quality of the Spaniards' first view of Tenochtitlán with the *"cosas del encantamento"* [things of enchantment] found in the books about Amadís.[11] He also cuts short his description of the ninety-three consecutive days of battle to reconquer the Aztec's capital by saying that to engage in such prolixity *"parecería a los libros de Amadís o Caballerías"* [would seem like the books of Amadís or knight errantry].[12] After conquering the Aztec empire

Figure 6. Quetzalcóatl.

in 1521, Cortés attempted to push his conquests to their extreme limit, a limit uncannily predicted in the fictional world of *Esplandián*. In his fourth *carta de relación* to the emperor Carlos V, he says that one of his lieutenants came back from the western province of Ceguatán with the story of an island rich in gold and pearls and inhabited by Amazons who, like the *californianas* in *Esplandián*, killed their male children. Even Cortés' enemy and fellow conquistador, Nuño de Guzmán, in 1530, reported the same legend, and then he added information on Aztlán,[13] a mythical region covering the American Southwest and California:

> From Aztatlán ten days further I shall go to find the Amazons, which some say dwell in the Sea, some in an arm of the Sea, and that they are rich, and accounted of the people for Goddesses, and whiter than other women.[14]

Magic Destiny

One of the keys to the plot of *Esplandián* is the mysterious writing that had appeared on the hero's chest at birth. On the right side of his chest are white letters that spell his name, and on the left side are red letters that spell the name of the beloved lady he is destined to marry. Suspense is heightened by the fact that the only one who can decipher the red letters is the lady herself. At the end of the novel, in fact, the emperor of Constantinople's daughter, Leonorina, sees her name engraved on Esplandián's chest just before Calafía declares her desire to marry him and convert. However, when we analyze this time-worn plot device as a function of myth, a host of signs appear which point to the founding and on-going defining of California. Within the novel itself, the fictional narrator, Elisabat, is a magician of vague Greek origin who accompanies the hero as he fulfills his epic destiny. As a supposed magician the narrator is endowed with the power to transform the text into a quasi-sacred text. Outside the novel's fictional world, it is important to repeat

the fact that contrary to normal naming practice California's name was plucked from a written Spanish text whose fictions were virtually lived as (mythic) realities by Cortés and his coterie of conquistadors. Myth became reality when Fortún Jiménez discovered the peninsula of Baja California in 1533. Cortés' map of 1535 (Figure 7) reflects the fact that no one actually knew whether this new land was a peninsula or an island until 1539. By the time of Juan Rodríguez Cabrillo's voyage along the coast of Upper California in 1542 the name of California, or Californias—reflecting the lingering mythical notion that there were many fantastic islands to the west of the Indies—was consecrated usage. The great California historian Herbert Eugene Bolton reminds us that the conquistadors were led ever westward by a whole progression of legends whose culmination, or sixth mytheme, was Calafía: Gran Teguayo (Texas), Gran Quivira (Kansas), the Seven Cities of Cíbola (New Mexico), the pearl islands, and, finally, the Amazon's island.[15]

As imaginarily depicted by Rodríguez de Montalvo, California was close to the sacred point of origin of the entire Judeo-Christian mythology and geography:

> Know then that on the right hand of the Indies there is an island called California, very close to the side of the Terrestrial Paradise, and it was peopled by black women, without any man among them, for they lived in the fashion of Amazons. They were of strong and hardy bodies, of ardent courage and great strength. Their island was the strongest in all the world, with its steep cliffs and rocky shores. Their arms were all of gold, and so was the harness of the wild beasts which they tamed and rode. For in the whole island there was no metal but gold. They lived in caves wrought out of the rock with much labor. They had many ships with which they sailed out to other countries to obtain booty.[16]

At about the time this fiction was being created out of the materials of Rodríguez de Montalvo's culture and imagination, Columbus, while awaiting support for his fourth voyage, wrote a Book of Prophecies [*Libro de las profecías*]

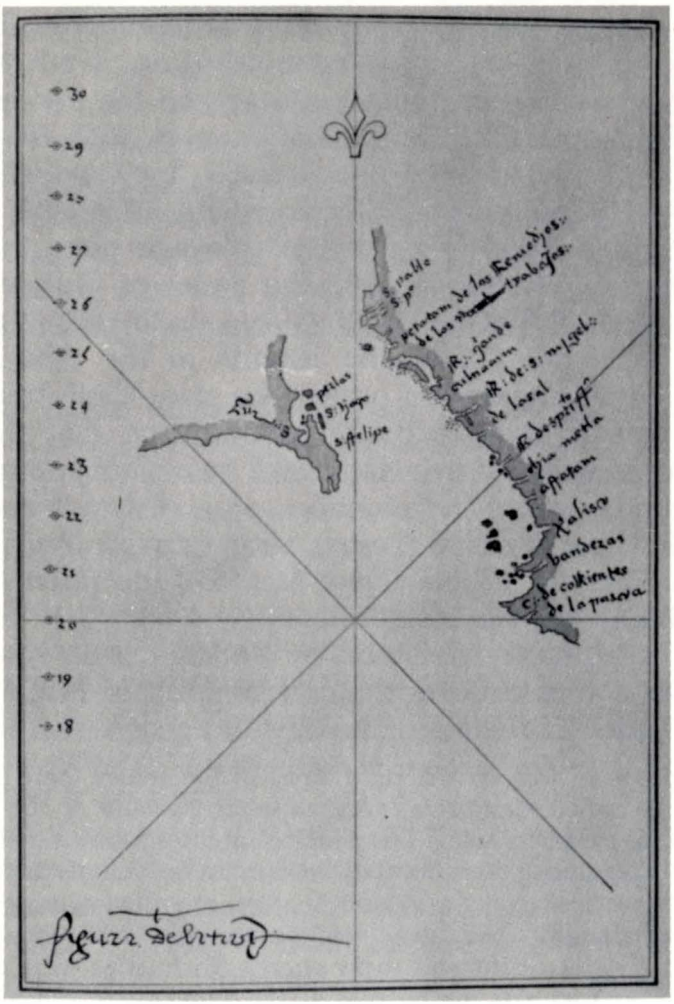

Figure 7. Map by Hernán Cortés, 1535.

in which he collected Biblical passages relating to his discoveries and to the ultimate goal of his life. By sailing west the great visionary discoverer of America, whose entire culture recapitulates the Mediterranean Judeo-Christian *Weltanschauung* fictionalized by *Esplandián*, expected

to arrive in the Indies, near which was the Terrestrial Paradise. More than that, he hoped to use his expected fortune to redeem the Holy Sepulcher by conquering Jerusalem from the Moslems. In fact, on his third voyage (1498-1500) he felt that he had discovered the mouth of one of the four rivers leading to the Terrestrial Paradise, when actually he was at the mouth of the Orinoco River. Further, he felt that, as the etymology of his name (Christopher means Christ bearer) foretold, he had fulfilled many of the Biblical prophecies he collected, including, for example, Isaiah 11:11: "In that day the Lord will reach out his hand a second time to reclaim the remnant that is left of his people from Assyria . . . and from the islands of the sea."[17]

Columbus was able to conclude that these islands were at the right hand of the Indies (or to the Southeast of Cipango) because, through a long series of serious mistakes of geography, he had cut the degrees of longitude between Cipango and Spain in half. Juan de la Cosa's map of 1500 is a fairly accurate depiction of the principal islands of the Caribbean, but it leaves the issue of the reality of the Isthmus of Panama and the Pacific Ocean to iconographical mythology. In the place of the unknown, Juan de la Cosa draws a picture of St. Christopher, Columbus' namesake and the eponym of all Spanish-Christian conquistadors. When Balboa demythicizes the Isthmus and sights the *Mar del Sur* [the Southern Sea], he *ipso facto* destroys Columbus' speculation that the Terrestrial Paradise was in the region later known as Venezuela. Therefore, building on Balboa's discovery and on the joint circumnavigation of the globe by Fernão Magalhães (Magellan) and Juan Sebastián de Elcano (1519-1522), Cortés, at some time between 1522 (in his third letter to Carlos V) and 1535, was able to locate Rodríguez de Montalvo's island "on the right hand of the Indies" and close to the Terrestrial Paradise *to the Northwest* of the port of San Blas, which he had created on the west coast of México

expressly to launch expeditions to lands and islands he had heard about in both Spanish and Mexican myths.

Before Columbus convinced the Catholic Monarchs of Spain to support his voyage to discover the East by sailing west, his and Spain's mythical and geographical maps pointed east to Rome, Constantinople, Jerusalem, and beyond, to the Terrestrial Paradise. In the seventh century, Saint Isidro of Sevilla gave visual form to the Biblical idea of the shape of the Earth found in Isaiah 40:22 ("He sits enthroned above the circle of the earth") by creating the T-O map (Figure 8). This kind of map preserves the Medieval idea of the *Orbis Terrarum* [orb of the earth] in which the habitable world is seen as an *island* surrounded by the *Mare Oceanum* (Columbus was given the title of Admiral of the Ocean Sea) with a cross in the center and three habitable areas. On this map, Asia and the east are represented at the top where now one expects to find the north. The point is that the east was the focus of orientation for Medieval Spain—indeed, most of Europe had the same focus. Like Saint Isidro's T-O map, the real space in which *Esplandián* is set is the Mediterranean, which is oriented like the base of the cross up toward Asia. Christian Europe is oriented septentrionally (to use the archaic English word for north) to the left, and pagan Africa is placed meridionally (or south) to the right. In other words, Esplandián is a child of the island-dominated Mediterranean, and he, like Columbus (also a product of the Mediterranean), is a "soldier of the faith" who leads the forces of Europe over the forces of Africa in a battle in and around Constantinople.

Constantinople and California

In terms of the mythemes which define the Esplandián myth, up to the *dénouement*, the novel focuses on defense of Constantinople, the city that until 1453 had been the stronghold of the Eastern Roman (Catholic) Empire. In chapters 47 through 49 of *Esplandián*, the hero dis-

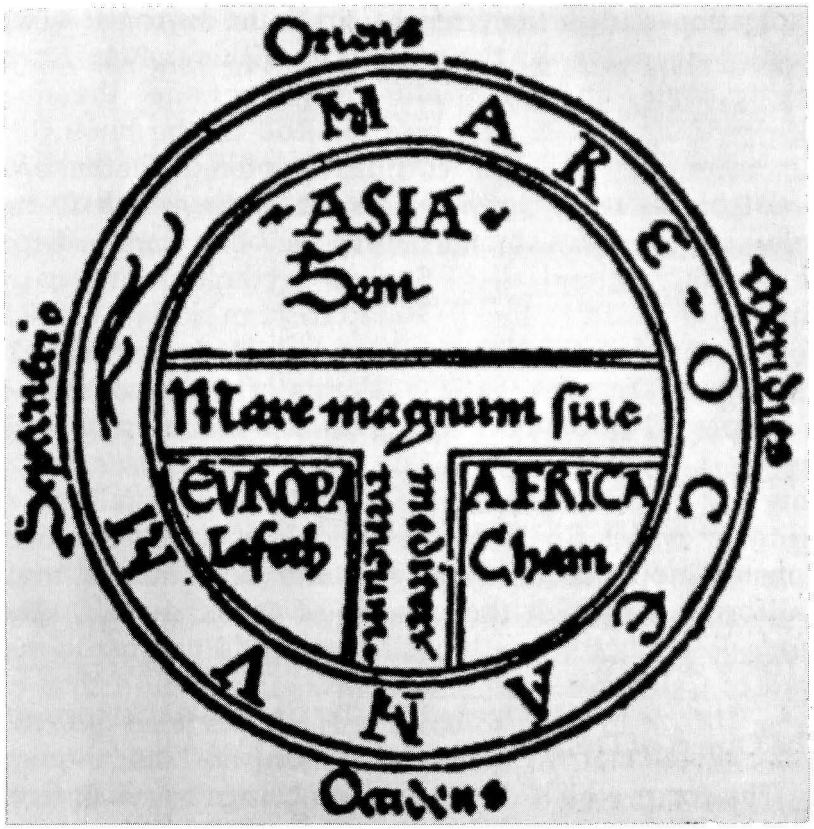

Figure 8. San Isidro's T-O map, circa 600.

covers auguries that allow him to reject his father's purely European, chivalric orientation in favor of a specifically T-O orientation. In these three chapters, Esplandián first goes to the Isla Santa María where his father had conquered the dragon whereby he earned the right to be king of the *Insola Firme*. The son, however, finds auguries to the effect that he was destined to achieve greater deeds than his father. This significant three-chapter interlude ends when the son and some key companions enter the *Fusta de la Gran Serpiente* and head to Constantinople. Significantly, this holy city remains the center of the novel

until chapter 98, when the narrator says he has lost his inspiration and is too tired to continue. In the following chapter he picks up the narration with renewed, mythicizing style, and he relates how Urganda, the muse-Virgin Mary figure, tells him the end of the book. From this moment until the end in chapter 184, the entire thrust of the novel leads up to the battle which features Calafía. It is in the second half of the book that Rodríguez de Montalvo's and all of Spain's mythology and cartography change from the T-O map to Juan de la Cosa's and Cortés' maps. It is with the new knowledge provided by Columbus' voyages that the islands of the Mediterranean are replaced in Spanish imagination by islands in, and to the west of, the Indies. Thus, for our purposes, we can now see how the Esplandián myth is the enabling medium by which Spain ceases to look nostalgically toward Constantinople as a holy magnet and looks instead toward California. Through the process of this change, Amadís' *Insola Firme* becomes the island-islands-peninsula-mainland of California.

The Object of Desire

The force which drives human beings to work toward any goal is an object of desire. It drove Medieval knights to undertake quests (for example, the Holy Grail); it drove conquistadors to conquest (for example, glory and gold); it drove missionaries to convert the heathen (for example, God, the Virgin Mary); and, in *Esplandián* the object of desire drives the hero to merit his predestined beloved by conquering the pagan hordes. In general terms, the novel's fifth mytheme is the object of the hero's desire. In specific terms this object has two parts as we have characterized the hero above. First he is motivated by his passion for Leonorina, and second he strives to do his Christian duty by conquering pagans. As we study the mythic creation of California, we notice that this mytheme, like the other mythemes we have looked at, has a

·ange of meanings and applications with roots in the past ınd projections to the future. With the period of the writing of *Esplandián* as the mediating point of reference, the past is found on the Mediterranean island of Mallorca and Ramón Llull[18], one of the two most famous citizens of that island; and the future is found in Junípero Serra, the other famous Mallorcan, and his connection with both Mallorca and California. As we shall see, there are even real and legendary connections with Columbus.

The father of colonial California has been called "the last of the conquistadors."[19] While this kind of appellation often amounts to little more than adulatory hagiography, in the present context it is an apt phrase; for Serra's identity as a Franciscan missionary and latter-day conquistador is rooted deeply in the fifth mytheme and in what Llull represents. Llull was a late thirteenth-century courtier turned priest, philosopher, mystic, missionary, and martyr. In himself he virtually contains the source for all of the mythemes of the Esplandián myth. Among his Protean accomplishments which relate to our subject are the following: he spent the first three decades of his life as an accomplished Don Juan and courtier in the Catalan court of king Jaime I the Conquistador, who conquered Moslem-controlled Mallorca three years before Llull was born; he experienced a Pauline conversion which motivated him to spend the rest of his life attempting to convert all Moslems; he caused an uproar by switching allegiance from the Dominican order to the Franciscans, because he aided the latter in vigorously defending the theory of the immaculate conception of the Virgin Mary; he became a third-order Franciscan (Columbus and Isabel I were also third-order Franciscans, and Serra was a Franciscan priest and professor of Llullian philosophy); he founded a monastery dedicated to the teaching of Arabic to missionaries in order to facilitate conversion; he wrote more than 600 books of philosophy, theology, mysticism, and poetry, including a major prose romance titled *Blanquerna* which

includes the famous *Llibre d'amic e amat* [Book of the Lover and the Beloved]; he wrote a manual on knight errantry; he studied philosophy under Duns Scotus in Paris; he sought to lead a new crusade in 1308 to conquer the Holy Land; and he made three missionary trips to North Africa, on the last of which he was martyred.[20]

Llull's greatest legacy in the first phase of his life is his manual on the the art of chivalry, *Llibre de cavalleria* [The Book of Chivalry], written in Catalan in 1275. This book was an immediate success, and it remained extremely popular for many centuries. It had as much direct influence on real knights as it did on novels such as *Amadís de Gaula,* the Catalan masterpiece *Tirant lo blanc* (1490), and *Esplandián*. In addition to advocating the standard secular duties of knights, Llull also emphasizes their obligation to defend the faith:

> By means of their customary faith knights make pilgrimages to the Holy Land beyond the sea, and they take up arms against enemies of the cross, and they are martyrs when they die upholding the holy Catholic faith.[21]

Figure 9, from *Breviculum,* Llull's illuminated 1293 manuscript, depicts Llull, a knight of the faith, engaging in wordy disputation with the Moslems of Tunis immediately upon disembarking from a *fusta*. Llull's object of desire was serving his beloved Virgin Mary with such passionate devotion that he was willing to risk martyrdom for her sake. Four and a half centuries later, Serra, born and raised on Llull's island suspended in the sea between Christian and Moslem worlds, steeped in Llullian legends, ordained in Llull's church, and educated in Llull's university, would do his predecessor one better—he would conquer the infidel Calafía's land.

Calafía

The Esplandián myth is about the chivalric transitions or replacements that were taking place in Mediterranean

Figure 9. From Ramón Llull's *Breviculum*, 1293.

Spain during the final decade of the fifteenth century. Esplandián replaces Amadís; west replaces east; the New World replaces the Old; the name of Great Britain replaces that of the *Insola Firme*, and then the mythic island of California replaces both of the other islands; real maps replace fanciful ones; Christians replace pagans; and Cala-

fía replaces Leonorina. Indeed, the figure of Calafía epitomizes such metamorphoses, for she embodies the way in which a sixth mytheme is added to and replaces the fifth mytheme. In fact, style in *Esplandián* reaches its metaphorical zenith in the descriptions of the queen, the 500 griffins she brings with her to Constantinople, and the fantastic beast which she alone rides.

Calafía is said to be large, beautiful, and youthful; she dresses for battle or seduction entirely in gold; and she is desirous to see the world and accomplish great feats of courage. The griffins are described as feeding on the Amazons' male offspring and the captive men who are used only for conceptual purposes. As mentioned earlier, the griffins ironically aid the Christian cause. At first they attack the Christians savagely; but, since the *californianas* had trained them to attack and kill all men, they soon turn on the pagans as well. When this happens momentum switches to the Christians, and they proceed to rout their enemies. Prudently, Calafía orders her troops to cage the griffins and to withdraw from the battle. Her object of desire is Esplandián. The most lavish description, however, is saved for the beast she mounts when she sallies forth during a lull in the fighting, which she requests so that she can meet the mythical hero in his own camp:

> It had ears as large as two shields; a broad forehead which had but one eye, like a mirror; the openings of its nostrils were very large but its nose was short and blunt. From its mouth turned up two tusks, each of them two palms long. Its color was yellow, and it had many violet spots upon its skin, like an ounce. It was larger than a dromedary, had its feet cleft like those of an ox, and ran as swiftly as the wind, and skipped over the rocks as lightly, and held itself erect on any part of them, as do the mountain goats. Its food was dates, figs and peas, and nothing else. Its flank and haunches and breast were very beautiful.[22]

The metaphorical descriptions of the queen, the griffins, and this yellow and violet beast are worthy of Llull's mystical visions of the Beloved; and they fire the imagina-

tion of Cortés and Serra among others. In terms of the sixth mytheme, her sister Amazons, their golden attire, and these animals are all metaphorical extensions of Calafía herself. While it would be appropriate to analyze Queen Calafía in terms of women's studies and the way in which she anticipates the psychology and social roles that women play in contemporary California, we are going to dilate here on the ways in which this Hollywoodesque or cinematographic figure anticipates the ultimate conquest of California by Father Serra and other early and latter-day colonizers. In this context we are enabled to return full circle within the boundaries of the myth to the Marianic tradition of thirteenth-century Spain and Europe, which in large measure gave rise to the myth of the knight errant and of which Esplandián is an outgrowth. Just as the Virgin Mary was a knight's and voyager's ultimate object of desire and veneration who led them to safety and victory, so Calafía led Esplandián's cousin Talanque, in fiction, and Cortés, Rodríguez Cabrillo, and Serra, in reality. Moreover, just as Esplandián and Quetzalcóatl fuse into a syncretic form of New World conquistador in Cortés, so too Calafía the warrior fuses with the Virgin Mary and Tlazoltéotl to form the Virgin of Guadalupe. Under the latter guise she was also known as *"La Conquistadora,"* and statues of her were carried in the missionary-military vanguard as New Spain's frontiers were expanded north into Aztlán (Figure 10). A similar statue was given to Serra in 1770 by José de Gálvez, the *Visitador General* who was in charge of the expeditions to plant settlements in Alta California.[23] This statue is now considered one of the Golden State's historical art treasures.

When viewed from an Anglocentric point of view, Serra's identity as an Esplandián-like *caballero a lo cristiano* [Christian knight] is missed. Mexican and Spanish historians from the eighteenth century to the present, on the other hand, see the continuity of discovery and conquest from 1492 to 1769. Serra himself refers to *"la espi-*

Figure 10. "La Conquistadora" from the cathedral in Santa Fe, New Mexico.

ritual expedición de California" [the spiritual expedition to California; letter, March 2, 1768] and *"estas conquistas"* [these conquests; Journal entry, March 28, 1769]. In his seminal biography of 1787 about his confrere and superior, Francisco Palóu refers to *"la espiritual conquista"* [the

spiritual conquest], *"lo conquistado"* [what has been conquered], and *"esta conquista"* [this conquest].[24] Although Serra attempted to burn his Mallorcan ships behind him, so to speak, when he arrived in México in 1749,[25] his Mediterranean, insular, and Llullian roots are undeniable. His own character and these roots link him to the Esplandián myth. Helen Hunt Jackson, the writer of California's most venerated novel, *Ramona*, even sees a connection with Columbus through both of their affiliations with the Franciscans[26]; and it is not unreasonable to see Franciscan influence in *Esplandián*.

Serra's life, oriented around the traditional religious universe of Mallorca, was divided neatly into two parts—the first extending from his birth in 1713 to his departure from his home island in 1749, and the second stretching from his arrival in México until his death in California in 1784. During the first half of his life he was educated in, and rose to the highest prestige levels of, a culture which energetically resisted outside imposition of the secular and rational culture of the Enlightenment. Ironically, Serra was a man of the past who helped found the most forward-looking culture the world has ever known. In many ways Serra fulfilled a project for converting *"gentiles y bárbaros"* [his words: gentiles and the uncivilized] begun by Llull but aborted by the latter's martyrdom. Like Llull, Serra was adept at philosophy: the former studied under Duns Scotus (circa 1265 to circa 1308), and the latter taught Scotist philosophy at the Universidad Llulliana, the university founded by Llull himself. The culmination of this part of Serra's life is the last sermon he preached before his departure. On January 25, 1749, he was given the supreme honor of presenting the annual keynote address at the solemn celebration commemorating the university's founder. Commenting on the tremendous success of this eulogy, a priest who, according to Palóu, was not one of Serra's major admirers, unwittingly used a metaphor that is the stuff of myth: *"Digno es este sermón*

de que se imprima con letras de oro"[27] [This sermon is worthy of being printed in letters of gold].

By an amazing coincidence, Serra was able to carry Scotism, Llullism, and what we have identified as the Esplandián myth to California just when these three forces were being eclipsed in both Spain and Mallorca. Like all Medieval philosophy and theology, Llullism was under attack by all of the forces of the Enlightenment; and nowhere was the battle fiercer than on Llull's home island. From 1748 to 1750 there was a severe drought on the island; and, some would say, miraculously, it rained when the islanders turned in supplication to none other than Ramón Llull. Serra's eulogy took place at the central moment of this fervor, but after Serra left there was a terrible brouhaha over whether or not to credit the extra-worldly intervention of Llull's spirit. The anti-Llull forces won, and soon thereafter Llullism declined significantly. Serra, however, sailed off with the mythology we have outlined in full force[28]; and he arrived twenty years later in a land that was half myth and half reality. Despite the fact that Ulloa had proved in 1539 that (Baja) California was a peninsula, so much was unknown about this land that a prominent English map still showed it as an island during Serra's lifetime (Figure 11). Serra was not alone, of course, in bringing this belief system with him. He was surrounded by so many fellow Catalans and Mallorcans that one might almost say California was a province of Catalonia rather than of New Spain or México. Among these compatriots are the soldiers Gaspar de Portolá, Sergeant Puig, Pablo Ferrer, Francisco Bombau, Domingo Malaret, Gerónimo Planes, Valentín Planells, and Domingo Clua, while among the clerics are Fathers Palóu, Lasuén, Crespí, Pieras, Sitjar, Juncosa, Cavaller, and Jayme.

Here and Now

During the first four generations of California's post-indigenous era—that is, from 1769 until the dawn of the

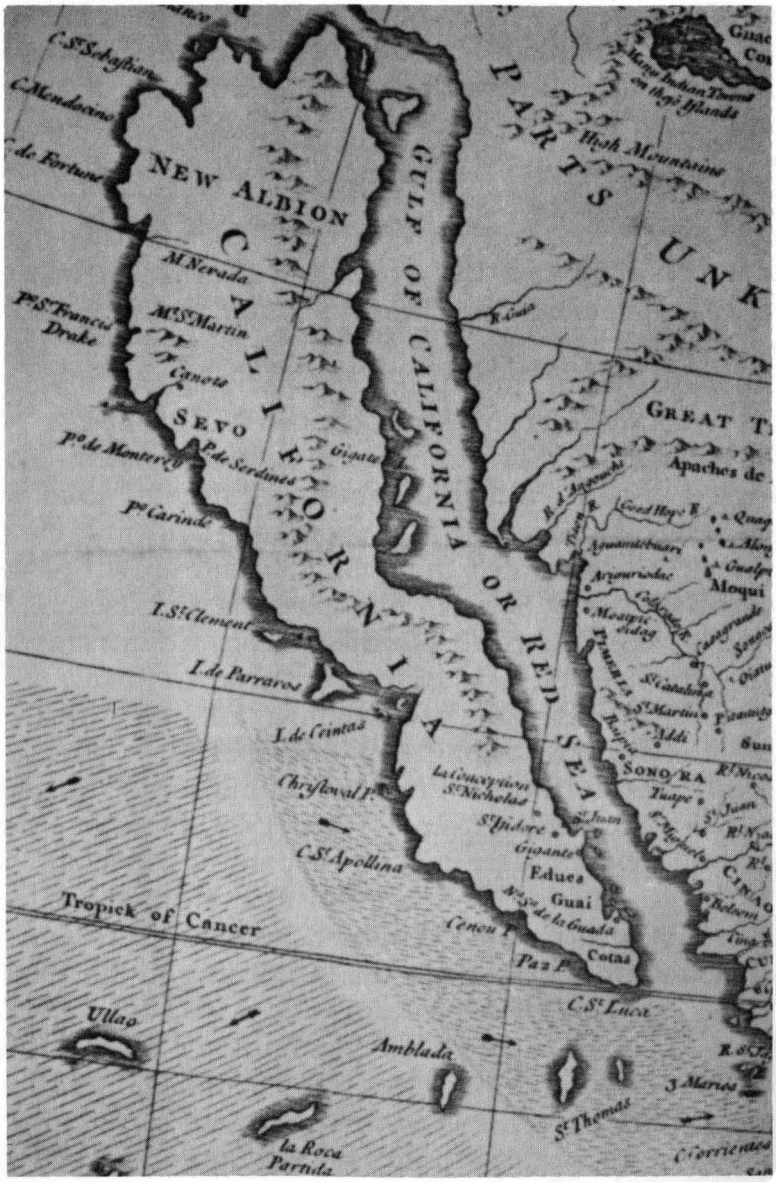

Figure 11. English map of 1745.

Anglo-American era in 1848—the belief system for which the Esplandián myth is the core motivated first the Spanish colony and then the Mexican state to develop into a functioning Hispano-Mestizo society. By the time of the Gold Rush, the outward, material trappings of the mission system founded by Serra had decayed seriously; but the way of life of the early *californios* was established firmly enough to survive the first two generations of the American period (roughly 1850 to 1900).[29] During the two generations around the turn of the century, however, Anglo-Californians "rediscovered" the myths which distinguish and differentiate California geographically and culturally. Helen Hunt Jackson, Charles Fletcher Lummis (who was knighted by king Alfonso XIII of Spain for his 1893 book, *The Spanish Pioneers*), Mary Astin, Hubert Howe Bancroft, Herbert Eugene Bolton, and John Steinbeck, among a host of other prominent and humble Californians, all promoted metaphors which grew out of the Esplandián myth: Spanish mission-style architecture, California as the American Mediterranean, California *rancho* living, the halcyon days of the dons, and so forth.

In recent years the re-Hispanicization of the Golden State has occurred along two principal lines. First, since the end of the Bracero Program (Public Law 78) in 1964, and most noticeably from 1970 to 1987, there has been a massive new immigration of Hispanics, especially Mexicans, to California. Second, and at the other end of the cultural spectrum, Spanish-based nomenclature and style have taken on a prestige status. According to the 1980 census, Hispanics in the state numbered 4,543,770, or 19.2 percent of the population. One demographer even estimated that the official census missed 3,000,000 illegal and undocumented Hispanics.[30] Were that estimate correct, the percentage of Hispanics would rise to 31.9 percent. Even the lower, official figures show that California had nearly twice as many Hispanics as any other state of the United States. It is estimated that by 1985 the Los Angeles area

alone had 4,459,499 Hispanic residents, and that number is predicted to rise to 6,080,304 by 1990.[31] As *The Economist* of London recently stated, this trend is going to continue for the foreseeable future:

> Even if all illegal immigration to the United States were stopped tomorrow, demography would continue to make contacts between Mexico and the United States deeper than that between almost any other pair of countries. Mr. David Hays-Bautista, at the University of California in Los Angeles, calculates that by 2030 the population of California will be 40% of Spanish-speaking origin, compared with about 20% in 1980. This group will be mainly—perhaps more than 80%—of Mexican origin, and much younger than the population at large.[32]

Immigration from south of the border, coupled with the population explosion in both México and the native Latino community, however, provides an explanation for only half the re-Hispanicization of California culture. The other half can be linked to a very large-scale reattribution of prestige status to Spanish mission-style architecture during the 1920's. The revival of the mission myth coincided with a sense that something had gone wrong with Yankee California and with the attempt to install an alien Victorian vision in our state. Hence, there was a general cultural awakening in which even highly successful Anglo-Californians harkened back to an earlier, pre-industrial period of quiet, or, to use Robert Glass Cleland's phrase, of "cattle on a thousand hills." In our present decade, there has been a major resurgence of Spanish names and style in prestige areas such as: private estates which have become treasured public museums (Hearst's castle at La Cuesta Encantada and Senator James Phelan's estate at Saratoga called Villa Montalvo); names for communities and housing developments (Mission Viejo, Cabrillo Heights); shopping plazas (La Cumbre Plaza in Santa Barbara); streets (El Dorado Street in Los Osos or Calle Joaquín in Laguna Hills); public and commercial

Figure 12. Chamber of Commerce billboard at Santa Maria, California, with Columbus' caravel and the Virgin of Guadalupe's divine aura.

festivities (La Fiesta in San Luis Obispo or The Days of the Dons in Santa Margarita); entertainment attractions (the roller coaster ride at Knott's Berry Farm called Montezuma's Revenge); new foods (fajitas); and even billboards, such as Santa Maria's municipal welcome sign (Figure 12), which returns us to the mythemes of the Esplandián myth.

Through the combination of the Hispanicizing of the prestige culture and the dramatic increase in the Hispanic population, we see the strengthening of the direct cultural link with the myths present in California's founding over two centuries ago. This combination is actualized through the mediating nature of México's syncretic Mestizo culture. In this way, all English- and Spanish-speaking citizens of present-day California are heirs of the fused male myth of Esplandián-Quetzalcóatl and the female myth of Calafía-Guadalupe. Both are *conquistadores a lo espiritual.* Signs of these myths are evident in virtually every aspect

of life in California. Suffice it to mention just two. First, the most significant anthology of contemporary California poetry—the cultural expression closest to myth—was published under auspices of the California Arts Council, and its title is *Calafía: The California Poetry*.[33] Second, standing as the paramount symbol of such a synthesis is California's first citizen, President Ronald Reagan, who lives on *Rancho El Cielo* at 3333 *Refugio* Road in *Refugio* Canyon near *Santa Bárbara*. Naturally, he is a member of a riding group called *Los Caballeros*: the knights.

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NOTES

1. Edward Everett Hale, *The Queen of California: The Origin of the Name of California with a Translation from the Sergas de Esplandián*, (San Francisco: The Colt Press, 1945); see also, Alexander S. Taylor, *A Historical Summary of Baja California: From Its Discovery in 1532 to 1867*, ed. Walt Wheelock (Pasadena, Calif.: Socio-Technical Books, 1971), p. 18.

2. Garci Rodríguez de Montalvo, *Las sergas del muy esforzado caballero Esplandián: hijo del excelente rey Amadís de Gaula*. Vol. 40, Biblioteca de Autores Españoles; Libros de caballerías, ed. Pascual de Gayangos (Madrid: Real Academia Española, 1963). Although this seminal novel for the history, geography, and mythology of California has never been translated into English in its entirety, it is often referred to as *The Adventures of Esplandián*. Throughout this article we will refer to it simply as *Esplandián*. There is no definitive explanation for the word "*sergas*," but in Chapter 18 the narrator says that the word means "*proezas*" or "exploits."

   Regarding the naming of California, Charles E. Chapman (see note 4 below) summed up our current state of knowledge as long ago as 1921: "There is hardly room for a doubt that Cortés and his men were familiar with the story of island California. All Europe had gone nearly mad over the romances of chivalry, and the Spaniards in particular were looking for the same wonderful experiences in the Americas as the wandering knights were wont to have in the realm of fancy." (p. 62). In any case, there is no direct evidence that Cortés knew or used the name

California. Cortés named the place where he landed in Baja California *Santa Cruz*. In 1533 Cortés ordered his relative, Becerra, to command an expedition to what later would become known as Baja California. In the course of a mutiny led by Fortún Jiménez, Becerra was murdered; and the nomenclature used by either Becerra or Jiménez for the peninsula is unknown. Pedro de Palencia and Francisco Preciado kept diaries of the expedition made to the island-peninsula in 1539-1540, but the name *California* appears only in the Italian version of Preciado's diary, printed in Giovanni Ramusio's works over a decade later (1550-1556). The name does appear in the journal kept by Juan Rodríguez Cabrillo, the Portuguese mariner sailing for Spain, who reconnoitered the long coast of Baja and Alta California in 1542. Furthermore, Gómara, Bernal Díaz, and Herrera, historians and chroniclers of Cortés' exploits, writing between 1550 and 1564, refer to the place Cortés landed as *California*. This later collocation of Cortés and California has led to the unproved assumption that Cortés is responsible for the definitive naming. The working hypothesis of this article is that, in the absence of documentary evidence of the real event (for example: "I, Hernán Cortés, do hereby declare the name of this bay and this island or peninsula to be *California*."), it is sufficient to note that Cortés demonstrated such depth of education and a propensity for mythicizing actions in the conquest of México that it is reasonable to postulate a link between Cortés and Rodríguez de Montalvo in the naming of California. Finally, the Spanish conquistadors were fully conscious that naming was the first step in the process of conquering, converting, and assimilating the lands and peoples of the New World. See also p. 6 above on Antonio de Nebrija's grammar (1492).

3. James D. Houston, *Californians: Searching for the Golden State* (Berkeley: Donald S. Ellis, 1985), p. 25.

4. Charles E. Chapman, *A History of California: the Spanish Period* (New York: The Macmillan Company, 1921). Though he presents an accurate summary of the plot, Chapman does not relate the episodes dealing with the Amazon Queen, Calafía, to the rest of the work, nor does he dilate on the symbolic or mythic aspects of the novel as a whole. Additionally, Chapman quite efficiently dismisses various other explanations for the origin of the name California, such as the Latin etymology of *calida fornax*, or the Catalan word *californo*, which, like the Latin phrase, also means "hot oven." However, Chapman's conclusion

(on p. 55) about the name strikes an aptly mythicizing note: "One of the most prized possessions of present-day Californians is the beautiful and beloved name of the state, a name which has a lure that has carried its fame perhaps farther than that of any other state in the Union."

5. *Esplandián* is the fifth volume of a series of *novelas de caballería*, the first of which deals with the exploits of the hero's father, Amadís de Gaula. Rodríguez de Montalvo rewrote and edited into four volumes materials on Amadís which date back to at least the beginning of the fourteenth century. He then wrote the fifth volume on his own.

   Even the esteemed historian Samuel Eliot Morison mistakenly had the Amazon Queen Calafía fight on the side of the Christians. See *The European Discovery of America: the Southern Voyages, 1492-1616* (New York: Oxford University Press, 1974), p. 617.

6. The concept of a mytheme has its origin in the structural anthropological work of Claude Lévi-Strauss, especially in *Tristes tropiques* (Paris: Plon, 1955) and *Anthropologie structurale* (Paris: Plon, 1958). A mytheme is a structural unit akin to phonemes in the phonological structure of language. Mythemes are symbolic or narrative units which in particular combinations distinguish one myth from another.

7. Ruy Díaz de Vivar (1050-1099), called *El Cid* by the Moslems he conquered as he helped push Spain's Christian borders farther south, is the protagonist of Spain's anonymous national epic poem, *El cantar de mio Cid*, circa 1140. He is considered the father of Spanish nationalism.

8. *Esplandián*, p. 408

9. The title description of this devout legend, told in a sequence of six vignettes, is as follows: *"Esta e como Santa María appareceu no maste da nave de noite que ya a Bretanna e a guardou que non perigoasse"* [This is how Holy Mary appeared at night at the top of the mast of the ship that was going to Britain and how she kept it from perishing].

10. Gianni Granzotto, *Christopner Columbus: The Dream and the Obsession*, tr. Stephen Sartarelli (Garden City, New York: Doubleday and Company, 1985), p. 144.

11. Bernal Díaz del Castillo, *Historia de la Conquista de la Nueva España* (México: Porrúa, 1966), p. 147. For more on the relationship between the Conquest and novels of knight errantry or

chivalry, see Ida Rodríguez Prampolini, *Amadises de América: la hazaña de Indias como empresa caballeresca* (México: Porrúa, 1948).

12. Bernal Díaz del Castillo, p. 320.
13. Aztlán is the ancient Aztec myth of the Land of the Fifth Sun, which referred to the Aztecs' region of origin in the American Southwest. The Chicano poet Alurista resuscitated this myth, and Chicano activists adopted it in 1969 as a means to give the nascent Chicano cultural and political movement a mythical core.
14. Chapman, p. 64.
15. Herbert Eugene Bolton, *Anza's California Expeditions*, 4 Vols. (Berkeley: University of California Press, 1930).
16. Hale, p. 15. In the Spanish edition this passage is at the beginning of Chapter 157.
17. For the *Libro de las profecías* see Cristóbal Colón, *Textos y documentos completos*, ed. Consuelo Varela (Madrid: Alianza, 1984), pp. 286-291. For excellent discussions of Columbus' use of prophetic texts, see Salvador de Madariaga, *Christopher Columbus: Being the Life of the Very Magnificent Lord Don Cristóbal Colón*, new edition (London: Hollis and Carter, 1949); Paolo Emilio Taviani, *Christopher Columbus: The Grand Design* (London: Orbis, 1985); and Granzotto. op. cit., Note 9.
18. For a good bibliography of Llull, see Allison E. Peers, *Ramon* (sic) *Lull* (sic) (London: Society for Promoting Christian Knowledge, 1929); for Llull's relationship to Africa, to Moslems, and to Islam, see Sebastián Garcías Palou, *Ramón Llull y el Islam* (Palma de Mallorca: Gráficas Planisi, 1981); for Llull's thought, see Cruz Hernández, *El pensamiento de Llull* (Valencia, Spain: Castalia, 1977); and for the Llullian controversy which raged throughout Mallorca during Serra's lifetime, see Juan Riera, *Las polémicas lulistas y el consejo de Castilla (1750-1765)* (Valladolid, Spain: Universidad de Valladolid, 1977). Note that British writers often spell the name "Lull." The Catalan spelling is used here to respect common Spanish and American usage.
19. Omer Englebert, *The Last of the Conquistadors: Junípero Serra (1713-1784)*, trans. by Katherine Woods (New York: Harcourt, Brace and Company, 1956).
20. Allison Peers, in discussing the legends regarding Llull's death by stoning in Bugia during 1315-1316, tells of a tantalizing, possible connection between Llull and Columbus. Legend has it that

Llull was left for dead and then saved by two Genoese merchants, Esteva Colom and Luis de Pastorga, who took him either dead or alive—there are different versions of the legend—to Mallorca. Specifically, on p. 372 Peers notes: "Legend has made great play with Colom's name, representing him as the ancestor of the celebrated Columbus (Catalan: Colom; Castillian: Colón). It has even been suggested that Lull knew of the existence of an American continent, and passed on the secret to Esteva Colom with his last breath, prophesying that a descendent of his (Colom's) would discover it!" Legend notwithstanding, there is firmer evidence of the influence which Llull had on Columbus' *geographical* knowledge. It is almost certain that Columbus knew of Llull's popular treatise on the difference between tides in the Mediterranean and those in the Atlantic. See Ramón Llull, *Quaestiones per artem demonstrativam solubiles,* as cited in Taviani, op. cit., Note 17, p. 388.

21. Translation by William Little, from Ramón Llull, *Libro de la orden de caballería* (Madrid: Alianza Editorial, 1986), p. 76.

22. Hale, p. 32.

23. Letter from Serra to Gálvez, July 2, 1770, in Lino Gómez Canedo, *De México a la Alta California: una gran epopeya misional* (México: Editorial Jus, 1969), p. 115. For the sake of historical curiosity, it is interesting to note that the first mention of the Virgin of Guadalupe in relation to Upper California is found in Juan Rodríguez Cabrillo's journal recounting his exploration of the coast in 1542. Like the thirteenth-century *cantiga de Santa María* referred to above, and like Columbus on his first return voyage, Rodríguez Cabrillo and his mariners commended themselves to the Virgin during a storm at sea.

24. See Francisco Palóu, *Relación histórica de la vida y apostólicas tareas del venerable padre Fray Junípero Serra* (México: Porrúa, 1970) and *Evangelista del Mar Pacífico, Fray Junípero Serra,* ed. Lorenzo Ribera (Madrid: Aguilar, 1944); Junípero Serra, *Writings of Junípero Serra,* ed. Antoine Tibesar, 4 Vols. (Washington, D.C.: Academy of American Franciscan History, 1955); Andrés Marcos Burriel, *Noticia de la California y de Su Conquista Temporal y Espiritual* (no publisher indicated, circa 1750); and Pablo Herrera Carrillo, *Fray Junípero Serra, civilizador de las Californias,* third edition (México: Editorial Jus, 1960).

25. See Serra's letter of August 4, 1773, to Father Miguel, of his home town of Petra, Mallorca, in Gómez Canedo, op. cit., Note 23.

26. Helen Hunt Jackson, *Father Junípero Serra and the Mission Indians of California* (Boston: Little, Brown and Company, 1903), p. 3.
27. Palóu, *Evangelista*, p. 23.
28. For details, see Juan Riera, *Las polémicas lulistas y el consejo de Castilla (1750-1765)* (Valladolid: Universidad de Valladolid, 1977).
29. Leonard Pitt, *The Decline of the Californios: A Social History of the Spanish-Speaking Californians, 1846-1890* (Berkeley: University of California Press, 1971); Kevin Starr, *Americans and the California Dream: 1850-1915* (New York: Oxford University Press, 1985); and Robert Glass Cleland, *Cattle on a Thousand Hills: Southern California, 1850-1880* (San Marino, California: The Huntington Library, 1969).
30. Albert Camarillo, *Chicanos in California: A History of Mexican Americans in California* (San Francisco: Boyd & Fraser Publishing Company, 1986), p. 107.
31. Ibid., p. 25.
32. *The Economist* (September 5, 1987), p. 20.
33. Ishmael Reed (ed.), *Calafía: the California Poetry* (Berkeley: Y'Bird, 1979).

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THE GEOGRAPHICAL HORIZONS OF THE EARLY ISRAELITES: THE TABLE OF NATIONS REVISITED

Gordon R. Lewthwaite

In their rôle as geographers, the Old Testament Israelites have evoked some rather different reactions. As Wright and Filson remarked, "The Bible is unique among the world's scriptures; it is the only one for whose comprehension the study of historical geography is basic."[1] Indeed, Napoleon found the correlation of document and place so compelling that he had the appropriate scriptures read to him *in situ* throughout his Palestinian campaign.[2] Yet, there are surprising lacunae: as Baly and Tushingham remarked, even the location of sacred Mount Sinai passed from Israel's memory.[3] That fact, of course, reflects long severance from a region which was traversed but never settled; and at least until the Exile and far-flung Dispersion, most Israelite geography remained conspicuously close to home. A tally of identifiable Old Testament place names,[4] however incomplete, indicates that fully 90 percent were located in the "Holy Land" itself (Figure 1). Yet, for all the allusions to natural phenomena, the regionally varying landscapes of even the homeland are seldom limned with geographical precision; and references to distant lands are rarely coupled with an identi-

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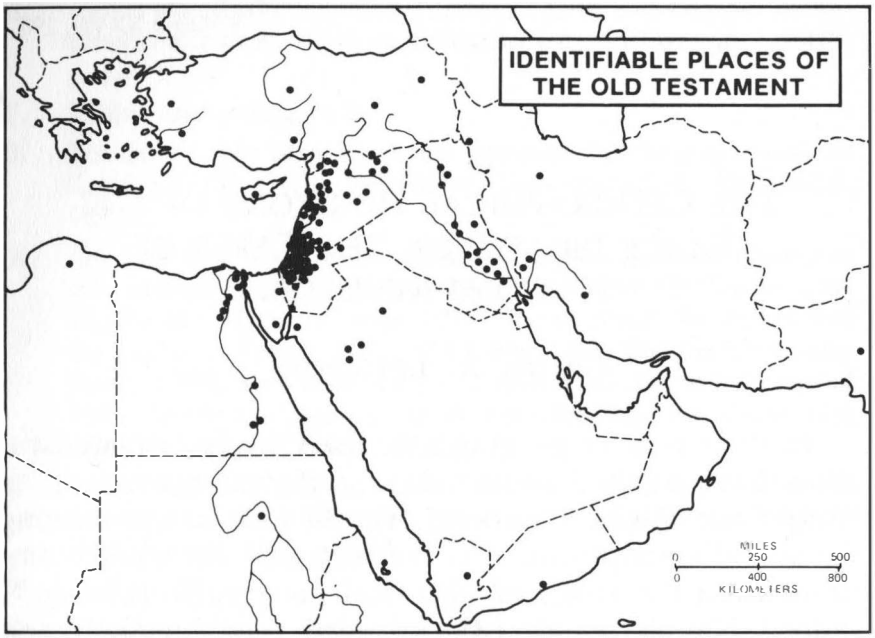

Figure 1: Identifiable Places of the Old Testament

fying phrase. Peoples and places then taken for granted are thereby now obscure.

Time, Place, and the Table of Nations

Historians of geography differ quite markedly in their assessments of even unambiguous data. Thomson, for instance, deemed Ezekiel's lament song for Tyre (Ezekiel 27) to be both premature and "rather highly coloured,"[5] while Kish perceived it as "a detailed and accurate statement of the subject matter of what we now call regional or economic geography."[6] Ezekiel's list seems to have been at least partially rooted in the Table of Nations (Genesis 10, 1 Chronicles 1), a document which has received the most varying assessments. In Hettner's view, it was both belated in construction and erroneous in content, part and parcel of the borrowed and misleading cosmography which Judaism bequeathed to medieval Christendom. Though

data from Solomon's trading era were doubtless incorporated, Hettner conceived the Table as largely derived from Phoenician sources and finally formulated around 500 B.C.[7]

If a layman in such matters can read the experts aright, some second thoughts now seem in order. Not that there is any real consensus about the Table: there are still too many incompatible presuppositions, viewpoints, and principles of construction for any such conclusion. Yet, it seems clear enough that there has been a significant shift of qualified opinion since Hettner's day. Rejecting even the once-popular assumption that the Table was constructed around 700 B.C., recent authorities have insisted that it must have been formulated during the United Monarchy. Thus, Wright and Filson, Albright, and Aharoni all concluded that the Table took shape within the 1000-800 B.C. time span, with the tenth century favored by both Aharoni and Albright.[8] Specifically repudiating his former preference for an eighth century provenance, Albright underscored his view that an earlier date was consistent with both the prior appearance of peoples hitherto thought to have been late arrivals on the historical scene and the otherwise anomalous inclusion of archaic elements — particularly in Arabia — which subsequently disappeared from the record. Some of these must have originated deep in the second millennium B.C., even if "a document of the tenth century B.C." was postulated as the immediate source.[9] Reinforcing this point, others claim that the core of the Table was probably composed by 1500-1300 B.C. from ancient tablets of the patriarchal era, with subsequent "slight scribal revision" accounting for the inclusion of later groups such as Philistines, Medes, Scythians, and Cimmerians.[10] As Harrison and Wiseman saw it, it was essentially the pattern of 1500 B.C. which the Table records,[11] an hypothesis confirmed by growing data from Mesopotamian and Egyptian records, with probable substantiation from new-found Ebla. There was a far-flung

network of trading contacts and deliberate geographical enquiry. Egyptian land and sea traffic were then extending the length of the Mediterranean, and Mesopotamian and Arabian traders and migrants were bringing information to the Egyptian court from as far afield as India, southern Arabia, and the Caspian Basin. Indeed, a still earlier formulation of the Table of Nations is conceivable, for before 2000-1800 B.C. "the flow of trade, and therefore of merchants and their supporting caravans and military expeditions [was] abundantly attested by contemporary documents and implies a knowledge of the very area outlined in Genesis 10."[12]

Such chronological variations, of course, compound the problem noted by Thomson: unless the geographical data are synchronous a world map can scarcely be constructed.[13] Besides, Genesis 10 scarcely purports to be a geographical document per se: it is a genealogical tree linking the sons of Shem, Ham, and Japheth (Tables 1, 2, 3). Yet there is more to the listing than meets the eye, and there is scarcely a scholar who reads it quite that way. Not only are various "sons"—Sheba, Havilah, and Ludim in particular—credited with an embarrassing plurality of fathers and gentilic rather than individual names incorporated into the list, but by ancient usage the term *mishpahoth*, or "families," could also denote quite varied relationships—political, social, and territorial, as well as biological. Further, all analysts, it seems, agree that geographical location had at least something to do with the linkages.

Not a few, in fact, believe that location was fundamental to the order of the Table. As Sperber put it, "the principle behind the classification is generally geographic proximity rather than ethnic or linguistic connections."[14] Simons, though strongly qualifying his approval of this territorial principle, still stressed the essentially geographic structure of the nucleus, with the sons of Ham given preeminence in Egypt and associated lands to the south, Japhetic peoples spreading through northern and

Table 1: JAPHETIC PEOPLES AND REGIONS

[Mainly Indo-Europeans (Aryans) to the North and West]

Israelite Name	Tentative Identification
Gomer	Cimmerians
Ashkenaz	Scythian group
Riphath	NW Asia Minor
Togarmah	Tegarama, Cappadocia
Magog	Scythians
Madai	Medes
Javan	Ionian Greeks
Elishah	Alishiya-Enkomi, Cyprus
Tarshish	Tarsus, Cilicia; Tartessus, Spain; Sardinia
Kittim	Kition-Larnaka, Cyprus
Dodanim (Rodanim)	Rhodes
Tubal	Tabali, Anatolia
Meshech	Mushki, Anatolia
Tiras	Thrace; Thursha-Etruscans

western lands, and the sons of Shem accorded their central rôle in the Fertile Crescent and Arabian peninsula.[15] Others, however, believe that this presses the geographical aspect too far, and point to broader implications in Hebraic phraseology. With significant reiteration, the peoples are grouped according to their "families, languages, lands and nations," an encompassing formula that seems to signify broadly ethnic, linguistic, geographic, and political components. Furthermore, the word-order is varied in this verbal formula, with lands given priority in the Japhetic list (Genesis 10:5) and families in the Hamitic and Semitic groupings—priorities which Wiseman thinks may well be intended by the tabulator.[16]

Whether or not some differential weighting was thus implied, most commentators seem to agree with Wiseman that "elements of geography, linguistic and physical affinities all appear" in interwoven fashion through the

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Table 2: HAMITIC PEOPLES AND REGIONS

[Egyptians (or Sumerians) and Associated Peoples]

Israelite Name	Tentative Identification
Cush	Nubia-Ethiopia; Kassite-Mesopotamia
Seba	SW Red Sea region; Sudan-Eritrea
Havilah	Haulan, SW Arabia
Sabtah	S. Arabia; Shabwa-Hadramaut
Raamah	S. Arabia
Sheba	Saba
Dedan	NW Arabia, al-Ula oasis
Sabteca	unknown; S. Arabia
Nimrod	Nimrud, Mesopotamia
Mizraim	Egypt
Ludim	Lydia, Asia Minor; NE Africa
Anamim	A-na-im, Cyrenacia
Lehabim	Lubim, Libyans
Naphtuhim	Lower Egypt, marshland-oases, delta
Pathrusim	Upper Egypt, Nile floodplain
Casluhim	unknown
Philistines	Palestine
Caphtorim	Crete
Put	Libya (Phut); Somaliland (Punt)
Canaan	Palestine-Phoenicia
Zidon	Sidon
Heth	Neo-Hittites, Syria; Hittites, Anatolia
Jebusites	Jerusalem
Amorites	Syria-Palestine
Girgashites	unknown, Syria-Palestine
Hivites	Horite-Hurrian, Syria-Palestine
Arkites	Tell Arqa, Lebanon
Sinites	Sinn ad-darb, Lebanon
Arvadites	Arvad, Syria-Phoenicia
Zemarites	Sumra, Syria-Phoenicia
Hamathites	Hamath (Hama), Syria

Table 3: SEMITIC PEOPLES AND REGIONS

[Mainly Fertile Crescent and Arabian Peninsula]

Israelite Name	Tentative Identification
Elam	Khuzistan, SW Iran
Asshur	Assyria
Arpachshad	Arrapachtitis-Kirkuk; Chaldea-Babylonia
Shelah	unknown
Eber	Hebrew
Peleg	unknown
Joktan	S. Arabia; al-Qatan; unknown
Almodad	unknown; S. Arabia
Sheleph	unknown
Hazarmaveth	Hadramaut
Jerah	unknown
Hadoram	unknown
Uzal	Sana, Yemen; Izalla, NW Arabia
Diklah	unknown
Obal	unknown
Abimael	unknown
Sheba	Saba
Ophir	S. Arabia; NE Africa
Havilah	Haulan, SW Arabia, NE Africa
Jobab	unknown
Lud	Lydia, Asia Minor
Aram	Aramean-Syrian
Uz	NE Arabia-Syria
Hul	unknown
Gether	unknown
Mash	unknown

list, and that "whenever it was compiled between the Exodus and the Exile . . . the Table of Nations shows an awareness of the geographical distribution of people according to their countries."[17] In Aharoni's phraseology, it thus "reflects the ethnic and geographic world known to Israel during her apogee, [providing] a faithful sketch of

Palestine's position among the peoples and kingdoms of the ancient Near East."[18]

Japhetic Peoples and Northern Horizons

The Table of Nations, then, must be taken seriously, even if there is puzzlement as well as enlightenment in its data. In Cyrus Gordon's words, it "remains a great historical document . . . an attempt, containing considerable historicity, to put all the nations known to the Hebrews into an organic framework."[19] There is a real, if admittedly elusive, order in what Barnett called "the early *mappa mundi* of Genesis X,"[20] an ethnographic order which may perchance be clarified somewhat by a circuit beginning from the northeastern sector of the map. From the northeast to the west, the sons of Japheth—the Aryans or Indo-Europeans of more recent terminology — held sway; and among these the Madai or Medes may have occupied the farthest northeastern horizon (Figure 2,

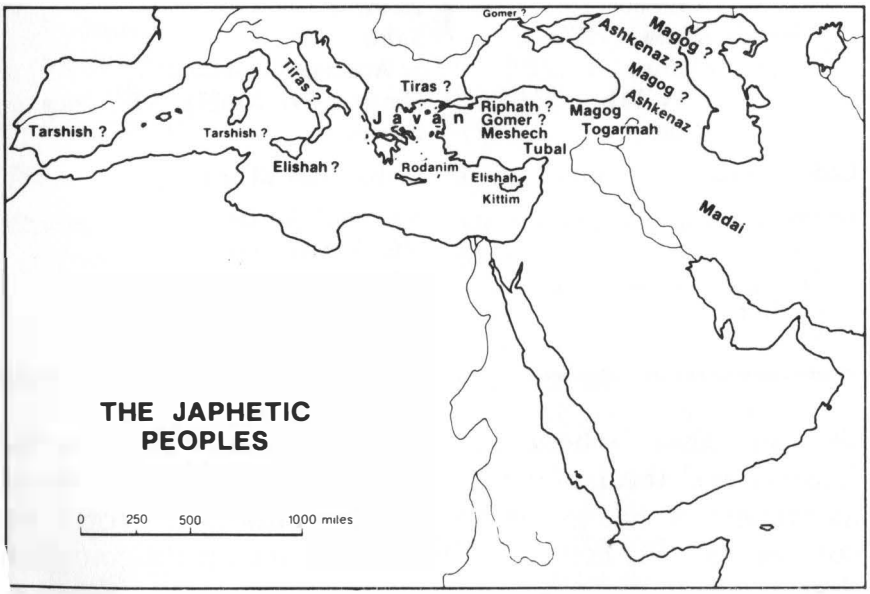

Figure 2: The Japhetic Peoples

Table 1). The view that the Chinese were the "Sinim" of Isaiah (Isaiah 49:12) has been all but completely abandoned in favor of Egyptian Syene[21]; Josephus' identification of the "sons of Gether" with the Bactrians of Central Asia[22] seems to evoke little if any support; and India—or rather modern Pakistan—is not mentioned until the days of the Persian Empire and the Book of Esther. Indeed, the Persians themselves may have escaped mention in the Table of Nations. Admittedly, they may have been included in the "Madai" as Simons and others, not without some documentary support, are disposed to argue[23]; but as others point out, it is a curious fact that the Persian benefactors, of all people, receive no explicit mention in a supposedly post-Exilic document. Better, they argue, to assume both the omission of the Persians and the composition of the Table during the early phase when the Medes were still predominant.[24]

While the Table's classification of the still unclassifiable Elamites as sons of Shem (Genesis 10:22) is a puzzle which continues to divide the commentators, all seem to agree with Herotodus, Strabo, and the Table of Nations that the Medes were indeed Aryan-Japhetic,[25] as were most of their neighbors to the north. Just how far north is open to question. Some have conceived that the northern shores of the Black Sea and now-Russian steppes were in view; but the Table itself, while seemingly touching on Armenia and Anatolia, seems devoid of such an extension.

True enough, the "Rosh" of some translations (Ezekiel 38:2-3, 39:1 RV) has occasionally been identified with "Russia"; but this is viewed by most as a chronological and exegetical impossibility. The Scandinavian traders and warriors who formed the original "Russ" had not infiltrated the region before the ninth century A.D. The relevant Hebrew word may have meant no more than "great chief"; and if a land or people was indeed intended, it was most likely the "Rashu" of Assyrian inscriptions,

seemingly located somewhere on the Zagros-Tigris borderland.[26] Though Gog and Magog, Meshech, and Tubal have served apocalyptic purposes, they all seem to be ethnogeographic elements living south of the Caucasus ranges and the Black Sea shores. Admittedly, Josephus was probably right in equating the Magogites with a Scythian group; but these were Scythians of the Anatolian rather than the Russian steppes, and were very likely the same as the "Gagaia" alluded to in the Amarna tablets of fourteenth-century Egypt. Perhaps the "Gog" who later—but only later—was linked with Magog was indeed the "Gogo" of Assyrian inscriptions, the people of King Gyges of seventh-century Lydia. Likewise, the sons of Gomer were probably the "Gimirai" or Cimmerians of Assyrian and Greek nomenclature respectively, peoples of the Crimean-Ukrainian realm who surged southwards into Anatolia before the eighth century B.C.—though their identification with the Celtic Galatians or Gauls of Cappadocia by Josephus appears to be anachronistic.[27]

The descendants of Ashkenaz, Riphath, and Togarmah are also viewed as inhabitants of Asia Minor, though precisely where is not so clear. Some have linked the Ashkenaz with the Ascania district near the Aegean Sea; but most now favor their identification with the "Askuza" of Assyrian inscriptions, apparently Scythians who settled in the Lake Urmia district—a location much more compatible with their alliance with the Armenians and the Minni or Mannae of the Medo-Assyrian borderland in the struggle against Babylonia (Jeremiah 51:27).[28] The sons of Riphath—a reading generally preferred to the "Diphath" of 1 Chronicles 1:6—are more of a puzzle. Josephus' belief that they were the Paphlygonians of the Black Sea shore is not implausible, but some have variously pointed to the Rebas River in Bithynia, the Rhibii tribe that classical writers placed somewhere east of the Caspian, and the snowy Riphean Mountains of Greek mythology—the Carpathians, perchance.[29] In similar fashion Josephus equated

the sons of Togarmah with the so-called Thrugammeans or Phrygians of Asia Minor; but present-day scholars tend to link them with the "Tegamara" or "Til-Garimanu" of Assyrian annals, a city or region strategically placed across the routeways of the Armenian-Cappadocian borderland. A link with one Thorgom, claimed as a forefather by some Armenians, has also been mooted.[30] As for Meshech and Tubal, they seem rather firmly equated with the Moschoi and Tiberinoi of Herodotus and the Mushki and Tabali of the Assyrians. Though almost invariably coupled in the historical records, they may well have had different ethnic roots. The Mushki were probably immigrants from the northern steppes who became dominant in northeastern Anatolia, while the Tabali were a neo-Hittite confederacy with their nucleus in the southern Taurus. Their power and territory fluctuated, but between the twelfth and ninth centuries B.C. they joined the Phrygians to "spread southwards over the whole of the vast Anatolian plateau."[31]

Sea Peoples and Mediterranean Lands

Doubtless such Anatolian peoples carried ancestral memories of their homelands to the north, and Mediterranean traders sailed the shores of the Black Sea. Indeed, it has been somewhat improbably affirmed that Phoenicians tapped Crimean forests to get timber for Solomon,[32] but the Black Sea goes unmentioned in the annals of ancient Israel. Not so the neighboring Mediterranean. The Table of Nations seems to have been shaped more by maritime than continental contacts; and westward lay the homelands of Tiras and the four sons of Javan, "whence the coastal peoples spread" (Genesis 10:5).

Again, the precise identity of these peoples is usually uncertain, but there is little doubt as to their location along the Mediterranean shores. Some may still follow Josephus in his thought that Tiras was ancestral to the Thracians, but others think this rests on a purely verbal association. Identity with the Thursha, one of the roving

sea peoples who troubled Egypt, is more commonly favored.[33] They were very likely one and the same as the Tyrensoi of Greek tradition, who in turn are viewed as probable ancestors of the Etruscans of central Italy, which is where Aharoni was disposed to place Tiras.[34] Javan is more unambiguously equated with the Greeks and the Ionian Greeks in particular; and though the shores of Asia Minor and the Aegean islands rather than the Greek peninsula may have been intended, a wide panorama was clearly implicit in the tabulation of Elishah and Kittim, Dodanim (or Rodanim), and Tarshish.

These names, in fact, seem to have acquired both broad and narrow meanings. In the narrowest sense, Elishah and Kittim have been commonly identified with two Cypriot towns. There seems sound reason to take Elishah as synonymous with Alishiya, a copper-rich area alluded to in many an extra-Biblical source, and identify this with the Enkoni-Alassia site excavated on the eastern coast of Cyprus. At least since Josephus' day, Kittim has been commonly accepted as Kition or Larnaka in the southeast of the same island,[35] though the evidence is really indecisive in either case. At least some ancient references to Alishiya seem indicative of an extensive mainland region,[36] perhaps on the Syrian or Cilician coast; and many think it extended westward along the coast of Asia Minor. Indeed, Josephus may well have been correct in describing Elishah and Kittim as spreading to the coastlands and islands of the Aegean, including the lands of the Aeolian Greeks; and Jewish tradition later—but probably only later—applied the term Elishah to the Greek colonies of Sicily and southern Italy.[37] Dodanim, by contrast, poses a textual rather than a geographical problem; for though the Dodanim have been proposed as cognate with either the Dardanians of Homer's Troy or the Danunim of Cilicia known only from a Phoenician inscription, no such equation seems needed. The initial reading was almost certainly "Rodanim," as in 1 Chronicles 1:7. In that case,

Rhodes and its neighboring islands were presumably intended.[38]

Westward to Tarshish

The Tarshish question, however, is much more problematical (Figure 3). Admittedly, southern Spain, and the ancient realm of Tartessus in particular, has been widely accepted as the solution. Thus, Hettner envisaged the Phoenician-Israelite expeditions of Solomon's day as tapping the ores of the Sierra Morena[39]; Ellen Churchill Semple inevitably quoted lines from the classics on "the silver-bedded River Tartessus"[40]; and Jacquetta Hawkes more recently invoked "the shadowy kingdom of Tartessus," whence the Old Testament "ships of Tarshish" seemingly derived their name.[41] Certainly, there is much to suggest the validity of this view. A mining village called "Tharsis" or "Tasis" seems to have been located nearby[42]; and the prophets listed such appropriate trade items as iron, tin, silver, and lead (Jeremiah 10:9, Ezekiel 27:12). Phoenician enterprise was busily tapping the region at the appropriate time, and Greek and Semitic artifacts have also been unearthed in the locality. Besides, Tarshish was clearly a distant land as Jonah implied (Jonah 1:3).

Nevertheless, the question is far from settled. Neither Tarshish nor "Tarshish ships" can be identified with conviction. True enough, Albright's explication of "Tarshish" as a derivative of a similar-sounding Semitic word for smelting, and of "ships of Tarshish" as a general term for seacraft with the size and strength to carry ores and ingots, has been widely accepted.[43] As suspicious critics point out, however, the interpretation of Tarshish as cognate with smeltery is curiously absent from early literature; and the Biblical references seem distinctly locational. Some think a link with *tarsos*, the Greek word for oar, to be more likely, and view the "ships of Tarshish" as Mycenaean-type craft modified to carry a double bank of oars—a suggestion not incompatible with the common

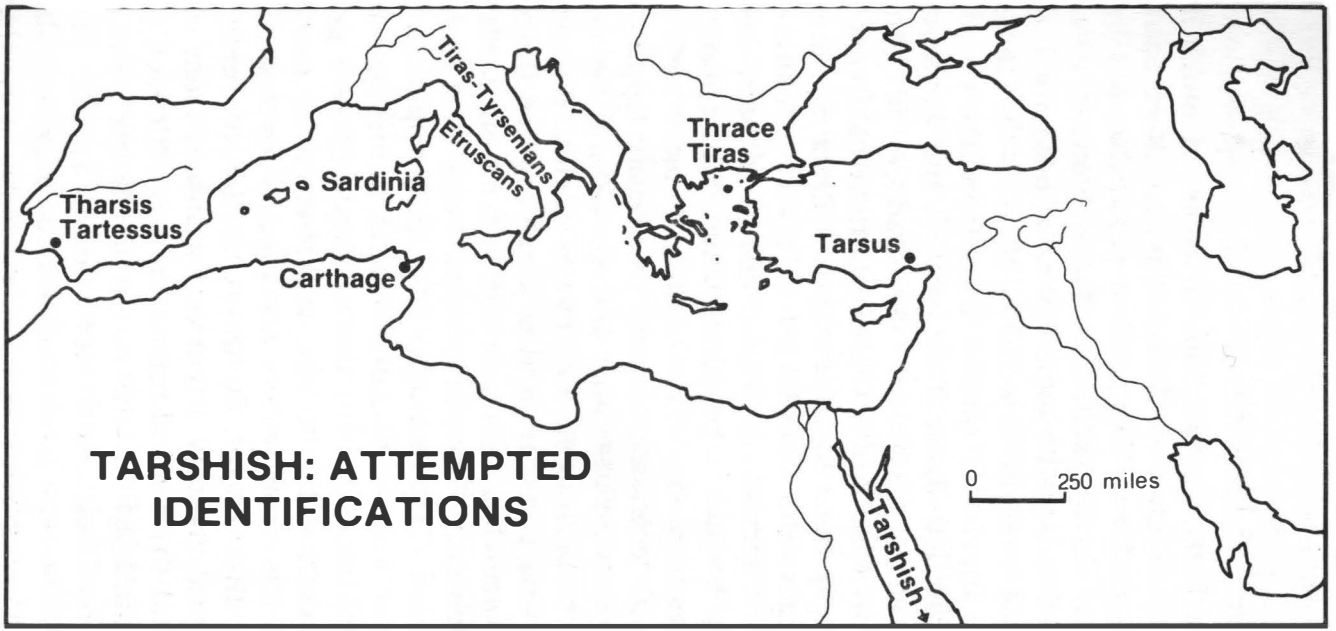

Figure 3: Tarshish: Attempted Identifications

equation of Tarshish with Tarsus in Cilicia. Greek trading ships had something to do with that city's founding, or at least its growth.[44] Whatever the derivation, it has long been thought that a Tarshish-ship denoted some kind of sea-going vessel, rather than a ship that belonged to some particular place; and at least some Jewish tradition long interpreted Tarshish as a general reference to the sea.[45]

Even so, most authorities seem to accept some etymological and geographical link with smelting, an association consistent with the metal-yielding rôle accorded Tarshish. Southern Spain apart, a variety — and sometimes also a multiplicity — of sites have been suggested with more or less plausibility. To Josephus, as to many present-day scholars, Cilician Tarsus with its backdrop of ore-bearing mountains was the Tarshish of the Table of Nations.[46] Ritter, who considered Hebrew voyaging to a Spanish Tarshish as both intrinsically unlikely and incompatible with the silence of the records, insisted that Genesis 10:4 could well be read as "Tarshish-Kittim," or, as the New English Bible suggests, "Tarshish-of-the-Kitions"—a Tarshish within the Greco-Cypriot sphere, and very likely Tarsus itself.[47] Some have suggested a site within or near the Aegean—in Rhodes, or another Greek island, or in Asia Minor, or even Thrace. As Simons underscores the point, there may be no call to search for any Tarshish outside the Eastern Mediterranean Basin.[48]

Many, however, prefer to look further westward. Some have suspected a Tuscan Tarshish, and one strong (but probably late) Jewish tradition, which influenced both the Septuagint and Vulgate, identified at least the Tarshish of Ezekiel 27 with Carthage.[49] The latter, however, was but one among a series of Phoenician centers that stippled the shores of the central and western Mediterranean after the expansionist burst which marked the tenth and ninth centuries B.C. Among these Sardinia has been deemed the likeliest candidate. Not only did metal-smelting and Phoenician traders come early to that island, but also the very

word "Tarshish" occurs in a Phoenician inscription at Nora in the south. All things considered, both Aharoni and Albright came to view Sardinia as probable, with Albright suggesting the Tharros site as the original Tarshish.[50]

Nile Valley and Fertile Crescent

Still, the western horizon of Israelite consciousness remains indeterminate, and the Semitic and Hamitic peoples who occupied other sectors involve still further questions. The Hamitic peoples (Figure 4, Table 2) include the sons of Cush, Mizraim (Egypt), Put, and Canaan. Ethnographically, at least, this is a somewhat puzzling association; for if, as is commonly thought, the Hamites were essentially the Egyptians and their associated or satellite peoples of northeastern Africa, the inclusion of the Caphtorim, the Canaanites, the Cushites of Nimrod's realm, and the Ludim seems to involve both ethnic and geographic anomalies. The Caphtorim were almost certainly

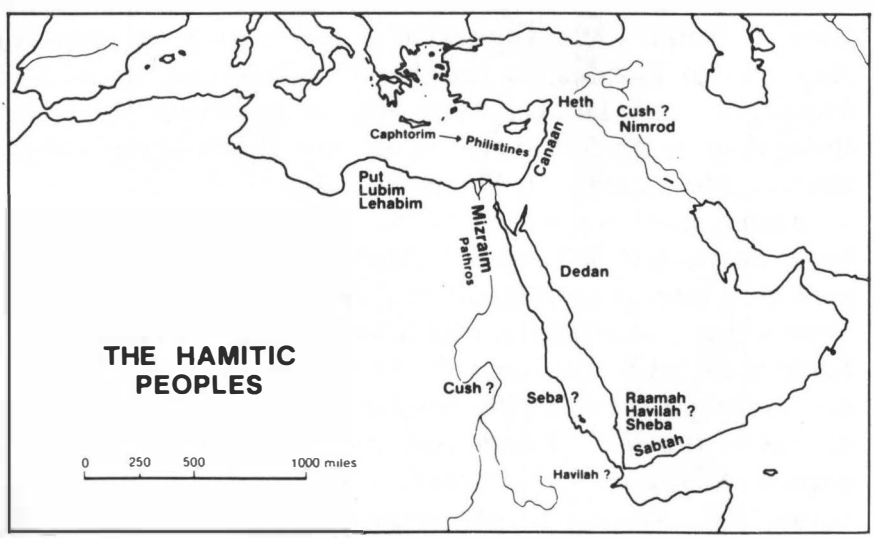

Figure 4: The Hamitic Peoples

the Cretans, and the Canaanites of Palestine, the Cushites or Kassites of Mesopotamia, and the Ludim or Lydians of Asia Minor—unless the Ludim were an unknown African people as some think[51]—are all difficult to classify as Hamitic-Egyptian. Factors other than the ethnographic are therefore invoked, especially Egyptian political dominance of Canaan including Philistia, the connections of the Philistines with Crete, the postulated presence of Lydian mercenaries in the Egyptian army, and scribal confusion between Nubian Cushites and either Mesopotamian Kassites or the inhabitants of the ancient Mesopotamian city of Kish.[52] Still others demur, claiming archaeological confirmation of an early Egyptian-Hamitic presence in at least Canaan and probably also Crete, Lydia, and Mesopotamia,[53] while Wiseman proposed a reversal of the pattern of interpretation: it was not the Egyptians but the Sumerians of Babylonia who constituted the original sons of Ham. By cultural diffusion and migration, their influence is envisaged as spreading from Mesopotamia southwards into Arabia and westwards around the Fertile Crescent into Canaan, Egypt, and beyond, a sequence claimed as fully congruent with archaeological data. "Early pottery, seals and statuary known to be 'Sumerian' have been found in each of the areas listed under Ham," and only after 2000 B.C. did the progressive Semitization of the Fertile Crescent mask and fragment the indices of previous Hamitic-Sumerian occupation. Given such data, Wiseman maintained, the duplication of names in the Hamitic and Semitic lists clearly reflects ethnic mixing, especially across the southern Red Sea where Afro-Arabian contacts were intensified by "an early and active sea traffic."[54]

Such alternative viewpoints, however, are more relevant to the ethnographic than the geographic aspects of the Hamitic section, and both the Fertile Crescent and northeast Africa seem listed in some detail. As Aharoni notes, the bounds of Canaan are delimited in terms con-

sistent with the shape Canaan assumed as an Egyptian province,[55] and then a series of cities and constellations of cities intervene between the Levant coast and the Persian Gulf. There are obscurities in the list: it is still true to say, with Josephus, that successive disruptions have obliterated the identity of some places,[56] though recent archaeology has uncovered some sites and found allusions to others. Clearly, the Table refers to the Phoenician coastal cities of Arqa, Sin, Arvad, and Sumra (Zemar) along with Sidon, though whether or not Tyre and Byblos were encompassed in "Sidon" or omitted because they lacked prominence when the Table was first constructed does remain a moot question.[57] Back of the coastline, the Amorites and the city of Hamath (Hama) on the Orontes are clearly indicated, and the Arameans or Syrians are duly noted as Semitic (Figure 5, Table 3). The sons of Heth, however, have been variously identified with pre-Aryan Hattians, the Hittites of Anatolia, and (more commonly) the neo-Hittites of Syria. The Girgashites and Hivites remain unknown, though Girgas is not unknown as a personal name; and many suspect that "Hivites" is a scribal slip for Horites or Hurrians.[58]

To the east and southeast lay the lands of the Cushites or Kassites, the Assyrian realm with its cities of Nineveh and Calah (Nimrud) and the Babylonian cities of Erech (Warka) and Accad—though Babylonia itself may not be included—along with the neighboring region of Elam in the Karun Basin of Khuzistan in southwestern Iran. Several of the names, however, are subject to variant interpretation, especially Calneh, Rehoboth-ir, and Resen. Wary of the tendency towards convenient textual emendation and noting that "the trend of archaeological discovery is to confirm even points that the consensus of opinion had rejected," Cyrus Gordon suggests that these may have been real cities which await future research.[59] Others believe that "Calneh" may be plausibly amended to include "all of them"—as in the Revised Standard Ver-

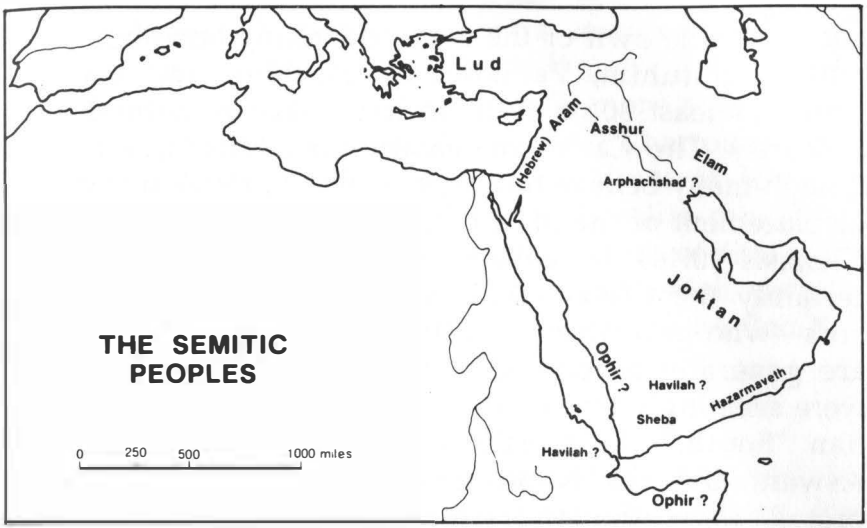

Figure 5: The Semitic Peoples

sion (Genesis 10:10). Some also maintain that scribal transliteration from Sumerian into Hebrew may have obscured original references to the geographically-appropriate city of Assur, for "Rehoboth-ir" very likely means "city of open spaces" or "city-square," and "Resen" may mean "head of spring" or refer to some achievement in hydraulic engineering affecting water supply. "Arpachshad" also has its variant translations. Some think it is a reference to the otherwise missing Babylon of the "Kasdim" or Chaldeans, and others note a close parallel with the "Arrapactitis" of Greek nomenclature — variously identified with present-day Kirkuk and the region between lakes Urmia and Van.[60] Furthermore, though most assume that "Shinar" was Sumer in southern Babylonia, some see reason to identify it with the Shinjar region in Assyria to the north.[61]

Despite such differences of interpretation, Mesopotamia was clearly in view, as was Egypt on the other flank of the Fertile Crescent. The name Mizraim or "Two Districts" probably signified upper and lower Egypt; and,

though Josephus affirmed that nothing save their Biblical names was known of the ancient Ludim, Anamim, Lehabim, Naphtuhim, Pathrusim, Casluhim, and Caphtorim,[62] at least some seem to have been recovered from obscurity. The Casluhim remain something of a puzzle, though many believe that part of the puzzlement is due to displacement of the phrase "whence came the Philistines" (Genesis 10:14). It probably was the Caphtorim—almost certainly the Cretans and perhaps some Aegean neighbors—who gave rise to the Philistines. The other peoples are generally accounted north African. The Pathrusim were seemingly the inhabitants of "Pathros" or the Egyptian "South," the entrenched valley floor extending to Aswan; and the Naphtuhim, though variously interpreted, were almost certainly northern Egyptians. Some have sensed in the Naphtuhim a reference to the followers of Ptah, who was a deity of the Memphis region in particular, while others think it alludes to "northern land." Also, a strong case has been made for rendition as "they of the marshland" or delta, or perchance as those of the "oasis land" west of the delta.[63] Other names can probably be referred to locations still further west. If the Ludim were north Africans rather than the Lydians of Asia Minor, they probably lived west of the Nile; and, if the Lehabim were indeed the "Lubim" of other Biblical reference (for example, 3 Chronicles 12:3) and the "Libu" of Egyptian texts, they were the original "Libyans" (or more strictly a Marmarican tribe) of ancient times. The Anamim, however, remain quite unknown save for one suggestive but inconclusive cuneiform reference to the "A-na-im" of Cyrene. The people of Put were probably also a Libyan-Marmarican group; for though Josephus reported that the Greeks used "Phut" for Moorish regions further west, this was probably a late extension of the term: earlier usage seems to refer to Libya and Cyrenaica in particular. An alternative reading which would equate Put with the "Punt" of Egyptian records and thereby locate

it in distant Eritrea-Somaliland would seem incompatible with its Biblical-historical rôle as a source whence the Pharoahs could draw auxiliary forces.[64]

Nevertheless, Cush or "Ethiopia"—more strictly Nubia along the Nile between Aswan and Khartoum—was in view, though possibly dimly. Cush seems to have exemplified a far-distant land to the Israelite mind. Yet there was obvious awareness of "the rivers of Ethiopia" (Isaiah 49:12), as well as Cushite Seba and Havilah, peoples presumably located on the African shores of the Red Sea (Figure 4, Table 2).

Red Sea Shores and Arabian Peoples

Here both the unity of the Table of Nations and the identity of Afro-Arabian peoples come into question. For some, the fact that Sheba and Havilah are listed among the descendants of both Ham and Shem (Genesis 10:7, 28, 29) is decisive evidence of the conflation of incompatible documents. To others such duplication is an ancient mode of indicating ethnic dispersal and mixing, processes particularly effective across the southern Red Sea.[65] Thus Cushite Seba and Havilah are probably assignable to African shores, while Semitic Sheba and Havilah are envisaged as their Arabian counterparts. Cushite migration, furthermore, has been proposed as a solution to the occurrence of a "Cush" in both Africa and Mesopotamia; for the soldiers or merchants of Mesopotamian Cush are postulated as carrying the name of their homeland southward into Yemen (where Arabian tradition locates still another Cush), whence it ultimately reached African shores.[66]

Whether the occurrence of "Cush" in widely separated areas reflects geographic ignorance or ethnographic insight, there is now no doubt that Arabian peoples and influences anciently flowed from the peninsula into Africa. However, the tabulation of peoples seems to follow an opposite order—first Africa, then Arabia.[67] Yet Africans

seem to receive rather peripheral mention while Arabians—and southern Arabians in particular—receive more detailed attention. If Simons is right, this reflects the addition of later information to an originally brief tabulation. Not all agree, though. In Albright's view it was ancient rather than belated Arabian data which were incorporated in the tenth-century Table, and Montgomery attributes the inclusion of detail to a Hebrew sense of kinship with the fellow Semites of the peninsula.[68]

Relatively few of these Arabian names, however, can be interpreted with any confidence, though some are tantalizingly echoed or paralleled in either local tradition or ancient reference. The name Peleg, for instance, has recently been descried in an Ebla tablet, with a possible hint of Mesopotamian affiliations.[69] Uz, the land of Job, was presumably located somewhere in the Syrian-Arabian borderland, with the Wadi Sirhan as a possible nucleus.[70] Mesha is vaguer in location. If it were indeed the "Ma'sa" of Assyrian inscriptions, it was probably in northeastern Arabia; but if the Sephar with which it is textually coupled (Genesis 10:30) was Zofar in Hadramaut, then Mesha was probably in south Arabia too. These, though, are doubtful assumptions resting on doubtful assumptions, as is also the not uncommon equation of Joktan with the al-Qatan claimed as forefather by the "pure" Arabs of the south, an equation found "difficult" by Simons and "etymologically impossible" by Montgomery.[71] Uzal is also uncertain, regarded as the ancient name of Sana in the Yemen by some, and as Izalla near Medina by others. Raamah and Sabtah find some parallels in both classical literature and Arabian inscriptions. Ptolemy alluded to one Raamah by the Persian Gulf, but both Strabo and Arab-Minean inscriptions indicate the existence of another Raamah in southwest Arabia, which seems a likelier location. Sabtah is very possibly the "Sabotah" that Pliny referred to as a trading center in the Hadramaut—perhaps the same as Shabwa, an ancient cap-

ital of that region. There are some relative certitudes, for the Hadramaut itself appears in the Table of Nations as Hazarmaveth; Dedan is rather firmly identified as al-Ula oasis north of Medina; and Sheba is almost certainly Saba. These instances highlight a point. Given the paucity of archaeological data, few places in Arabian ethnography are yet anchored in time and space.[72]

Southeastward to Ophir

Nowhere is this uncertainty better exemplified than in the search for Ophir, the very epitome of geographic bafflement (Figure 6). Not that confident claims have been lacking. Columbus claimed to have found Ophir in Haiti; subsequent Spanish explorers opted for Peru or the Solomon Islands; Karl Peters linked it with southern Africa's

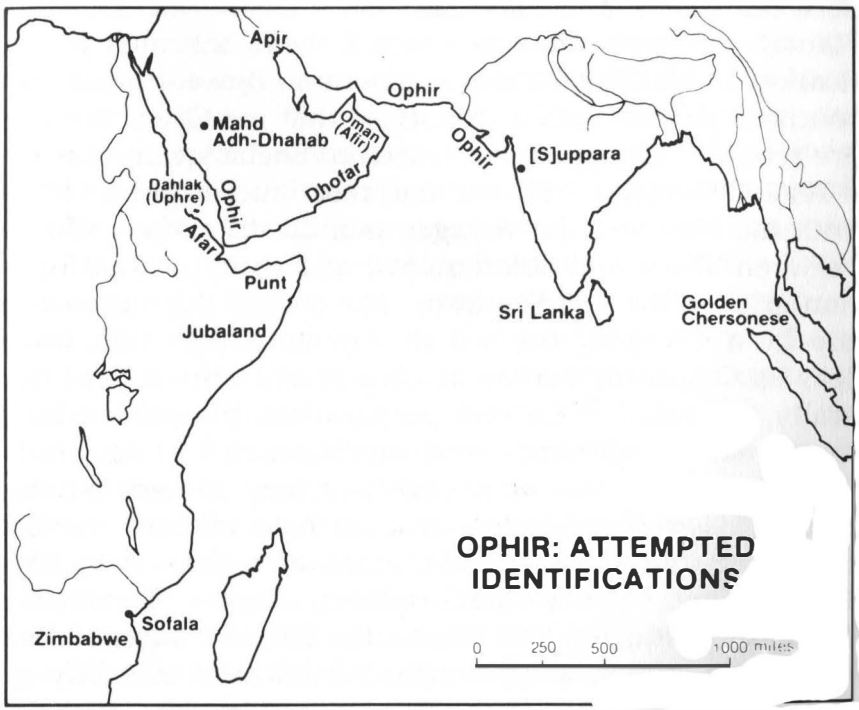

Figure 6: Ophir: Attempted Identificat

Zimbabwe and Sofala in Mozambique; and others looked to the Asian realm, to Sumatra, the Malay peninsula, or—not without more show of reason—to Sri Lanka or the western coast of India. Despite some ambiguity, the latter seems to have been Josephus' understanding, as it was the conclusion of Carl Ritter's sustained reasoning[73] and Ellen Churchill Semple's affirmation: "The apes, sandalwood and peacocks, the latter with a Sanskrit name among the Hebrews, all point to India as a place of origin."[74]

Yet the question is not that readily resolved. It touches, in fact, on many a sticky question of interpretation and etymology, trade items, and ancient voyaging; and most authorities now tend to narrow the search to the southern shores of the Red Sea, the Gulf of Aden, or the Horn of Africa. If a locational order is indeed implicit in this portion of the Table, it is significant that Ophir is listed between Sheba and Havilah, that is, between Saba and Haulan—if one widely accepted but unconfirmed identification of Havilah be assumed—in southwest or at least southern Arabia. It is also notable that the Ophir voyages are recorded alongside the Queen of Sheba's visit (1 Kings 9-10; 2 Chronicles 8-9), and that most authorities interpret both the visit and the voyages as indicative of an alliance between Sheba and Solomon to break or bypass an Egyptian grip on the Red Sea trade. Nor would this necessarily preclude voyaging beyond an Arabian Ophir into wider seas as Crauford, Berkowitz, Boyce and others have severally proposed.[75] Careful preparation, Phoenician help, three-year expeditions, exotic products, and an accumulation of evidence that there had been long contact between Middle Eastern and Indian cultures have all been invoked to sustain the argument that Solomon's ships may have sailed much farther than southern Arabia. Those who argue thus still tend to invoke the list of trade-goods as indicative of Indian contacts. Arabia and the African shore, it is admitted, might yield gold, gems, apes, and ivory, but not Asian peacocks and sandalwood. Not only

that, but the Hebrew words for sandalwood, ape, and peacock have been widely accepted as derivatives from Indian roots — Hebrew *algum* (or *almug*), *kof*, and *tukki* from Indian *agil*, *kapi*, and *tokei* respectively.[76] Granted this premise and granted also the significance of Josephus' remark that Ophir was the Golden Chersonese "that belongs to India,"[77] along with with the Septuagint's translation of Ophir as India, and the case seemed all but closed. Ritter (among others) pressed the issue still further, identifying Ophir with Suphara or Upara to the north of Bombay.

Even so, this thesis has provoked its antithesis—hence, the trenchant assertion that "no attention should be paid to the baseless and absurd attempts still made to identify Ophir with India or South Africa"[78]; for the supporting data have been challenged at virtually every point. If Albright is right, the Hebrew words *kof* and *tukki* were derived not from Indian roots but from the Egyptian *gf* and *ky*, which signified not apes and peacocks but two kinds of monkeys—vervet monkeys possibly and baboons almost certainly.[79] Along with gold, silver, ivory, and perhaps tropical woods, these were precisely the items procured by Egyptian expeditions to "Punt," presumably the Eritrean-Somaliland region, though Yemen is not necessarily excluded. The evident parallels with the Ophir trade strongly suggest the proximity, if not the identity, of Punt and Ophir, even as the elimination of "peacocks" and perhaps also "sandalwood" weakens the argument for Indian connections.

It was not necessarily Indian sandalwood that was cut for Solomon's court. There are, in fact, two words employed, and the relationship between the *almug* of 1 Kings 10 and the *algum* of 2 Chronicles 9 is still unresolved. As some see it, a scribal transposition of syllables is all that is involved, but others think that two species and two geographical realms have been confused by the Chronicler. Noting that *algum* appears as a Lebanese timber species in 2 Chronicles 2:8, in Jewish tradition, and in extra-Biblical

records, some favor its identification with some such conifer as the eastern savin (*Juniper excelsa*) or the evergreen cypress (*Cupressus sempervirens horizontalis*).[80] The *almug*, by contrast, seems to have been a tropical timber procured during the Ophir trade, though not necessarily growing in Ophir itself. Red sandalwood (*Petrocarpus santalinus*) from India is frequently suggested, but ebony, African yew, mahogany, and especially the tropical Asian cabinet wood termed lign aloe or eaglewood (*Aquilaria agallocha*) have all been accounted as likely species, with some concomitant leaning towards African or Asian sources. Crauford, without scientific identification but not without some circumstantial detail, argued that *almug* was a tall, straight hardwood native to the south Arabian uplands, with a resonant timber valued for musical instruments and first-grade dhow-masts, and conformable to Josephus' description as "like the wood of the fig-tree, but . . . whiter and more shining."[81]

If the nature and source of *almug/algum* wood is still undetermined, so also is the voyaging distance. Three years of sailing would, of course, bring many a land within the range of Solomon's ships, but the Hebraic "three years" need mean no more than one full year and two parts, as in Albright's suggestion that the flotillas could avoid much summer heat by leaving in November or December and returning in May or June in the third year—a time span paralleled by Babylonian and Egyptian practice.[82] Nor would all the time be spent in sailing: winds, trading seasons, loading, collecting, and perchance also mining activities were all potentially involved in the reckoning.

Again, this would not preclude some voyaging beyond Ophir or procurement of imported goods in Ophir markets. As Benzinger has emphasized, the most relevant verses (1 Kings 10:22; 2 Chronicles 9:21) do not identify Ophir as the only destination or source of exotic products. They simply state that "ships of Tarshish," sailing with

Hiram's fleet, returned with such items, and much else is conjecture.[83] The text could thus accommodate Boyce's concept of voyages ranging far beyond an originally-Arabian Ophir, or Crauford's theory (recently revived by Berkowitz) that the "ships of Hiram" were small craft that worked the coastal harbors of the Red Sea and Arabia whilst the larger "ships of Tarshish" plied East African and Indian waters before all foregathered at Ophir for the voyage home.[84]

Theories are many and facts are few, and the mixture is not untinged with romanticism. Benzinger's principle may well be worth extending: all we really know from Josephus is that Josephus thought Ophir was in India, a view shared by others of his time who envisaged India as "the land of gold."[85] Arabia, however, was also a land of gold, a point elucidated by Montgomery in his argument that "Ophir-gold" was originally none other than the *apryon-* (or "river"-) gold of Arabian nomenclature—the notably pure metal that once flecked the stream-beds and wadis that scored its hard-rock uplands.[86] His conclusion that we need search no further than Arabia for the source of Solomon's supply—though not perhaps his argument for alluvium—has recently been reinforced by claims of members of the U.S. Geological Survey to have discovered Ophir as Mahd adh Dhabab, "the Cradle of Gold" ensconced in the mine-pocked mountains between Mecca and Medina, scarcely 700 miles from Jerusalem.[87]

The discovery of Solomon's mines, though, has usually proved premature; and most prefer to locate Ophir in some more distant sector of the Arabian coast or its African neighborhood, not without appeal to some linguistic parallel, real or imagined. Even within this narrowed orbit there has been no shortage of candidates. Apir at the head of the Persian Gulf, Ofra or Afir in Oman, Dhofar, Dahlak Island (once called Urphe or Uphre) off the Eritrean coast, and the land of the Afars in Djibouti—all these and sundry other sites have had their advo-

cates. Granted the fact that their etymological insight has normally been found wanting,[88] their geographical sense may not have been wholly awry. Sober authorities like Eissfeldt have thought location beyond southern Arabia improbable; J. J. Hess tended to favor Yemen[89]; and Albright could find "no reason to locate Ophir anywhere except in the region extending from Eritrea to Somalia and possibly beyond it."[90]

A Circle of Uncertainty

Thus the circle of Israelite geographical knowledge cannot now be closed; any attempt to suggest it—as in Figure 7—is no more than hopefully-informed conjecture. Not only is the periphery necessarily vague, but also much within the circle is uncertain. Yet the Table of Nations may still have data to yield. Quite a few names in

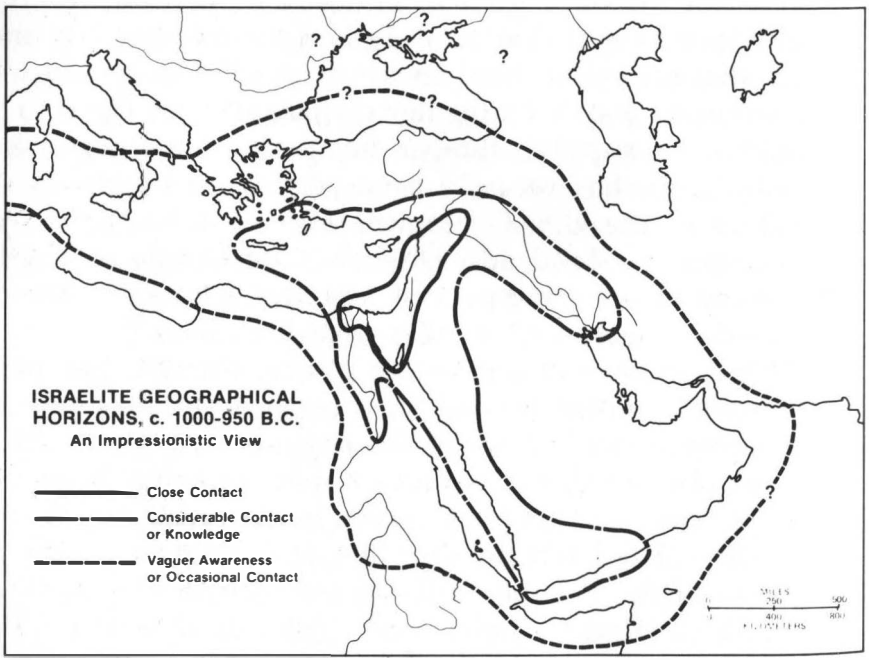

Figure 7: Israelite Geographical Horizons c. 1000-950 B.C.

Arabia and elsewhere have not yet been matched with extra-Biblical records or archaeological discovery (Tables 1, 2, 3). Of course, much that was known to Israelite individuals or groups may not have been inserted in the Table, apart from the probability that the circle of knowledge expanded (and perchance contracted) with time. Still, as Pinches suggested, such information as the Table recorded was usually secured "from merchants, travelers, envoys and ambassadors," and the absence of information about northern Eurasia along with India and the Far East implies that "communications were easiest in the West, the limit of trade in that direction being apparently Spain."[91] Whether Spain was included or not, the pattern of data does indeed suggest extended knowledge along the main axes of travel—the Mediterranean, Red Sea, and Fertile Crescent in particular. Thus, even though Hettner may have notably underestimated both the antiquity and content of the Table of Nations, his general geographic framework may not have been so wrong after all. In defining Israelite knowledge as extending from Elam westward to a Spanish Tarshish and from the Black Sea southward to southern Arabia, he sketched a pattern not so different from recent perceptions.

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54. Wiseman, 1955, p. 19.

55. Aharoni, pp. 8, 76.

56. Josephus, *Antiquities*, I, vi, 2, p. 31.

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Key to Abbreviations

Bib. Arch. Rev.:	*Biblical Archaeology Review*
Camb. Anc. Hist.:	*Cambridge Ancient History*
Enc. Jud.:	*Encyclopaedia Judaica*
Int. Std. Bib. Enc.:	*The International Standard Bible Encyclopaedia*
Jew. Enc.:	*The Jewish Encyclopedia*
New Bib. Dict.:	*The New Bible Dictionary*
Univ. Jew. Enc.:	*The Universal Jewish Encyclopedia*
Zon. Pic. Enc. Bib.:	*Zondervan Pictorial Encyclopedia of the Bible*

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THE GREAT FAILURE: NINETEENTH-CENTURY DISPERSALS OF THE PACIFIC SALMON

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This paper is an account of the first attempts to naturalize Pacific salmon (*Oncorynchus spp.*) outside of their home range. The experiment spanned ten years in the late nineteenth century, a time when thousands of plant and animal species were successfully adapted to new homelands. In this context, dispersal of the salmon was a squib in the ecological explosion. The first facility for collection of salmon eggs was built on the McCloud River, a tributary of the Sacramento, in 1872.[1] Between 1873 and 1881, the United States Fish Commission took more than 50 million eggs at this station. These eggs accounted for 14 million young salmon planted in the Sacramento system, and 33 million fertilized eggs that were shipped to other parts of the United States. Only the Territories and the state of Florida made no attempt to naturalize the salmon during this period (Figure 1). Another 4.9 million eggs were distributed among Europe, eastern Canada, Hawaii, Australia, and New Zealand (Table 1). Hatchery technology and shipping methods were efficient enough so that, in spite of enormous distances traveled, about 75 percent of the eggs hatched; and somewhat more than 28 million young salmon were liberated in alien streams and lakes.

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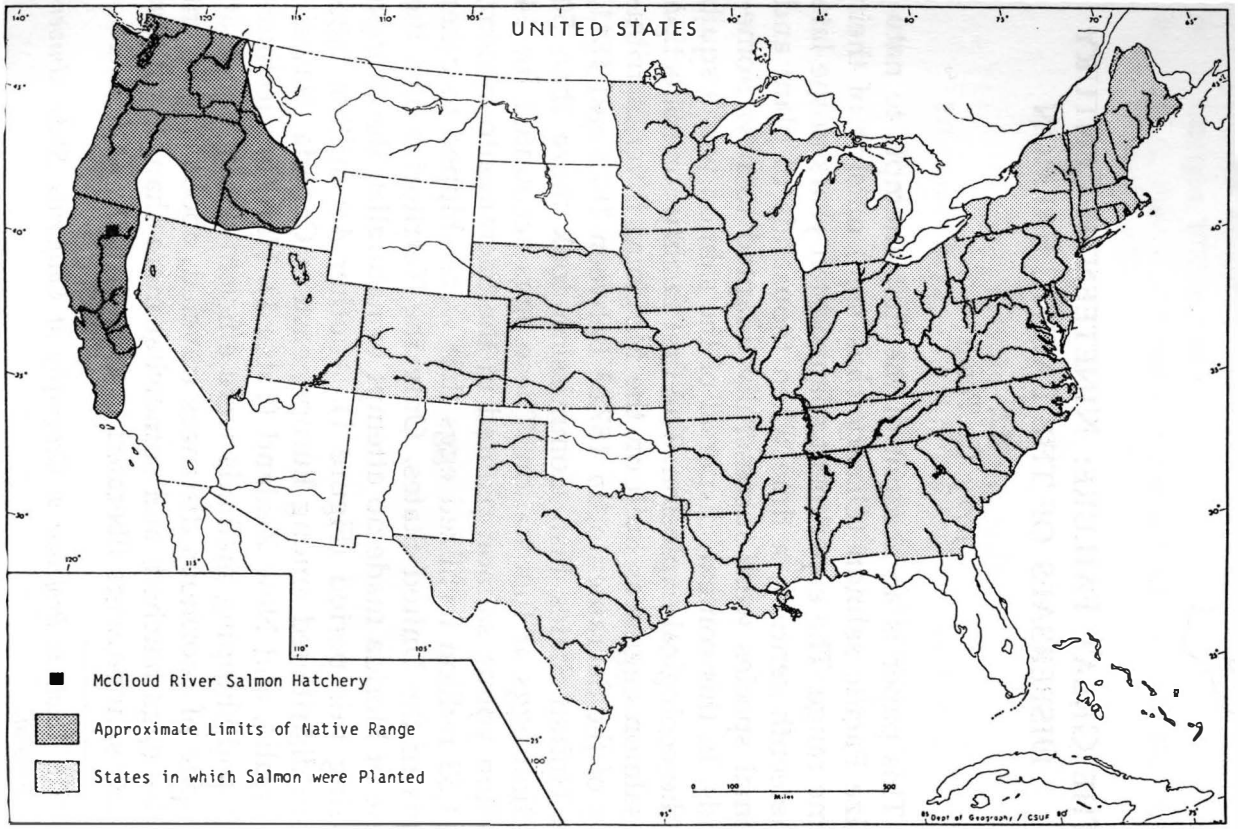

Figure 1. Dispersal of Chinook Salmon, 1873-1882.

Table 1: SALMON EGGS CONSIGNED TO FOREIGN COUNTRIES, 1874-1881

Country	Number
Canada	1,415,000
New Zealand	1,175,000
Germany	830,000
Netherlands	500,000
France	358,000
England	200,000
Australia	150,000
Hawaii	30,000

Source: United States Commission of Fish and Fisheries, *Report*, 1881.

The experiment ended in 1882, a total failure. Though young salmon appeared to thrive in some streams, and a very few adults were reportedly taken, no reproducing populations had been established. This effort, considering the difficulty of building and maintaining a hatchery on the remote McCloud River, the number of fish produced, and the breadth of the dispersal field, may have been the greatest failure of early fish culture. By contrast, a total of 435 juvenile striped bass (*Roccus saxatilis*), transported from New Jersey to the Sacramento River in 1879 and 1882, produced an enormous Pacific population, one that has since spread northward to the coastal rivers of Oregon. At about the same time a few hundred carp imported from Germany were to produce the entire North American subrace of this species.

The salmon was one of many creatures carried to alien lands during the nineteenth century. Immigrants to new homelands often deplored what seemed to them incomplete and unsatisfactory plant and animal assemblages. In older settled regions, deterioration of nature under the impact of human depredations led to similar dissatisfaction. Transportation improvements made practical the

importation of alien species to augment or rehabilitate nature. In retrospect, convinced as we are of the sanctity of ecosystems, the period was one of exuberant and haphazard tinkering with the natural order. Few laws governed importation of exotic plants and animals. Individuals and voluntary associations dedicated to naturalizing aliens were limited only by imagination and finances. Acclimatization societies proliferated, especially in New Zealand and Australia, where the need to reform nature was apparently most urgent.[2] Similar groups formed in North America; the Ornithological and Piscatorial Acclimatizing Society of California, for example, was organized for the purpose of importing and and naturalizing every species of bird, fish, and game animal native to Europe and the eastern United States.[3] Other such societies brought the starling and the English sparrow to North America.[4]

Improving the Fisheries

Large scale dispersal of fish species in the United States depended upon completion of transcontinental rail links. Although private and state initiatives started earlier, systematic nationwide efforts began with establishment of the United States Fish Commission in 1872. Congress charged the Commission with investigating

> . . . the cause of the decrease of the seacoast fishes and those of the rivers and lakes with suggestions as to the best methods of restoring the same; and active measures looking toward the propagation and multiplication of the useful food fishes, either by restocking depleted waters or by introducing desirable species into new waters.[5]

For a body dependent on congressional appropriations, introduction of useful species proved to be an excellent public relations program. Congressmen with little tolerance for pure research could, at least, point to some tangible improvements in their home states or districts to justify funding the Commission. Too, increasing the supply of fish was greatly preferable to restricting the harvest,

both because of popular appeal and enforcement costs. Early choice of species to be propagated and transported at government expense reflected a spartan sense of federalism. The Commission concentrated on anadromous fish, whose spawning migrations or oceanic life carried them beyond the jurisdiction of a single state, and food, rather than sport species.

Fish introductions, like the general movement of population, were mostly from east to west. Private, state, and federal efforts brought twenty-one exotic species to California between 1871 and 1900.[6] Only two Pacific slope species, the Chinook salmon (*O. tshawytscha*) and rainbow trout (*Salmo gairdneri*) merited transport out of their native range in the period. The salmon not only overcame the piscatorial chauvinism of the east, but also became the most prized and most widely dispersed of American fishes.

Early Appraisals

Enthusiasm for introducing the salmon sprang from a solid evaluation of its value as a food fish, and a wildly erroneous interpretation of its adaptive capacity. Early western travelers has testified to the edible quality of the salmon, and to their astonishing abundance in rivers during the spawning migrations. Commercial exploitation began early in the settlement of the west; salmon canneries had started operations on the Sacramento River by 1852. Markets for canned salmon extended as far afield as Australia; and frozen fish, at least occasionally, appeared in New York City. As a food fish, it seemed to be almost the equal of the scarce and expensive Atlantic salmon.[7] In contrast to purely oceanic species, the salmon were netted as they ascended their natal streams to spawn. Fishermen took large numbers in relatively short times with river drift nets, gill nets, and seines, a type of fishing generally more certain and economical than pursuing marine fish on the open sea.

Yet, the salmon was threatened in its native range, just as its qualities began to attain world-wide recognition. Observations on the deterioration of salmon runs in the Sacramento River appeared in California newspapers as early as the mid 1850's.[8] Hydraulic gold mining debris blanketed spawning gravels in the Sacramento system; by 1875 the Feather, Yuba, and American Rivers—all major salmon streams twenty years earlier—had no spawning runs at all.[9] The McCloud River was, in fact, chosen for the site of the first hatchery because it was one of the few streams in the state that still maintained a healthy salmon population.[10]

As spawning areas diminished, fishing pressure took its toll. In addition to the cannery fleets intercepting adult spawners, Chinese shrimp fishermen on San Francisco Bay killed millions of juvenile salmon with their fine-meshed nets.[11] Some fishermen went so far as to advocate the slaughter of sea lions, whose depredations could not be countenanced in a time of scarcity. However the blame may have been apportioned, by 1864 one salmon-packing entrepreneur stated that the Sacramento was no longer fit for commercial fishing.[12] The Columbia River, the second of the great salmon streams to be exploited, began to show similar deterioration by the mid 1870's.

At least in part, then, desire to naturalize salmon in new waters was an attempt at preservation. Although the salmon was not literally endangered in 1872, the lesson of the bison's precipitous decline to near extinction was not lost on naturalists. A much closer biological parallel, somewhat more distant in time, was the history of the Atlantic salmon (*Salmo salar*) in the United States. When the Fish Commission began its work in 1872, spawning populations of the Atlantic salmon occurred only in five small rivers of northern Maine. Yet in colonial times the species had ascended rivers as far south as Long Island Sound, and in such numbers as to inspire contempt; a common stipulation in the contracts of indentured serv-

ants was they not have to eat salmon more than twice a week.

Hatchery Experiences

Early experiences in collecting, fertilizing, and transporting eggs made the salmon seem to be a remarkably hardy species. Livingstone Stone, the architect and supervisor of the McCloud River hatchery, noted that the eggs were taken in late summer, when air temperatures often reached 110° F. The fertilized eggs, packed in moss, endured a twenty-two mile wagon trip over a rough mountain road and then a rail journey of up to 3,000 miles. In spite of these hardships, one of the first consignments sent to the east coast suffered a loss of only 11 percent during shipment and hatching.[13]

Survival rates on the much longer journey to New Zealand were even more impressive. Stone described the rigors of the trip:

> In the first place, we had to pack the eggs on a warm day, because the salmon spawn in warm weather. The day I came away the thermometer stood at 104° in the shade and 125° in the sun. After they get to the railroad terminus, they are taken three hundred miles to San Francisco, and there they stay two nights and a day, and then are carried to the steamer, and then are carried by the steamer seventy-six miles [*sic*], most of which is through the tropics and across the equator, and at the end of that distance are taken out; and I think it is perfectly surprising that the eggs of any fish whatever can be carried so far in unfavorable circumstances and come out alive.[14]

In this case, five consignments of eggs sent to New Zealand acclimatization societies withstood the journey very well, in that hatching rates ranged from 75 to 90 percent.[15] By contrast, several efforts to ship Atlantic salmon eggs from Britain to New Zealand during the same period failed almost completely, when some 772,000 eggs packed in Britain ultimately produced fewer than 4,000 fry to be liberated in New Zealand streams.[16]

Once hatched, the Pacific salmon continued to impress fish culturists. An eastern hatchery operator who had worked with the Atlantic species reported that the "California salmon" grew as much in three months as the Atlantic salmon would in a year.[17] A similar report from Germany stated that the Pacific salmon grew to the length of a hand in less than a year, a size that European salmon did not achieve for eighteen months.[18] Growth rates were not the only praiseworthy trait. An anxious Australian cast a fly over his hatchery pond, and reported that the young Pacific salmon fed at the surface as eagerly as the Atlantic variety he remembered from Britain.[19]

Planting Strategies in the United States

That these salmon were so widely dispersed in the United States indicates optimism that the fish could survive and reproduce in a variety of alien environments. Analysis of the number of salmon stocked in each state reveals several strategies (Table 2). One major hope was that the Pacific salmon could colonize the streams of New England. Dams built in the colonial and early national period had damaged Atlantic salmon more than overfishing, and construction of fish ladders could once again give anadromous fish access to upstream spawning areas. Because so few Atlantic salmon remained in the United States by the 1870's, rehabilitation could proceed more rapidly with the relatively abundant Pacific variety. Success seemed likely; for biologists were not yet certain that the two populations represented different species, let alone different genuses, until after planting efforts had started. The early, intense, planting in the New England states, particularly Connecticut (Table 2), reflects this hope.

Obviously, plans for the salmon went far beyond this limited strategy; sanguine analogies were drawn between the home range of the genus and almost every region in the temperate and subtropical world. The major flaw in such reasoning sprang from very sketchy knowledge of

Table 2: SALMON PLANTING BY STATE, 1872-1880

State	Number of Fish	Number of Plantings
Maryland	2,999,000	201
Pennsylvania	1,860,000	77
New Jersey	1,650,000	79
Michigan	1,460,000	167
Connecticut	1,330,000	19
Virginia	1,120,000	46
Wisconsin	830,000	46
New York	795,000	66
North Carolina	759,000	33
West Virginia	709,000	49
Ohio	620,000	27
Minnesota	600,000	325
New Hampshire	567,000	17
Iowa	555,000	150
Missouri	546,000	29
Nebraska	490,000	9
Utah	456,000	21
Indiana	443,000	8
Illinois	430,000	27
Kansas	389,000	89
Massachusetts	288,000	12
Texas	214,000	N/A
Nevada	200,000	2
Rhode Island	183,000	8
Kentucky	144,000	70
Tennessee	78,000	6
Mississippi	72,000	4
South Carolina	71,000	33
Maine	47,000	5
Louisiana	43,000	3
Vermont	35,000	4
Alabama	30,000	2
Georgia	29,000	16
Colorado	23,000	4
Delaware	21,000	4
Arkansas	11,000	9

Source: U. S. Bureau of Fisheries, *Report*, 1881.

the salmon's life cycle and environmental requirements. As an example, the controversy over whether all Pacific salmon die after spawning persisted for years after planting efforts started. One authority of the period thought that Pacific salmon spent only about four months in salt water, and that near the mouth of their natal streams.[20] In fact, every species of the the genus stays at sea for at least one and one-half years, and individuals may remain in salt water for six years. During this time, the fish may travel 2,000 miles. This misunderstanding led to an overemphasis on stream conditions as predictors of successful naturalization, and a corresponding neglect of oceanic environments. In this light, it seemed particularly noteworthy that salmon ascended the Sacramento and San Joaquin Rivers. Both of these streams supported spring runs of Chinook that spawn in tributary streams in late summer. Adult spawners successfully navigated hundreds of miles of river at a season when water temperatures rose as high as 83° F. Moreover, the Sacramento was a particularly dirty stream, choked with the sediment of hydraulic mining. The California salmon was a welcome exception to the dictum that salmonids demand cold, clear streams, and so seemed fit to colonize waters unsuited to other members of the family. Spencer F. Baird, first director of the Fish Commission, said in 1874:

> Taking into consideration the temperature, the turbidity, the volume, the velocity, and the character of the sources, as well as other physical conditions of the rivers inhabited by the California salmon, it seems probable that a very large number of the rivers of the eastern United States are equally adapted for the production and growth of this species.[21]

Baird also noted that few rivers of the Atlantic slope were as turbid as the Sacramento, and that both they and the larger rivers of the Gulf states had as their sources the cool, spring-fed brooks of the Appalachian uplands. These mountain tributaries were to be the spawning grounds of the salmon, like the Sierran tributaries of the

Sacramento and San Joaquin. Even some Texas rivers showed promise:

> The Brazos and Colorado Rivers of Texas have their sources among the the springs of the southern hills and spurs of the Rocky Mountains, and the Guadalupe and San Antonio Rivers are spring fed.[22]

A large part of the planting effort, accordingly, went to establish the salmon in Atlantic rivers south of the native range of the Atlantic salmon. The Delaware and Chesapeake Bay drainages in particular seemed analogous to the home waters of the salmon in California. Apart from latitudinal similarity, mountain-born rivers reaching the sea through large estuaries made these two Atlantic drainage basins much akin to the Sacramento-San Joaquin system. The concentration of effort here is indicated by Maryland, Pennsylvania, and New Jersey's positions as the the leading states in the number of salmon planted. Another large number of salmon were stocked in the James River system of Virginia.

On the Atlantic coast, the Pacific salmon were to help rebuild a deteriorating fishery. Fish culturists saw the Mississippi drainage as another region in need of help, its problems due more to the stinginess of nature than human despoliations. One ardent advocate of large-scale introductions depicted the fisheries of the interior, in the early 1870's, in terms so bleak as to be unrecognizable to natives:

> . . . the residents along the eastern bays and lagoons and upon the larger rivers derive their principal means of sustenance directly from these waters, and in all of these districts far more families are supported by the waters than by the land. In the west there is nothing of this sort. The markets are almost bare of fish; a few catfish, suckers and pickerel constitute the wretched and meager bill of fare they offer. The muddy Mississippi contains little or nothing. The beautiful Ohio has but one or two sorts of pike and perch, which the inhabitants flatteringly call salmon, while catfish hide in most of the discolored streams of our continent, and suckers explore the

> bottom for their food . . . there is no reason why the waters of the west should be less prolific than those of the east, providing the right species were introduced; and were trout, salmon, shad, bass and sturgeon to take the place of catfish, pickerel and suckers, the gain would be manifest.[23]

Indeed, once temperature and turbidity had been dismissed, the possibility of making the Mississippi a salmon river seemed bright. Baird agreed that sheer distance from the mouth to the northern tributaries might be an obstacle, but cited migrations of salmon in their native range as evidence that the fish could overcome this problem. After noting that spawning grounds on the Snake River are some 1,800 miles from the mouth of the Columbia, and that the shad of China reportedly migrate 3,000 miles up the Yangtze, he concluded:

> . . . we may infer that the instinct of location is probably sufficient to attract a colony of fishes as far inland as the headwaters of the longest river, whenever their home has once been established there.

Further:

> The vigorous strength and energy exhibited by the California salmon during its migrations up the Sacramento and Columbia Rivers afford the evidence that its capacity for a long migration from the sea to its spawning grounds, is unsurpassed by any species of fish known.[24]

Salmon were planted extensively, though thinly, in the tributaries of the Mississippi. The experiment ranged from sources of the Ohio in Pennsylvania to the headwaters of the Platte in Colorado. Northern tributaries in Wisconsin, Minnesota, and Iowa were more heavily stocked than the southern, perhaps in the hope that latitude could compensate for low elevation in providing cool spawning streams. Approximately 1.5 million young salmon were liberated in the streams of these states between 1875 and 1881. If any of them did migrate down the Mississippi, none returned.

The Pacific salmon is an anadromous genus, but other plantings were made to produce a purely fresh water variant. The basis for this hope—ultimately justified by the twentieth-century establishment of the salmon in the Great Lakes—was the accidental creation of land-locked populations in three small reservoirs near San Francisco. In each case, the construction of dams prevented young salmon from reaching the sea in their downstream migration. These salmon matured in the reservoirs and spawned upstream; freshwater populations persisted for at least nine years.[25] One fisherman noted in 1875 that it was possible to take a hundred salmon a day from the San Andreas Reservoir.[26]

Although salmon survived and multiplied in these small impoundments, lack of food cut growth rates so that mature fish were considerably smaller than their seagoing counterparts. Adults averaged only about two pounds after three generations. Larger lakes, with more food, should produce larger salmon. To test this theory, Pyramid Lake in Nevada, Lake Tahoe, and Great Salt Lake each received consignments of salmon. Tulare and Buena Vista Lakes, in the southern end of California's San Joaquin Valley, were also stocked. Far larger numbers went into the Great Lakes. Michigan alone received almost 1.5 million salmon, and a part of the number planted in Wisconsin, Minnesota, and other midwest states were in the Great Lakes, rather than the Mississippi drainage. Farther east, the Pacific salmon were to replace extirpated populations of landlocked salmon (*Salmo salar sebago*) in Lake Ontario and Lake Champlain. None of these efforts to establish fresh-water populations succeeded.

The Salmon Overseas

European fish culturists also found the environmental tolerance of the Pacific salmon attractive. Herr von Behr, director of the German Fishery Association, saw the

species as an ideal colonizer for the Danube system, one that would:

> . . . bring the vast fish food of the Black Sea to the beautiful Danube country changed to delicious salmon. The journey which the salmon would have to make, as far as Sigmarigen, would not be much longer than that of the California salmon in its home, not to mention the numerous tributaries of the Danube. If the Lower Danube is, during the summer, as 'hot as hell' as we are told, the California streams, where they flow into the sea are certainly not much cooler. As the Rhine (Atlantic) salmon is not suited to the Danube, it was worthwhile to attempt the introduction of the California salmon.[27]

In this case, as in other efforts, the plan failed. Some 350- to 400,000 young salmon were planted in the upper Danube and its tributaries with no results.

Declining populations of Rhine salmon led in 1878 to similar experiments in the Netherlands. More particularly, the Pacific salmon was to prove the benefits of pisciculture to a skeptical public. The chief fisheries official of southern Holland noted that his research had been complicated by unwillingness of fishermen to report capture of marked Rhine salmon produced in hatcheries. Because tabulation of such fish was the only way to measure the success of hatchery operations, he concluded that introduction of the exotic salmon, one easily distinguished from the native species, was necessary. Nearly 100,000 juvenile Pacific salmon were, accordingly, planted in the Meuse River, again with no success.[28]

European interest in the Pacific salmon was basically as an exotic that could complement the native Atlantic salmon as a sport or food fish. Failure to establish one more salmonid on a continent whose streams already held several species was in no sense critical. In New Zealand and Australia, however, the need seemed more urgent; for apart from a native grayling (*Prototroctes oxyrhynchus*), New Zealand rivers, many of which seemed to be classic trout and salmon waters, contained no sport fish equivalent to the British salmonids. A native stream

species commonly called "trout" by the colonists was described as ". . . a fat, sluggish fish which lurks under logs and stones, furnishes no sport, and is not particularly good to eat."[29] Australian waters were similarly unrewarding compared to those of Britain.

Apart from utilitarian motives, naturalizing salmon would have helped to achieve a sort of ecological democracy, much as did the establishment of red deer. Fishing and hunting of a quality denied the common man in Britain could be available to all in the southern colonies.

Australian hopes for establishing the prized Atlantic salmon were rather effectively dashed by temperature. The seeming ability of the Pacific variety to thrive in subtropical regimes made it a likely substitute. In Europe the Atlantic salmon spawned only in rivers north of 42°. The California salmon were abundant in streams extending as far south as 35°, and occurred, at least in the sea, south of 30°. By latitudinal analogy, Australia's Murray River system, lying between 35-1/2 and 37° S, seemed to be a suitable home. Although water temperatures in the lower Murray rose as high as 76° F, those in the Sacramento and San Joaquin were even higher during the spawning migrations. The results of planting were, as everywhere, disappointing. Two shipments of eggs, totalling, about 100,000, arrived in good condition and hatched successfully. The young salmon, once liberated in Gippsland streams, promptly disappeared.[30]

In retrospect, failure in the marginal waters of Australia seems to be expected; the most suitable Australian streams are near the temperature limits of the salmon. New Zealand, however, appears to be a much more likely home. In fact, twentieth-century efforts have been successful in establishing the Chinook salmon in several South Island rivers. Here, latitude, stream temperatures, climate, and the character of the rivers are similar to those in the salmon's native range. Persistent and costly attempts to naturalize the more familiar Atlantic salmon failed, in

large part because most of the eggs perished on the long journey from Britain. Between 1874 and 1878 the United States Fish Commission sent 1.175 million Pacific salmon eggs to New Zealand, making that country the largest foreign egg recipient after Canada.[31] Local acclimatization societies dispersed the eggs and fry widely in suitable rivers, and Maori rulers, who had lately been at war with the colonists, enthusiastically helped stock the streams in their domains.[32] Optimism here was perhaps greater than in any other region to which the salmon had been introduced. Hatching rates of up to 90 percent contrasted with the almost complete mortality of Atlantic salmon ova. New Zealand streams seemed admirably suited to the new arrivals. The president of the Auckland Acclimatization Society, after liberating some 50,000 fry in the Mangakahia River, observed that it was:

> . . . a fine river for salmon, flowing, as it does, through a wooded country, fed by streams from high ranges, with clear, bright, cold water rippling over shingle beds, rushing over little falls, now dashing through a long rapid, and anon loitering in deep and placid pools.[33]

Where the fertilized eggs were placed in stream gravels, rather than tended in hatcheries, initial results were promising; the same correspondent reported to the United States Fish Commission that in the Rapurapu River,

> . . . in the shingle beds of which I last year placed a large number of the salmon ova you so kindly sent, a great success has been achieved; large numbers of young salmon 5 inches in length being reported as swarming in the river for miles.[34]

In fact, planting ended in 1878, not because of discouragement, but because all suitable rivers had been stocked.

The Great Failure

An enormous amount of effort, hope, and planning ended, at least for a time, with the closing of the McCloud River salmon hatchery in 1883. Much of the failure was anticipated, since the period was one of scattergun experi-

ments more than carefully-planned transplantation. The supervisor of the McCloud hatchery observed:

> The United States Fish Commission is introducing California salmon into many places in the Eastern states, where they will, undoubtedly, be a total failure, but should the Commission make a success of a single river of the size, or half the size of the Sacramento, it would pay for all that has been expended on all the other waters of the United States.[35]

The Commission's strategy of using fish transplants to gain public support accentuated this approach. Salmon ova were, depending on supply, available to any state requesting them. State agencies, in turn, allocated young salmon to virtually any and every citizen willing to assist in planting. Most probably, the ultimate distribution of the fish reflected the imagination and energy of individual sportsmen, rather than ecological rationality. Salmon not only were stocked in waters totally unfit for their survival, but also scattered very thinly over many lakes and streams.

Yet, in spite of these obstacles, the totality of failure is surprising. Several contemporaneous long-range transplants, equally casual in their planning, succeeded admirably. Two anadromous species from the Atlantic coast, the striped bass and the American shad (*Alosa sapidissima*), now share Pacific rivers with the salmon. Somewhat later attempts to disperse the rainbow trout proved so successful that this Pacific slope species is now the most widely distributed salmonid in the world. Ironically, the first hatchery to collect and ship rainbow eggs was built on the McCloud River in 1879.

Current Strategies

Renewed efforts in the twentieth century have met with limited success. Several species of Pacific salmon have been established, at least tenuously, in a few locations outside their native range. These include the South Island of New Zealand, the Great Lakes, and the Kola Pen-

insula of the Soviet Union. Persistent attempts to naturalize salmon in various streams of southern South America have failed, but a small hatchery-based population was established on Chiloe Island.[36] Chinook and coho (*O. kisutch*) have been stocked as sport fish in some western reservoirs, although no natural reproduction yet occurs in these settings.

These successes do not provide a clear answer as to why all of the earlier efforts failed so completely, but at least they indicate some possibilities. Most importantly, modern planting emphasizes persistence and saturation; pink salmon (*O. gorbuscha*) were established in the Kola Peninsula only after some 200 million fry were released over a period of twenty years. The entire number went to stock four relatively small river systems in the White and Barents Sea drainages.[37] By comparison, earlier transplants often released fewer than a hundred fish in large rivers. Such small numbers are especially inappropriate for salmon, which experience heavy mortality on downstream migrations and upon entering the sea.

A century's accumulation of knowledge concerning the salmon's genetic makeup and oceanic life also helps to explain early failures. Six species of salmon inhabit the North Pacific. Because of their strong homing instinct, the salmon of each river form a reproductively isolated population; the six species are a mosaic made up of perhaps 10,000 of these distinctive ecological subraces. Species and subraces differ markedly in route and duration of oceanic migration, seasonality of spawning, and length of time that juveniles remain in fresh water. That all of the millions of salmon involved in the first dispersals were McCloud River Chinook, a single subrace of a single species, hindered chances for adaptation to new environments by limiting genetic variability. Even in those places where the streams were demonstrably suited to juvenile salmon, failure was guaranteed with the introduction of a race which ranged far afield in its oceanic sojourn, or

emerged into ocean currents that differed greatly from those of its home waters. Adult salmon may have matured in salt water, but could not return to their natal streams.

The Future

As knowledge of behavioral differences among subraces increases, and as hatchery-maintained stocks continue to grow, ability to match appropriate varieties to new environments could improve the success of colonization. Where early experiments relied on establishing naturally-spawning populations, more recent successes emphasize continued hatchery reproduction. Great Lakes salmon, for example, stem mostly from hatcheries. Behavioral manipulations promise to give more control over the salmon's oceanic life. If coho and chinook juveniles remain in hatcheries for several months after normal release time, they will stay relatively close to the release point during their oceanic years. This knowledge has been used in the salmon's home range to prevent hatchery fish from Washington from straying into Canadian waters. In colonization efforts, it might help keep fish from disappearing into unfamiliar ocean currents.

Hatchery technology has, in fact, progressed to the point where spawning streams are no longer necessary. Sea ranching operations rear young salmon in artificial environments, then transport the juveniles to coastal release stations. Mature fish return from the sea to these same release stations. Although the first sea ranching establishments in Oregon have not been economically successful, this technique opens the possibility of introducing salmon to suitable ocean feeding grounds even if the bordering lands have no spawning rivers.

Certainly, hopes of colonizing new waters extend beyond the few places where salmon have succeeded as aliens. Gains from hatchery production may have reached some sort of limit in the native range of the fish. Oceanic

feeding grounds of the North Pacific are, according to some interpretations, near the saturation point.[38] One advocate of renewed colonization points to southern Chile, where land-based release and recapture stations could launch salmon into the productive waters of the Antarctic Convergence Zone. In words reminiscent of Herr von Behr's plan for the Danube, he states:

> . . . mechanical harvesting of krill is proving to be very expensive, as it requires powerful ships dragging fine-meshed nets in what is often very foul weather. The establishment of appropriate stocks of salmon in southern Chile should prove to be an economical, readily manageable and ecologically sensible system for harvesting the krill resources of the Antarctic. With the abundant runoff from the Andes forming a freshwater plume extending into the West Wind Drift, ocean-feeding salmon should have little difficulty in finding their way back to the Magallanes to spawn.[39]

The first dispersals of Pacific salmon were to establish wild fish in alien waters. Failure did not end the dream so much as alter it. If the salmon are, indeed, to colonize new waters, it will be as hatchery-bred, semi-domesticated creatures.

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INADEQUATE AIRPORT CAPACITY: A DEVELOPING TRANSPORTATION CRISIS IN THE GREATER LOS ANGELES REGION

*Warren R. Bland and Ronald Yachnin**

Introduction

The Greater Los Angeles Region, which includes the counties of Los Angeles, Orange, and Ventura, plus the urbanized western portions of San Bernardino and Riverside counties, had a 1985 population in excess of 12,000,000 people. Currently America's second-ranking urban region, it is one of the most dynamic urban complexes in the nation, and is currently enjoying rapid population and economic growth. In recent years this growth has depended increasingly on the availability of fast and reliable air transportation, the demand for which is projected to increase dramatically over the next decade. As a result, substantial increases in commercial airport capacity will be necessary by 1995 if a serious capacity crisis is to be avoided.

Although much time and money have been spent by planning officials over the past two decades in seeking to expand airport capacity in the urban region, little progress has been made. This paper, after examining the existing commercial airport system of the Greater Los Angeles Region in the context of rapidly rising demand for air

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transportation, describes major proposals to expand the system, evaluates them in terms of their economic, environmental, and political viability, and seeks to explain the failure to implement them. In conclusion, we recommend an airport strategy which would provide at least a short-term palliative to the airport capacity crisis within the region.

The Existing System

The current commercial airport system of the Greater Los Angeles Region consists of Los Angeles International (LAX), Ontario International (ONT), Burbank-Glendale-Pasadena (BUR), Long Beach Municipal (LGB), and John Wayne (SNA) airports. Farther afield, but still within the Southern California Association of Governments (SCAG) region, are facilities at Palmdale, Palm Springs, Blythe, and Imperial County (Figure 1). This regional airport system is dominated by Los Angeles International, which has 67 percent of system capacity and handles approximately 80 percent of the system's 42,000,000 annual passengers. Ontario International has 20 percent of the system's capacity, while each of the region's remaining airports has much more modest ability to handle additional passengers.[1]

Rising Demand and Its Implications

Demand for air travel has grown rapidly since the early days of commercial air transport in Los Angeles. Recent forecasts of various government agencies indicate that by 1995 systemwide demand may exceed the present capacity of Greater Los Angeles Region airports by anywhere from 25 to 95 percent.[2] The basic problem facing the region is that the existing and currently planned commercial airport system is inadequate to handle projected 1995 demand. Indeed, projected demand could not be met even if existing airports were to expand to their maximum capacities and a new, 12,000,000 annual passenger airport were built at Palmdale. It could be argued, in fact, that a new

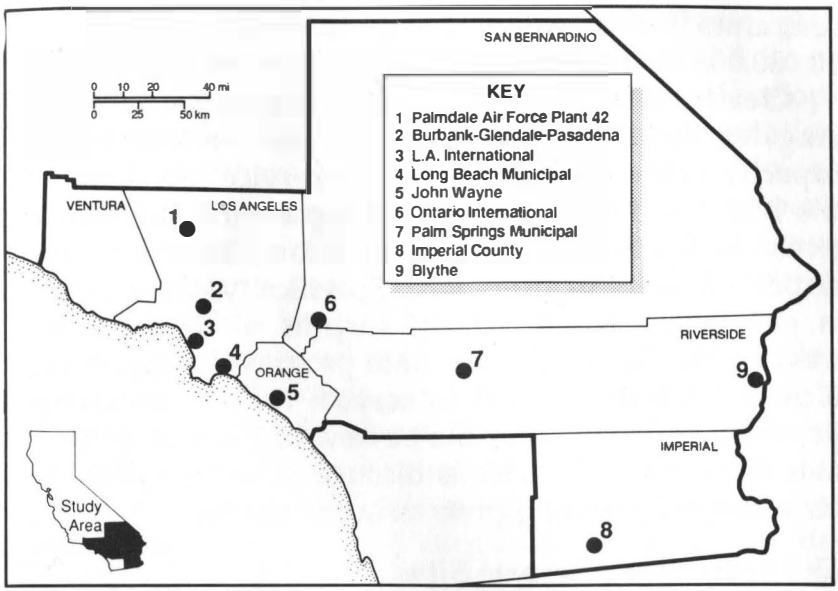

Figure 1. Air-Carrier Airports in the SCAG region.

commercial airport at Palmdale would do little to help the regional airport system to cope with 1995 demand; for the Palmdale site is fully sixty miles by road from downtown Los Angeles, and well over 100 road miles from the rapidly expanding suburban areas of Orange, Riverside, and San Bernardino counties which can be expected to generate much of the region's increased demand for air travel in 1995 and beyond. Fortunately, Ontario International Airport, located in the heart of Southern California's burgeoning "inland empire," is currently operating at less than half of its 20 percent passenger capacity.[3] Thus, through 1995, it should be comparatively easy for this airport to accommodate any increase in passenger traffic from the Riverside-San Bernardino-Ontario area.

No such simple solution exists for rapidly-growing Orange County, however. In early 1985 its only commercial airport, tiny John Wayne, was constrained by Orange County supervisors to fifty-five daily departures and 4.1 million annual passengers through 1990. These are severe

restraints for a county which is projected to generate 18.000,000 annual passengers as early as the year 2000.[4]

Clearly, a serious gap is developing in the Greater Los Angeles Region between demand for air travel and the capacity of the region's airports to service this demand. At the heart of this problem is a geographical imbalance between demand for air transportation and the supply of airport facilities to provide it. Specifically, Orange County is generating an increasing surplus of demand for air travel while making inadequate progress in supplying the airport capacity needed to service it. This central point provides the context for our review of the search for alternate airport sites as well as discussion of the failure of the air transport planning process in the region.

The Search for Alternate Sites

The search for suitable sites for development of additional airport capacity dates back to the 1960's when the advent of jet transports, with their greater range, capacity, and efficiency, rather suddenly brought air travel within easy reach of the average, middle-income American. This transportation revolution, in combination with the rapid population growth in Southern California during the post World War II era, alerted planners and politicians to the need for substantial increases in airport capacity. As early as 1967, Orange County, recognizing its dependence on the City of Los Angeles for air transportation, ordered development of a master plan of the county's future air transportation needs.

In July of 1968, phase one of this master plan recommended building a major jetport for North American service in Orange County by 1973, when it would be "needed vitally."[5] Over the long term, the study recommended building a large "intercontinental airport" in the northern reaches of Camp Pendleton (San Diego County) to serve Southern California. A year later, the Orange County Board of Supervisors, choosing from five possible

locations recommended by its planning consultants, proposed the El Toro Marine Corps Air Station (M.C.A.S.) in central Orange County for "continental" airport development.[6] Meanwhile, anticipating large future population increases in northern Los Angeles County (the Mojave Desert) and the expected advent of supersonic transport, the City of Los Angeles Department of Airports began purchasing 18,000 acres near Palmdale for eventual construction of the "world's largest" intercontinental airport.[7]

In 1970, phase two of the Orange County master plan was presented to the Orange County Supervisors; and, in the same year, the Southern California Association of Governments first became involved in assessment of the long-term commercial aviation needs of metropolitan Los Angeles. Phase two of the Orange County Plan was developed by a different consulting firm and offered different recommendations than phase one. It recommended building a short-haul airport in Bell Canyon in southeastern Orange County, and joint military and civilian use of El Toro M.C.A.S.[8] These recommendations, like those of phase one, soon fell victim to local opposition to expected increases in traffic, noise, and air pollution in the vicinity of the proposed developments, and to resistance from the Marine Corps to joint use of its facilities at El Toro.[9] In the midst of the confusion in Orange County, and the rivalry between Orange County and the City of Los Angeles over siting an "international airport," SCAG, apparently sensing a need for broader, more system-oriented studies, hired two consulting firms to do a two-year study for all of Southern California.

It would be unproductive to review in detail the tangle of reports and recommendations of rival consulting firms and political jurisdictions during the late 1960's and early 1970's. It is sufficient to note that many of the proposals had serious weaknesses, all engendered significant opposition, none had sufficient political support to be implemented, and all ended up gathering dust.

Beginning in the late 1970's, the Southern California Association of Governments renewed its search for new airport capacity. SCAG's Aviation Work Program Committee examined thirteen potential sites, ranging from general aviation and military airports to offshore and undeveloped locations (Figure 2). In the initial screening, six of the thirteen sites were eliminated. Camarillo Airport and Point Mugu Naval Air Station in Ventura County were deemed too remote from markets, a problem shared with March Air Force Base and Norton Air Force Base in Riverside and San Bernardino counties. A proposed, man-made Santa Monica Bay site was rejected because of airspace conflicts with Los Angeles International Airport, and a western Riverside County location was disqualified by difficult access and terrain.[10]

Detailed evaluation of the remaining seven sites during 1978 and 1979 resulted in the rejection of an additional six sites. All six suffered from some combination of airspace capacity problems, adverse noise impacts, and policy conflicts involving either land use or civilian versus military use of airfields.[11] Finally, in February, 1980, the SCAG Executive Committee voted in favor of a man-made island in Los Angeles-Long Beach Harbor as the site for an additional large airport. The choice was based primarily on centrality to the market, airspace availability, and minimization of noise impacts.[12]

The choice of the harbor site was met by intense opposition on the part of residents in the nearby cities of Los Angeles, Long Beach, San Pedro, and Wilmington, as well as by inhabitants of the Palos Verdes Peninsula. At a series of hearings, local residents argued that it was unacceptable for them to bear the adverse environmental impacts of increased air travel by residents of Orange County. Furthermore, they accused SCAG of picking the site which was expected to offend the fewest people and then undertaking studies to justify the selection. As a result of the uproar, SCAG withdrew its support for the proposed

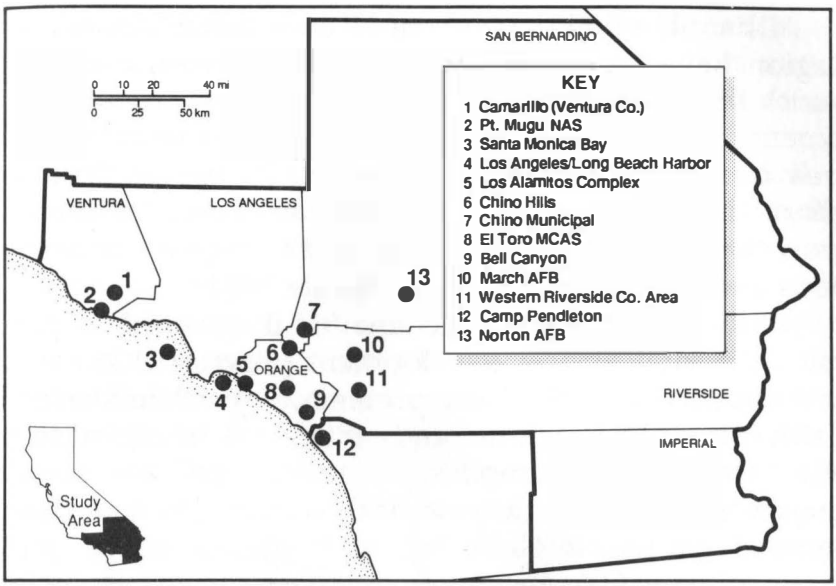

Figure 2. Initial candidate Air-Carrier Airport sites.

"breakwater" airport and ordered a renewed search for a viable location for airport development.[13]

The renewed search identified El Toro Marine Corps Air Station in central Orange County and a site in Camp Pendleton Marine base in northern San Diego County as feasible locations for commercial airport development.[14] Cynics might note that SCAG came to this conclusion in June, 1982, almost exactly fourteen years after the original Orange County master plan, as developed by W. L. Pereira and Associates, had recommended development of civilian airports at these sites.

Failure of the Transportation Planning Process

More than five years have passed since SCAG recommended the El Toro and Camp Pendleton sites. Predictably, no progress has been made toward implementation of the recommendation because of intense opposition by both Orange County and the military to the proposed developments.

All in all, aviation planners of the Greater Los Angeles Region have examined sixteen sites in their twenty-year search for additional airport capacity. Apart from a file of expensive technical reports, however, the metropolitan area has little tangible to show for its very substantial efforts. Meanwhile, the demand for air travel continues to grow rapidly, even though most of the region's major airports exceeded "saturation" in the late 1970's.

What could possibly account for this complete paralysis of a vital airport development program? Our intuitive notion is that the basic problem, a problem shared in California at the regional and state scale in planning for other transportation modes, is that "no one has been in charge." Apparently, no one has been able to take charge because the metropolitan region is fragmented into five counties, over 200 cities, and countless other jurisdictions of one kind or another. Because of this political fragmentation, the people, as well as many of the politicians who reflect the popular will, may have some sense of community at a very local scale, for example, loyalty to Newport Beach, the Palos Verdes Peninsula, or Orange County, but they have very little sense of either community or community responsibility at the larger, regional scale. This disconnection between people and their broader environment may well lie at the root of the apparent breakdown between planning by planners and the implementation of planning by politicians. Though planners may engage in "scientific, objective" analysis and ignore with impunity the "provincial" interests of local communities, local politicians most definitely cannot, at least not without risk to their political futures.

Recommendations

The preceding quasi-philosophical discussion hardly provides a basis for optimism regarding ultimate solution of the regional airport capacity crisis. We are encouraged, though, that the City of Los Angeles and the counties

of Riverside and San Bernardino recently signed a joint powers agreement to establish a regional airport authority.[15] We would urge that Orange County, which refused to join in order to protect its autonomy, reconsider, because it is doubtful that the other jurisdictions will be prepared to bear the increasing burden of Orange County's air travel requirements. Even if they were, freeway congestion levels projected for 1995 might well make continued reliance of Orange County residents on airports thirty or forty miles distant impractical.

We believe that a new, appropriately-located airport, preferably in the southern part of the metropolitan region, offers the only satisfactory solution to the airport problem. The best of the sites in this general area is the Marine Corps Air Station at El Toro. It is centrally located in its market area; many of the facilities needed by a large, commercial airport are already in place; its airspace is adequate; and it lacks the technical liabilities of other sites. In our view the time has come for Orange County to join the rest of the metropolitan region in pushing for conversion of El Toro from military to civilian use.

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AMERICA AS PERCEIVED BY ENGLISH AND AMERICAN SCHOOL CHILDREN

*Richard A. Eigenheer**

"Oversexed, overpaid, and over here" were terms frequently used to describe the American presence in Britain after World War II. American soldiers and millions of tourists helped to form and perpetuate such British perceptions of America. During the last three decades, the mass media—especially television—have played the largest role in forming these images of our country. This paper examines the perceptions of an age group which is particularly vulnerable to the influences of the media.

Two age groups were surveyed at Arnold Hill Comprehensive School, located in a middle class suburb of Nottingham, England; also surveyed was a third group of geography students at Kit Carson Middle School in Sacramento. The first English group, consisting of seventeen- and eighteen-year-olds, were members of a current events class. They were requested to write a composition entitled: "My Impressions of America."

The students' comments were quite revealing. Twenty out of twenty-seven students submitting papers volunteered that their ideas were formed by the mass media,

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especially television. Foremost among their impressions was that America is a land of violence. One student wrote:

> I get the impression that it is not safe to walk out in the streets alone without being mugged or shot.

Following violence in frequency of mention were big cars (11), skyscrapers (9), drugs (7), and America's diversity (7). A typical student comment follows:

> We get the impression that Americans are always eating hamburgers and live in huge skyscrapers in the polluted and overcrowded cities.

Another student described the role of bigness in American culture. He stated:

> They (the Americans) have to have the biggest and the best. If a country has a new technological advancement, the Americans will have something better. America always has to have the largest cars, apartment blocks, etc.

The same student further elaborated:

> America seems to pull everything out of proportion. A simple football game and up goes a 200,000 capacity stadium full of gadgets like scoreboards with sarcastic comments every time something slightly unusual happens. Rows of girls with pompons and frilly knickers chanting for their particular team. Even simple hamburgers have to be twice the normal size. They won't make do with three or four ice cream flavors; they have to have over thirty to choose from.

Yet another student commented on the frantic pace of American life as well as bigness:

> It seems to be a country that is full of people that are always having heart attacks, going skate-boarding or taking drugs. The people tend to have big cars and big houses; they eat steak most of the time and everything in their houses is mechanized.

Besides seeing diversity in America's landscape, this group saw contrasts in America's population, including diverse groups like the wealthy, the ghetto dweller, and "cowboys camping out under the moonlight eating baked

beans." Still other ideas volunteered by this group included the notion that Americans do not provide care for the underprivileged, and the conception of America's commercialism, as well as its beautiful scenery.

In order to obtain a cross-cultural comparison, a second English group and an American group of similar ages (twelve to fourteen years) were surveyed. The former group consisted of 97 pupils and the latter of 150 from a Sacramento middle school. For consistency, the same questions were posed to both groups:

1. What kind of place is America?
2. What kind of place is California?
3. Draw a map of what you think America looks like. Put ten or more places on the map.

The responses to the first question by the English pupils are similar to that of the older English group. Fifty-nine of ninety-seven pupils volunteered that America is a large place. In order of frequency the following features of America were suggested: skyscrapers (18), wealth (13), movie stars and TV entertainers (13), hot climate (12), a busy place (11), large automobiles (11), and crime and violence (10).

The following impressions of one English pupil summarize some of the typical, positive and negative perceptions of our country;

> America is a very pleasant place on the geography side. But the thing that spoils America is its drug pushing, its vandalism, its murders and its skyscrapers. The country itself is beautiful. The Grand Canyon. The Disney Wonderland. They have many superstars, the late John Wayne, Frank Sinatra, the late Elvis Presley, the late Bing Crosby. They have verv big cars that use lots of petrol.

By contrast, the Sacramento students stressed that America is a free country. Forty-one in the American sample mentioned the notion of freedom. Interestingly, there was

no mention of freedom in either of the English samples. Other features mentioned by the Sacramento group included niceness (21), pollution (20), diverse scenery (14), poor government (13), diverse cultures (12), large country (1), violence (10), country of fifty states (10), and peace loving (9). A positive assessment was offered by one of the advanced pupils:

> America is made up of mountains, rivers, valleys, deserts, and many different people of different races and cultures. America is also a land of opportunity where people get a good education and good jobs. Although we live in a land of different ideas, we all work together as one.

Another typical American view follows:

> America is a smog-filled but peaceful place with a democratic government that protects the inicent (sic) and puts away the guilty.

In responses to the second question on California, the media influence is very obvious. California is, of course, one of the most readily recognized of American place names and is frequently portrayed in the media, especially because of the Southern California entertainment industry. California's large size was mentioned most frequently by the younger Nottingham group (39 responses). Other features mentioned were a hot climate (36), a desert (23), numerous large cities (14), movie stars and films (13), scenic resources (12), violence (12), and pollution (11). Also associated with California were skyscrapers, mountains, a large population, crowdedness, skate-boarding, beaches, and numerous cars.

The following impression represents the typical point of view of a Nottingham adolescent:

> California is a very large place with tall skyscrapers, a very hot climate, and it is a very busy place. In some parts of California, it is very dry and barren. It also has polluted air.

One child with a well-nurtured media impression of California saw it as a "place where westerns are shot that is

barren and sandy." Another boy with a negative view of the state wrote that California is:

> . . . hot and loads of people on pot, whizzing about on skateboards. Cops running about and shooting people.

A girl who had similar negative views noted that California was a:

> Very hot, crowded part of America. Lots of vandalism and murders, etc.

Some impressions, though, were positive, as was this one offered by a fourteen-year-old:

> California is a nice hot and sunny place with many beaches where the water is warm. It has many good shops and a lot of skate parks.

California students proved less willing to talk about their own state than did English pupils. The images of Sacramento youngsters tended to be less specific and to place less emphasis on the state's negative features. For example, twenty-one pupils described California as "nice," while another twenty-one described the region as "beautiful." Sixteen pupils volunteered that the state was a good place to live; but only ten mentioned agricultural resources such as good soils, despite living in the state's agricultural heartland. Other features volunteered included pollution problems, large population and area, and beaches. Only five Sacramento pupils mentioned the sunshine for which California is so famous.

As they did in responding to the first question, the California students also wrote shorter responses about their home state:

> "It is a state."
>
> "It is a famous place."
>
> "It is pretty good but there are a lot of earthquakes and a lot of thieves.

Some students, however, were willing to provide a detailed response. For example, the pupil who made the

following response was one of the very few to recognize the wide geographic diversity which exists in her own home state:

> California to me is a state of beauty consisting of deserts, plains, mountains, forests, etc. It is also a great melting pot consisting of many different minorities. The people of California are a people of change pushing forward in technology for their own future.

While this writer served as a Fulbright exchange teacher in England, he usually was introduced as the visitor from America; and the terms United States or U.S.A. were seldom used. Accordingly, the purpose of the third question was to determine whether or not the pupils perceived "America" as including only the United States. When both groups were asked to draw a freehand map of America from memory, the results provided some interesting contrasts. Forty-four percent of the English students included both North and South America in their mental maps of America, while only 9 percent of the Sacramento pupils included both continents (see Figures 1, 2, 3). Seventy percent of the American youngsters, compared with 24 percent of the English adolescents, included only the United States as their image of America (see Figures 4, 5, 6, 7, 8, 9). Ten percent of the Sacramento pupils and 5 percent of those at Nottingham perceived America as consisting of just North America. About one-fifth of the maps of both groups could not be classified in any of the above categories (see Figure 10).

When asked to include ten place names on their maps, both groups frequently included California, Texas, Florida, San Francisco, Los Angeles, Mexico, and Canada. Other place names mentioned by the English group included New York, Washington D.C., Virginia, Las Vegas, and North and South America. The Sacramento group, on the other hand, included their hometown, Oregon, Washington, Maine, Nevada, Alaska, Hawaii, and the Pacific Ocean. Both groups selected place names located

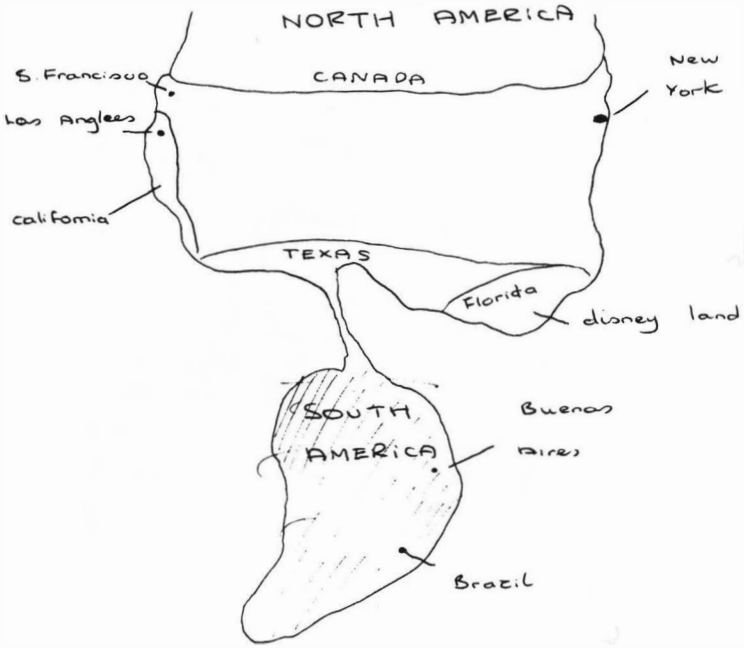

Figure 1. Gary's view of America from Nottingham.

Figure 2. Nigel's view of America from Nottingham

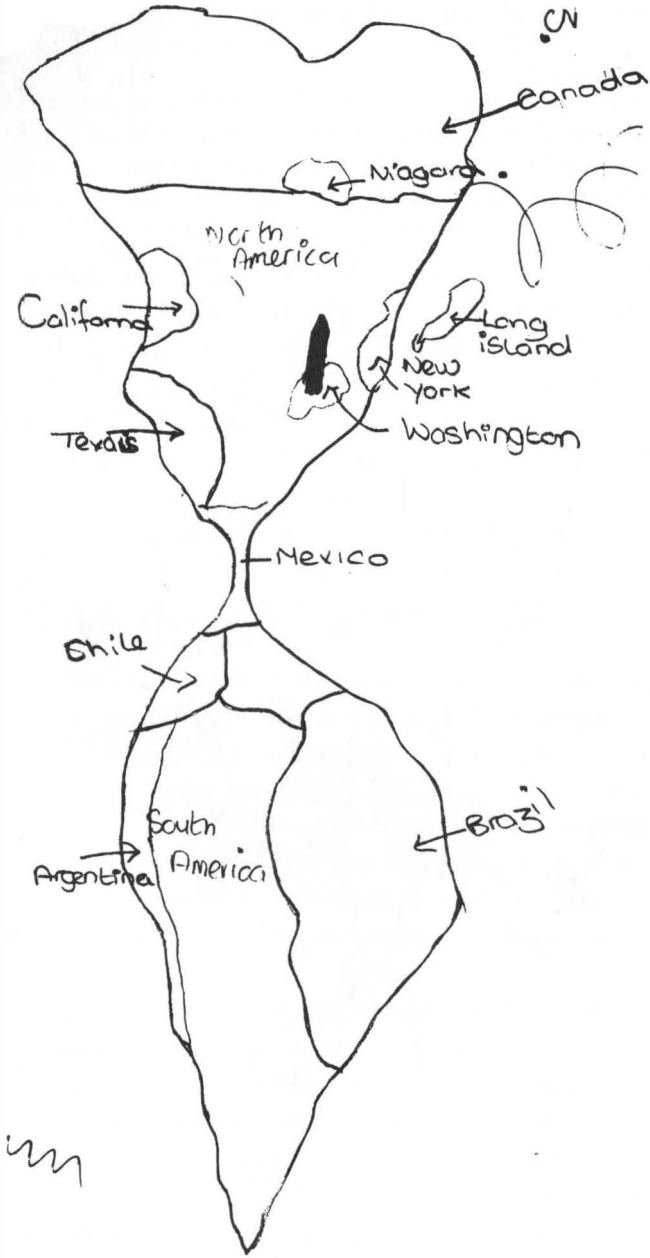

Figure 3. Tracey's view of America from Nottingham.

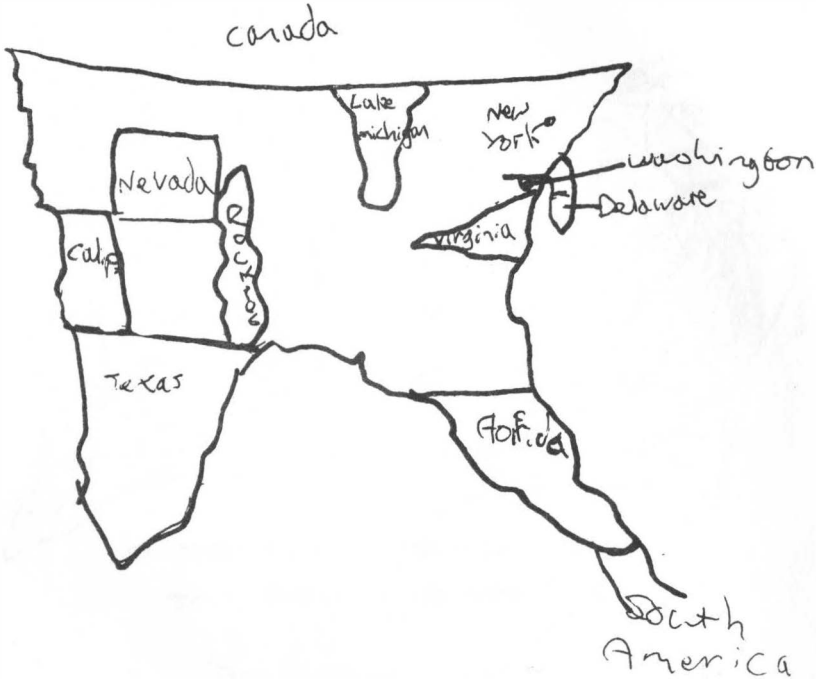

Figure 4. Howard's view of America from Nottingham.

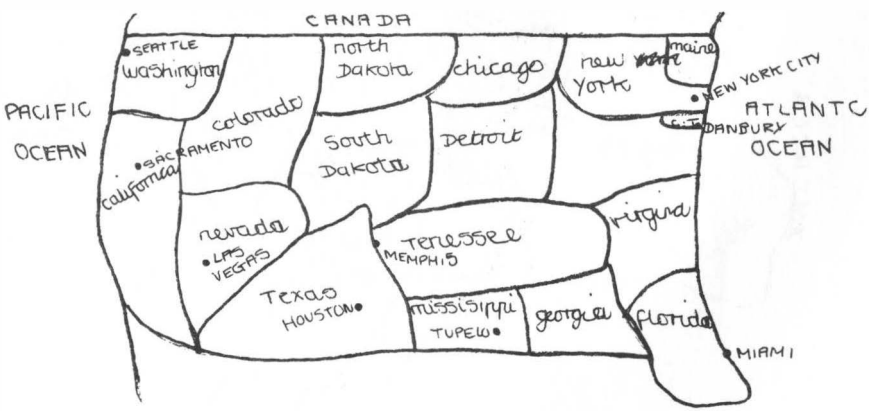

Figure 5. Joanne's view of America from Nottingham.

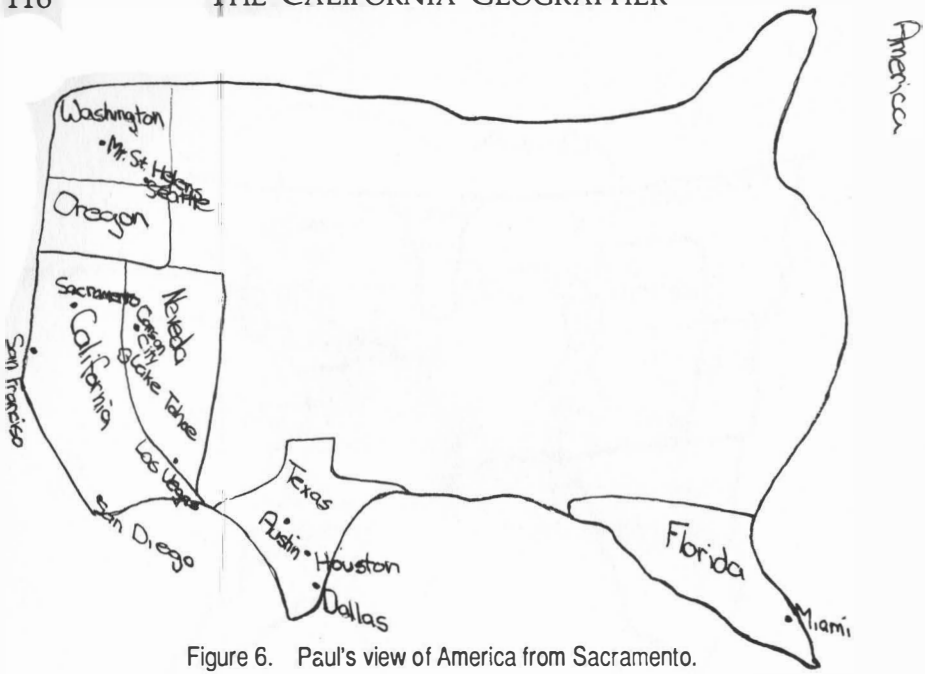

Figure 6. Paul's view of America from Sacramento.

Figure 7. Larry's view of America from Sacramento.

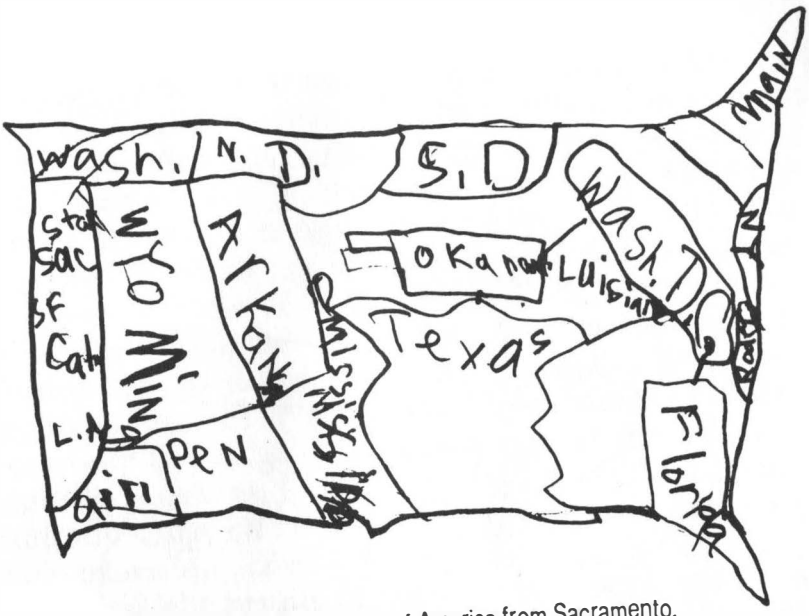

Figure 8. Tony's view of America from Sacramento.

Figure 9. Chanel's view of America from Sacramento.

Figure 10. Yeong's view of America from Sacramento.

adjacent or near the coastline, with the American group showing locations principally in the Far West.

We suggest that at least two general conclusions can be drawn from this survey. First, the results of massive doses of "Miami Vice," "Charlie's Angels," and "Bonanza" are quite evident; that is, the media are not accurately portraying American life and culture to our friends abroad. It is readily apparent that the typical English student's exaggerated view of American violence and materialism, as well as his or her belief that Americans have a compulsion for the biggest, the most, and the best are perceptions molded by the media.[1] The British students do not seem to realize that life in typical American communities, such as Twin Falls, Scottsbluff, and Peoria, is radically different from what they are used to seeing on their television screens.

Second, the results of the survey reflect upon the need to improve the quality of geographic training in many American schools. In general, British children are more aware of landscapes and able to verbalize about them at a younger age than are American students, who come from a tradition in which geographic skills have seldom been considered part of the basics at either the elementary or secondary levels. This conclusion is supported by recent studies which demonstrate that geographical illiteracy occurs even at the university level.[2] It is remarkable that numerous English adolescents were able to place California on the west side of the North American continent on a map drawn from memory, while 42 percent of a beginning geography class at the University of Miami could not locate London on a commercially prepared world base map.[3] One of the more perceptive American students summed up the problem rather nicely when she stated: "Americans aren't taught enough about other countries." Perhaps she should have included her own country as well.

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NOTES

1. Generally, these perceptions confirm the stereotypes set forth by David Lowenthal in "The American Scene," *The Geographical Review*, Vol. 58 (1968), pp. 61-88.

2. Gilbert M. Grosvenor, "Geographic Ignorance: Time for a Turnabout," *National Geographic*, Vol. 167, No. 6 (1985), p. iv; David M. Helgren, "Place Name Ignorance Is National News," *Journal of Geography*, Vol. 28, No. 4 (1983), pp. 176-178.

3. Helgren, Ibid.

CALIFORNIA GEOGRAPHICAL SOCIETY
Volume XXVII, 1987

PROGRESS REPORT ON:

"AROUND THE WORLD IN EIGHTY DAYS" A GEOGRAPHY CONTEST WRITTEN FOR GRADES 3, 4, AND 5 AND EASILY ADAPTED TO THE MIDDLE SCHOOL

*Hildi Kang**

Could you draw an outline map of the entire world relying only on your memory? How about identifying and locating twenty natural landmarks? Better yet, how about twenty famous, man-made landmarks? Not easy, certainly, but possible. Each year the students in Sunset School's third, fourth, and fifth grades attempt to do all these things and more as they take part in a "world-wide" geography contest.

The contest was created in response to a newspaper article which publicized the general ignorance of students to the world around them. The principal of our school sent out a plea to the staff: "Can we design an activity that will get the students interested in learning more and the teachers interested in teaching more about geography?"

The challenge was clear. The activity must increase factual geographic knowledge and also generate interest in world awareness. Additionally, the form of the activity must ensure maximum involvement of all students and,

**Hildi Kang is a K 1-5 Resource Teacher at the Sunset Elementary School in Livermore, California.*

at the same time, require minimum involvement of busy teachers.

The Contest

The contest which emerged, "Around the World in Eighty Days," meets these guidelines. The "Eighty Days" are divided into four mini-contests, and every student takes part. Since each section is independent of the others, no student is ever eliminated from the contest. Regardless of their scores on one part, all students start fresh on the following section.

The information to be learned, as the title implies, comes from all around the world. The first section, to be tested on Day 20, is the attention getter! Students must draw an outline map of the world. It is a task unlike any that students have ever been asked to do, and it requires a visual/spatial skill not often tapped in school.

The next three sections are not quite so unusual and are based on self-prepared outline maps. Day 40, focuses on natural landmarks and requires identification of continents, oceans, mountains, and rivers. On Day 60 students are asked to identify twenty countries, while Day 80 introduces man-made landmarks, such as the Taj Mahal, the Eiffel Tower, and the Great Wall of China.

Rules and Awards

The rules which apply during these eighty days are simple. At the beginning of each month every student receives a "study map" which has on it all the information to be learned. Students may practice alone or with their teachers, knowing that every Friday they will be given ten minutes to write down as much they can remember about what they have learned. Three Fridays are set aside for practice tests, and on the fourth Friday the actual test is administered and graded.

Every student who is able to pass even one test is awarded a certificate, but students who pass three or four

of the tests have one final challenge. There is a grand prize at the end for those who can remember what they have learned and do it all over again in one sitting at the Grand Final Test. Standards are high, and it takes a score of 85 percent or higher to earn an award. Higher scores earn better prizes; and those who receive the top prize have truly earned it.

Distribution of Labor

The distribution of labor is what makes this contest run smoothly. It is organized in terms of interpersonal cooperation among three sets of people and also involves three time frames. The people include the coordinator, parent volunteers, and classroom teachers. Time blocks are *before, during,* and *after* the basic eighty days.

Long before the students are involved, the coordinator must somehow acquire reams of scrap paper for all the hundreds of practice maps, get a corps of parent volunteers, and prepare the maps. Once the contest is underway, the coordinator has only to distribute the maps each week. Now the teachers become involved, and they are responsible only for the ten minute test every Friday. The parent volunteers put in their time on the last Friday of each month, scoring the test maps and recording the scores. When the "Eighty Days" are over, the coordinator and helpers must monitor the Grand Final Test, score the maps, and prepare the awards.

Results

If you have been reading between the lines, you have noticed that this contest involves handling a tremendous volume of paper; and you may rightly be wondering if it is worth the effort. Is it doing the job for which it was designed?

The first real answer came at the Grand Final Test. Several monitors were prepared to enforce a rule of silence, but they could hardly believe their eyes and ears. Two

hundred students filed in, took seats, and went to work with an astounding seriousness. Among them were the expected gifted students, as well as the dedicated, hard-working students; but it was also exhilarating to see the slower students, learning-disabled students, and students who had never been noted for their academic success.

Further, the results carried on even beyond the close of the test. Students began to notice place names when they read and often asked to check them out on maps. Suddenly, students who had lived abroad were no longer shy about being "different," but volunteered to share their experiences.

Teachers involved in the contest have been noticed purchasing atlases, not for their classes, but for themselves! Other were saying things like, "I need to find out about Korea. I just realized I know nothing about that country." Parents reported their children's increased awareness when place names were mentioned at home or in church. Other parents commented that the contest gave their children a distinct advantage when they entered Middle School.

The final word, however, rests with the classroom teachers. Is the contest doing the job? Is it in a form they can handle? Do they have the flexibility to do just the minimum or to add to their own teaching to enhance the contest if they wish? Is it having an effect on their own teaching? Though these questions have never been asked specifically, the answers can be inferred; for, "Around the World in Eighty Days" is now an established, annual event at Sunset School.

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Anyone who would like additional information concerning the content, use, or administration of "Around the World in Eighty Days" may contact Mrs. Kang at either Sunset School, Frankfurt Way, Livermore, California, 94550, or her home, 727 Joyce Street, Livermore, California, 94550.

1987 ANNUAL MEETING
Ontario, May 1-3

The 1987 Annual Meeting of the California Geographical Society was convened at the Clarion Hotel, in Ontario. Opening day activities included an afternoon and early-evening field trip which focused on "Ontario Area Land-Use Patterns." The field trip, which included a visit to a thoroughbred horse ranch, was arranged by John and Art Carthew, while Dick Logan of UCLA served as guide. Meeting Coordinator Tom Best concluded opening day events by delivering an address of welcome entitled "Yesterday, Today, and Tomorrow in CCGE/CGS."

California Geographical Society Awards were handled by David Lantis (CSU, Chico) who presented the Distinguished Service Award to Jim Switzer (Southwestern College) and the Outstanding Educator Award to Walter Olson (CSU, Sacramento). CGS President Clement Padick (CSU, Los Angeles) presented a $250 Student Scholarship to Gretchen Elizabeth Hayes, who will be doing graduate work at U.C. Berkeley; and Bill Schneider, publisher, concluded the annual banquet by speaking on the topic: "The California Geographic Series: Concept and Challenges."

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PRESENTATIONS

DAVID A. BALOGH, Cabrillo, College, **A Low-Cost Weather Station Using an Apple II+ Computer.**

BRUCE E. BECHTOL, California State University, Chico, **Teleconference Geography: Tuning in the Geographic Education Network.**

THOMAS D. BEST, Covina Travel Center, **Travel-Agency Surplus Stock as Instructional Resource.**

ARTHUR CARTHEW, Yucaipa Travel Service, **Geography Bus-Touring for Senior Citizens.**

MUNCEL CHANG, Taft High School, **The Bicentennial of the U.S. Constitution: A Geographical Perspective.**

MUNCEL CHANG, Taft High School, **Exploring Your Local Landscape: A Walking Field Trip.**

STEPHEN F. CUNHA, Cosumnes River College, **High Mountains and Undying Faith: The Path to Enlightenment on the Roof of the World.**

RICHARD ELLEFSEN, San Jose State University, and BILL TAKAZAWA, DAVID SCHWARZ, and DAVID COFFLAND, NASA Ames, **Inventorying Building Surfaces for an Acid Rain Materials Survey of the Southern California Basin.**

MYRON GERSHENSON, San Mateo High School, Adult Division, **The Application of Geographic Materials to Alzheimer's Disease.**

DONALD HOLTGRIEVE, CSU Hayward, **Using the Five Themes in Geography as a Basis for Environmental Education: A Case Study in Town Planning.**

GAIL HOBBS, Pierce College/UCLA, **Roots and Routes.**

JOHN JAMES, University of Nevada, Reno, **Not So Typical Tehachapi Mountain Mudslides.**

LADD JOHNSON, California State University, Chico, **Traveling To/In The People's Republic of China.**

E. M. LOEB, California State University, Hayward, **Remote Sensing Imagery.**

JOHN MCFADDEN, Beverly Hills High School, **California's Physical Geography and Cultural Adaptation.**

PAUL MELCON, California State University, Chico, **An Intuitive Approach to Remote Sensing Instruction.**

W. J. SWITZER, Southwestern College, **Primary and Secondary Steel Works in South Korea.**

ROBERT N. WALLEN, Mendocino College, **The Three Faces of Peru.**