

CHAPTER 2

Maritime loanwords in languages of Pacific Meso- and South America? An exploratory study

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Abstract

Against a multidisciplinary background, this article explores possible lexical evidence for past language contact between speakers of indigenous languages along the Pacific coast from Middle America to South America. Drawing on lexical data from 40 languages, the domain of maritime vocabulary, including, among others, terms for fishes and other marine creatures, coastal landforms, and navigation technology, is systematically compared in search for possible shared items. With the exception of three possibly diffused words for ‘seashell’, the lexical evidence points rather to distinct coastal interaction spheres in parts of Middle, Central, and South America.

Resumen

En un contexto multidisciplinario, en este artículo se exploran posibles evidencias léxicas de contacto lingüístico entre hablantes de lenguas indígenas a lo largo de la costa del Pacífico desde Mesoamérica y hasta Sudamérica. Utilizando información léxica en busca de posibles términos en común entre 40 lenguajes, en este estudio se compara sistemáticamente el dominio del vocabulario marítimo, incluyendo, entre otros, términos de peces y otras criaturas marinas, formas geográficas de costas, y tecnología náutica. Con excepción de tres palabras para ‘concha’ posiblemente difundidas, la evidencia léxica apunta a diferentes esferas de interacción en regiones de Meso, Centro, y Sudamérica.

INTRODUCTION

Linguistics has a number of different ways in which it can contribute to studying the past. For one, vertical transmission of linguistic material and the systematic correspondences that arise in this process allow to establish language families whose expansion can be traced through time and space. Horizontal transmission of linguistic items or structures in the form of loanwords and structural inferences (e.g., Ross 2003), on the

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other hand, has a story to tell about past contacts, trade and prestige relations, and other ways in which speakers of different languages have interacted. Sometimes, it is even possible to unravel several layers in the lexicon which indicate different contacts at different points of time (Andersen 2003). On the basis of such considerations, a large number of conducive hypotheses about the past can be posited. In Mesoamerica, for instance, a Mixe-Zoque affiliation for the Olmec civilization is posited by Campbell and Kaufman (1976) on the basis of widespread and old Mixe-Zoque loans in languages of other families. In the Andes, words with non-Quechuan phonology for local plants and animals in the Quechua of Cuenca, Ecuador, suggests language shift from an indigenous language to Quechua in prehistory (Torero 1964; see now Urban 2018), which surely reflects historical realities such as asymmetric power relations between autochthonous population and the powerful Quechua-speaking intruders.

As a contribution to research which seeks to unravel (pre-)historic processes by means of linguistic evidence, this paper sets out to systematically explore linguistic evidence for past contacts along the Pacific Coast of Meso-, Central, and South America in the domain of maritime vocabulary. Neither the area of investigation nor the semantic domain is randomly chosen: several lines of evidence from outside linguistics point to the existence of one or several distinct pre-Columbian coastal interaction sphere(s) within this area. A brief review of this evidence is presented in the first section to follow. Against this background, it would be natural to expect linguistic correlates. Maritime contact does not necessarily have to result in loans in the domain of maritime vocabulary, nor, conversely, must loans present in this domain necessarily have travelled coastal routes. Nevertheless, if indeed contact along the coast took place, the background setting would have involved coastal life in all of its aspects or even marine resources themselves as trade items. The next section provides details on the approach taken to assess whether the semantic domain of maritime vocabulary—actually, a construed superdomain with several subareas—reveals lexical evidence for maritime contact along the Pacific coast. The results of the study are presented and discussed in the final section.

INTERDISCIPLINARY BACKGROUND

Genetic background

According to an increasingly popular model, the earliest colonizers of the New World would have entered the Americas from Beringia via a coastal route by watercraft. Maintaining a coastal adaptation, they would have expanded southward exploiting marine resources such as kelp forests (Erlandson et al. 2007; Erlandson and Braje 2011; see further references therein). This scenario is congruent with some very early coastal sites in both North and South America and receives recent support from genetics

(Bodner et al. 2012); mtDNA haplogroup D4h3a in particular has a striking Pacific distribution (Perego et al. 2009).¹ While the present study has no contribution to make to the elucidation of the first settlement of the Americas, it is nevertheless worth bearing in mind that a Pacific orientation is possibly very deeply entrenched in the Americas. On a more local level, coastal interaction between southern Peruvian and northern Chilean populations is supported by mtDNA analysis (Rothhammer et al. 2010). In addition, one study supporting a coastal migration scenario notes a higher level of genetic diversity in Western as opposed to Eastern South America, and a relatively low differentiation between Mesoamerican and Andean groups in genome-wide data (Wang et al. 2007). As the authors note, an alternative explanation for the latter observation, of course, is recent gene flow along the coast in line with a contact scenario (cf. also Rothhammer and Dillehay 2009: 543). Indeed, from archaeological and ethnohistoric sources, such a scenario, significantly more recently than the first settlement, can be posited, as is discussed in the following.

Historic background

A prominent and much-discussed item traded along the prehistoric Pacific Coast of South America is the shell of the *Spondylus* (thorny oyster) bivalve. The literature on *Spondylus* trade is extensive and only a coarse summary is attempted here. *Spondylus* shells were of very high value and cultural and ritual significance in Central Andean cultures, being embedded in a complex web of cultural associations (Blower 2000). According to legend, Ñaimlap, the founder of the ruling dynasty of the Lambayeque valley on the Peruvian North Coast, had an officer named Fonga Sidge who was responsible for sprinkling the earth that Ñaimlap walked on with shell powder, presumably from the highly prized *Spondylus* (Cordy-Collins 1990). The shell is found already at the archaeological site of Caral on the central coast of Peru, which was inhabited in the 3rd millennium BC (Shady Solis 2008). This suggests that the cultural significance of *Spondylus* in the Central Andes is very old. Yet, *Spondylus* shells are an exotic good at these latitudes. Thriving maximally as far south as Cabo Blanco in Far Northern Peru (Carter 2011), they must have been imported from more northern regions.² Peoples of the Ecuadorian coast are thought to have supplied much of the

1 Results are dependent on the kind of analyzed genetic data. This is a general point, but also relevant in attempts to correlate genetic and linguistic data. For instance, mitochondrial DNA, which retraces the maternal lineages, shows some correlation with linguistic diversity in South America, whereas no comparable result could be obtained from Y-chromosomal DNA, identifying the paternal lineages (Roewer et al. 2013).

2 *Spondylus* transport within Peru need not have been maritime, because there are currents which make north-south sea-faring along the coast difficult (Hocquenghem 1993, inter alia).

Spondylus shells in demand in Peru (though Far Northern Peru must be reconsidered as a source as well, Carter 2011). Copper recovered from archaeological sites on the Ecuadorian coast, where it does not naturally occur, is thought to have been brought there to be exchanged for Spondylus (Paulsen 1974). An intensification of Spondylus trade from around 750 AD onwards is evidenced by the steeply rising number of archaeological finds in Peruvian North Coast sites, in particular those associated with the Middle Sicán and somewhat later Chimor cultures (Cordy-Collins 1990; Pillsbury 1996; Shimada 2000), as well as increasing production at Ecuadorian coastal sites which are thought to have provided some of the shells (Martín 2010; Carter 2011). Marcos (1977/1978), *inter alia*, argues that the lineal trade system that brought Spondylus shells to Peru extended along the Pacific coast far beyond Ecuador as far north as Mexico.

Indeed, several similarities specifically suggest pre-Columbian seaborne contact between West Mexico and Coastal Ecuador; a critical review can be found in Pollard (1997). Among the traits that have been suggested as evidence for this are similarities in weaving technology and textiles (Anawalt 1992), dog breeds (Cordy-Collins 1994), shaft tombs and certain vessel types (Smith 1977/1978), and, perhaps most strikingly, metallurgical technology thought to have been imported to West Mexico from Ecuador (Hosler 1988). This interaction is thought to have started in 800 AD, roughly at the same time that hairless dogs appear in Moche iconography (Cordy-Collins 1994) and that the Spondylus trade booms. The shaft tomb complex, however, is earlier by about one millennium, and appears earlier in West Mexico than in South America; the clothing similarities even date back to 400 BC. A role of Central America is also in evidence in the diffusion of metallurgical techniques (Hosler 1988), and interactions with both South and Mesoamerica are implied by camelid figurines as well as Maya artifacts found at the Las Huacas site on the Nicoya Peninsula of Costa Rica, which was in use between 180 and 525 AD (Fonseca and Richardson 1978).

In summary, there is ample evidence to suggest that at least the Pacific coast of South America, and possibly beyond, was for a long period of time, and at a time depth accessible in principle to historical linguistics, the “locus of a vibrant corridor transmitting ideas, technology and subsistence strategies” (Blench 2012: 287) that was probably disrupted only by the arrival of the Spaniards. The necessary watercraft for such maritime interactions are lacking archaeologically, which may be seen as the Achilles’ heel of the argumentation. Nevertheless, indigenous seafaring technology was sufficiently developed to allow such long-distance trade (Edwards 1965). In addition, for Ecuador, there is ethnographic evidence for large ocean-going trade vessels, such as the famous large raft sighted by Francisco Pizarro’s pilot Bartolomé Ruiz off the Ecuadorian coast during the first Spanish expedition. This raft carried among other trade goods “conchas coloradas”, i.e. in all likelihood the prized Spondylus, as the early chronicler Oviedo y Valdez (1855: 122) informs.

Linguistic background

Typologically, there is no consensus whether the Pacific Coast of Middle and South America hosts one or more linguistic areas and what the defining features might be for an areal classification. Nichols (1992, 2002, *inter alia*) shows similarities among the languages of the Pacific Rim generally and Nichols and Peterson (1996) specifically note similarities in the pronoun systems which may result from either deep ancestry not detectable by the comparative method, from ancient areal diffusion, or a combination of these. Pacific Rim features are most strongly represented in the American Northwest, but, spreading coastally, are thought to have reached as far as southern South America (Nichols 2002: 283). Independently of the Pacific Rim linguistic area hypothesis, some similarities among the coastal languages of South America from Ecuador to Tierra del Fuego can be detected, such as the widespread presence of a labiodental fricative, a sound not common on the continent otherwise (Urban *n.d.a*). On the other hand, Aikhenvald (2007) maintains that the Pacific coast of South America does not form an area typologically.

Lexically, Englert (1936: 81–82) already points out some intriguing similarities among languages of the Pacific coast from Lenca in Central America down to Yamana in Tierra del Fuego (as well as some languages somewhat further inland in South America) in the word for ‘lightning’, while Klar (2011: 205) considers the possibility of a “Pan-Pacific word” meaning ‘harpoon’, ‘barb’, or ‘spear point’, shared between Hawaiian in Polynesia and several Amerindian languages of the Pacific Coast. Loukotka (1939) is a more general attempt at demonstrating the influence of Mesoamerican peoples in South America by means of shared lexical items, but many of the comparisons are questionable because of the wide formal differences Loukotka allows for. An apparently diffused form meaning ‘land, earth’ partially recognized by Loukotka and elaborated on in Urban (2014) suggests contacts from Central America to Northern Peru; a further similarity between Waunana (Chocó) and Tallán, in spite of the extremely scanty documentation of the latter, suggests contact between Colombia and Northern Peru in particular. In fact, some similarities in maritime vocabulary in parts of the region have also already been pointed out, such as a word for the ‘sea lion’ shared between Mochica, Mapudungun, and an extinct variety of Quechua thought to have been spoken once on the central coast of Peru (Adelaar 1990: 387). Hovdhaugen (2000: 136) suggests that it would be promising to carry out more studies of coastal borrowing among South American coastal languages.

METHODS AND DATA

Elucidating possible linguistic correlates of past interregional relations along the Pacific coastline more systematically faces several problems. Most importantly, while Native Americans in general suffered horrible

population losses after contact with the Europeans through a combination of disease, war, and mistreatment, the peoples of the Pacific in many areas were stricken particularly badly. As a result, many important coastal languages disappeared particularly early, leaving too little time for any linguistic documentation to happen. This is, among others, the case for Quingnam, the royal language of Chimor in coastal Peru, the original languages of coastal Mexico like Guasave, Naarinuquia, Chumbia and Tolimeco, which are known only by name (Miller 1983; Kaufman 2007), and the language of the Manteño chiefdom in coastal Ecuador which is thought to be responsible for part of the *Spondylus* production for export to Peru. A passage in an anonymous early 17th century description of Puerto Viejo in Ecuador (Anonymous [~1605]1868b: 286) gives an idea on the magnitude of losses:

Los indios desta tierra, no convenian en una lengua general y común á todos: cada pueblo hablaba la suya diferente, lo cual era causa de discordia y guerras entre ellos: los indios marítimos se entienden todos entre sí, aunque la lengua que usan no es...

(The Indians of this land did not agree on a general language common to all: every village spoke its own different one, which was the reason for strife and war among them: the maritime Indians all understand themselves among each other, although the language they use is not...)

Unfortunately, the end of the sentence in the document is illegible; nevertheless, not only does the text mention a panorama of linguistic diversity which is completely inaccessible, but it even hints at a lingua franca used among people connected with the sea. This language in particular is likely to have harbored important evidence for the topic of the present article.

For other important coastal languages, documentation exists, but is minimal and not up to the standards of modern linguistic documentation. Examples are Esmeraldeño, from coastal Ecuador, known only through a single wordlist from the 19th century, Tallán and Sechura of northernmost Peru, and the language of the Cueva chiefdoms (perhaps of Chocó affiliation, Loewen 1963: 245–246; Constenla Umaña 1991: 47–48) covering important regions of the Panamanian isthmus. A now extinct variety of Quechua presumed to be once spoken on the Central Coast of Peru (though see Itier 2013) is documented in a 16th century dictionary by Santo Tomás (1560). In sum, the data situation is far from optimal. The available data must be assumed to represent only a fraction of the maritime vocabulary present or once present in the languages. These languages, in turn, represent only a fraction of the original and now inaccessible linguistic diversity on the Pacific coast.

But even in the case of coastal languages that are still spoken, or were spoken long enough to be documented to a reasonable extent, lexicographic sources do not frequently cover the domain of maritime vocabu-

lary exhaustively or even reasonably thoroughly. Oftentimes, glosses such as ‘kind of fish’ are used, making it impossible not only to identify the species but also to tell whether the fish in question is maritime or riverine. In other cases, languages are thought to once have had connections to the coast, but are nowadays used only somewhat more inland. In these cases, the maritime domain is frequently covered only very sporadically. For these reasons, the maritime vocabulary analyzed in this paper represents only a small fraction of that that must have, or still does, exist in the languages of the Pacific littoral.

In order to nevertheless obtain as complete a data base as possible under these circumstances, I also include data from languages whose speakers do not presently have a coastal adaptation, but are or once were located close to the Pacific coast (as Constenla Umaña 1992/1993 argues to have been the case for Matagalpa and Cacaopera, for instance). I also include some languages for which connections to the coast (e.g., via trade) exist or may have existed. In addition, where pertinent etymological dictionaries of sufficient size exist for families with coastal connections, these have also been included. Table 1 presents an overview on all languages investigated in the present study, proceeding roughly from north to south for actual languages, followed by reconstructs. Figure 1 shows the approximate locations where the languages are or were spoken.³

Languages are listed along with their genealogical affiliation and the consulted lexical sources. The latter are roughly classified as follows: a “recompilation of isolated terms” is the most basic type of source which is used for languages which have not received any dedicated documentation. Terms listed in such compilations come in a variety of sources, including Spanish chroniclers and assorted documents of the Spanish colonial administration. A “premodern wordlist” is usually a rather short list of items (sometimes also basic phrases) which is transcribed without previous phonological analysis. These wordlists may be either transcribed completely unsystematically by laypersons, or they may involve some transcription system as is the case in Lehmann (1920). In either case, data are represented in a raw phonetic manner, and, depending on the source, may miss important details of phonetic and phonological structure. In some cases, one or more such sources have been analyzed philologically to reconstitute the phonological structure of the document-

3 Proto-languages are not plotted. For Pochutec, latitude and longitude of the town of Pochutla have been used for mapping. Cueva has been plotted at the coordinates of La Palma, the provincial capital of Panamá’s Darién province south of the Bay of San Miguel and Panamian Emberá at the coordinates of Unión Chocó, the capital of Cémaco district. The possibly coastal variety of Quechua of Santo Tomás (1560) is placed by convention at the coordinates of Lima, and Quingnam at the coordinates of Chan Chan, the capital of the Chimú culture near modern Trujillo. Otherwise, locations were retrieved from Glottolog (Hammarström et al. 2016); for Xinca, those of Chiquimulilla Xinca have been used.

ed language. In this case, we are dealing with (a) “reconstituted wordlist(s).” Then of course, there is the (modern) “wordlist” for which reconstitution was not necessary. A “dictionary as part of a larger work” is a recompilation of vocabulary that forms part of a more extensive description of the language in question. This type of source can be quite extensive, but lexicographic microstructure is typically simpler than in the case of a dedicated dictionary, and the conceptual boundary to the

Table 1. below and right
Languages included in the present study and consulted sources.

| Language | Affiliation | Source(s) | Type of source | Extent of available data |
|-------------------------|----------------|---|---|--------------------------|
| El Nayar Cora | Uto-Aztecan | McMahon and McMahon (1959) | dictionary | intermediate |
| Huichol | Uto-Aztecan | McIntosh and Grimes (1954) | dictionary | intermediate |
| San Mateo del Mar Huave | Huavean | Stairs Kreger and Scharfe de Stairs (1981) | dictionary | extensive |
| Cuitlatec | Unclassified | Escalante Hernández (1962) | dictionary as part of a larger work | intermediate |
| Isthmus Zapotec | Oto-Manguean | Pickett (2007) | dictionary | intermediate |
| Lowland Chontal | Tequistlatecan | O'Connor (2013) | dictionary | intermediate |
| Pochutec | Uto-Aztecan | Boas (1917) | dictionary as part of a larger work | minimal |
| K'iche' | Mayan | Ajpacaja Tum et al. (1996) | dictionary | intermediate |
| Mam | Mayan | Ortiz Domingo et al. (n.d.) | dictionary | intermediate |
| Chortí | Mayan | Pérez Martínez et al. (1996) | dictionary | intermediate |
| Xinca | Xincan | Colonial Xinca: Sachse (2010), other Xinca languages: Lehmann (1920), Rogers (2010) | | intermediate |
| Honduran Lenca | Lencan | Lehmann (1920) | early wordlist | intermediate |
| Matagalpa | Misumalpan | Lehmann (1920) | early wordlist | minimal |
| Pipil | Uto-Aztecan | Campbell (1985), Lehmann (1920), Lemus (1997) | dictionary as part of a larger work, early wordlist, wordlist | intermediate |
| Cacaopera | Misumalpan | Bertoglia Richards (1997) | reconstituted early wordlists | intermediate |
| Salvadoran Lenca | Lencan | Lehmann (1920), Campbell (1976) | early wordlist, wordlist | intermediate |
| Subtiaba | Oto-Manguean | Lehmann (1920) | early wordlist | intermediate |
| Guatuso | Chibchan | Lehmann (1920) | early wordlist | intermediate |
| Mangue | Oto-Manguean | Lehmann (1920) | early wordlist | minimal |
| Cueva | unclassified | Romoli (1987) | recompilation of isolated terms | minimal |
| Guaymi | Chibchan | Alphonse (1956) | dictionary | extensive |
| Panamanian Emberá | Chocó | Sara (2001) | dictionary | extensive |
| San Blas Kuna | Chibchan | Holmer (1952) | dictionary | extensive |

wordlist is rather fluid. Finally, the “dictionary” is the last type of source distinguished. There are also three specific subtypes that are distinguished: the “early dictionary” such as the Quechua dictionary by Santo Tomás (1560), which have the same properties as premodern wordlists, but which are of immense philological value, the “recompilation dictionary,” which is based on the conjunction of several earlier sources of smaller scope and which is only represented here by Salas García’s

| Language | Affiliation | Source(s) | Type of source | Extent of available data |
|-----------------------|--------------|---|---|--------------------------|
| Catóo | Chocó | Pinto García (1950) | dictionary | intermediate |
| Northern Emberá | Chocó | Pardo Rojas (2015) | wordlist | intermediate |
| Waunana | Chocó | Holmer (1963) | dictionary | extensive |
| Yurumanguí | unclassified | Elías Ortiz (1940) | early wordlist | minimal |
| Epena Pedee | Chocó | Quiro Dura and Harms (2015) | wordlist | extensive |
| Chachi | Barbacoan | Lindskoog and Lindskoog (1964) | dictionary | extensive |
| Esmeraldeño | unclassified | Seler (1902) | early wordlist | intermediate |
| Tsafiquí | Barbacoan | Moore (1966) | dictionary | extensive |
| Tallán | unclassified | Martínez Compañón ([1782-1790]1985) | early wordlist | minimal |
| Sechura | unclassified | Martínez Compañón ([1782-1790]1985), Urban (2015) | early wordlist, early wordlist | minimal |
| Mochica | unclassified | Salas (2002), Brüning (2004) | recompilation dictionary, early dictionary | extensive |
| Quingnam ^a | unclassified | Zevallos Quiñones (1975) | recompilation of isolated terms | minimal |
| Santo Tomás Quechua | Quechuan | Santo Tomas (1560) | early dictionary | extensive |
| Mapudungun | Araucanian | Augusta (1916), Fernández Garay et al. (2015) | early dictionary, wordlist | extensive |
| Huilliche | Araucanian | Augusta (1916), Cañas Pinochet (1911) | early dictionary, early wordlist | extensive |
| Chono | unclassified | Viegas Barros (2005) | recompilation of isolated terms | minimal |
| Qawasqar | Alacalufan | Clairis and Viegas Barros (2015), Clairis (1985), Aguilera and Tonko (2005) | wordlist, dictionary as part of a larger work, dictionary | extensive |
| Proto-Huave | | Noyer (2012) | etymological dictionary | extensive |
| Proto-Mixe-Zoque | | Wichmann (1995) | etymological dictionary | intermediate |
| Proto-Uto-Aztecan | | Stubbs (2011) | etymological dictionary | intermediate |
| Proto-Mayan | | Kaufman with Justeson (2003) | etymological dictionary | intermediate |

^a Quingnam is an extinct and undocumented language of the Peruvian North Coast. Only isolated words remain and their provenience from Quingnam is not secure. The consulted source is a collection of non-Spanish terms in local Spanish in the region of the city of Trujillo, once a core area of Quingnam speech. Some of them have clear etymologies from Quechua or other indigenous languages, but others do not and may indeed derive from Quingnam (cf. Urban n.d.a).

Fig. 1.
Map of approximate location
of languages included in the
present study, coordinates
mainly from Hammarström
et al. (2016).



(2002) Mochica dictionary, and the “etymological dictionary.” The table also features a column with information on the amount of relevant lexical data that could be culled from available sources. The category “minimal” indicates that 10 or less terms relating to the domain of maritime vocabulary are available for comparison, “intermediate” is used for a language for which from 11 to 50 terms were available for comparison, and “extensive” indicates a corpus that features more than 50 items. Figure 1 shows the approximate location where the language are or were spoken.

The part of the lexicon investigated consists of maritime vocabulary broadly construed. This includes words for all kinds of sealife (fishes, molluscs, gastropods, crustaceans, sea shells, water plants such as algae etc. and paronyms of the respective creatures), names of sea birds, vocabulary of fishing technology, pisciculture and seafood processing, types of vessels and their parts, the vocabulary of navigation, relevant landforms (e.g., ‘bay’, ‘cape’, etc.) and cardinal directions. Relevant items were extracted from the sources listed in Table 1, maintaining the original orthography (data from premodern sources are conventionally presented in angle brackets), and aligned semantically where possible.

Then, comparisons were effectuated, excluding from consideration items inherited by related languages from a common ancestor. For the time being, the comparisons do not systematically take into account that

sound change after the event of borrowing may conceal earlier strata of borrowing, which are only, if at all, recoverable with historical-comparative expertise (cf. remarks on Mochica <miš(i)u> *Spondylus princeps* in the discussion of words for 'seashells' as possible coastal Wanderwörter below). This restriction goes hand in hand with another one, namely that cases where borrowing is involved, but also semantic shift from or to semantic domains other than the marine world will have been missed. By study design, borrowings of maritime words into inland languages (or vice versa) is not investigated systematically either (though, where known to the author, they are mentioned; see Noyer 2015 for the case of Huave).

Bearing in mind these points, comparisons first involved items with identical or very closely related meaning. Semantic criteria were rather strict, requiring in the case of terms for life forms either identity of designated species or at least a reasonable degree of similarity in appearance and/or behavior. For instance, a comparison of terms for 'steamer duck' with those of 'penguin' was accepted as valid because both are relatively large birds, both are flightless, and both are bound to coastal habitats. A comparison of items 'steamer duck' and, say, 'sparrow' would not have been accepted. Likewise, formally similar words for fishes were not considered if the species are very dissimilar in appearance and/or differ significantly in their habitat.⁴ However, items that may have such similar meaning but where glosses are too imprecise to be sure were also compared to one another. For instance, an item meaning 'sardine' was also compared with an item in another language glossed only as 'small fish' in order to maximize the yield of the comparisons and to take into account minor semantic shifts.

Formal similarity was required to be very high in monosyllabic items and relaxed somewhat in the case of longer forms, especially to allow for possible adaptations during borrowing events. Information on the phono-

4 Not considered are similarities in the names of riverine fishes because they strictly speaking do not pertain to the topic investigated here. This does not mean that names for riverine species are not an interesting topic to investigate, as some shared names for riverine fishes between Cacaopera and Lenca, and perhaps further languages, indicate. Compare Cacaopera *sa'jak* 'sardine' with Salvadoran Lenca <šāyā> 'sardine' (the identity of the fish is not clear in this case in spite of the identical gloss, given that the common name 'sardine' and its Spanish equivalent *sardina* can denote various fish species) and Cacaopera *'firi* with Salvadoran Lenca <širi> 'conga, cacarra'. According to FishBase (Schmitter-Soto 2007 in Froese and Pauly 2014), *conga* is one of the Salvadoran vernacular names for the Convict cichlid (*Amatitlania nigrofasciata*). Furthermore, compare Cacaopera *uru'ni* 'olomina' with Salvadoran Lenca <ilāma> 'ilama', *uluŋ* 'eel', <ōrūm> 'olomina'. The latter items can be further compared with Cuitlatec *uŋimi* 'pez, jalmiche', Yupiltepeque Xinka <lamu> 'fish', and of course, Spanish *olomina*. Since *olomina* is a term only used in Central American Spanish, it seems likely that one of the mentioned languages is the source (in spite of Lehmann 1920 considering the reverse direction of borrowing for Salvadoran Lenca <ōrūm>); the Lenca forms *uluŋ-na/ulum-na* 'the eel', with suffixed article *-na*, seem a good match. Bertoglia Richards (1997) already points out the cases of *'firi* and *uru'ni* as well as other similarities of Cacaopera with Lenca.

logical systems of the involved languages were, where available, taken into account in assessing the plausibility of a match. For instance, Mapudungun <tr> represents a retroflex affricate [tʂ], a marked sound prone to be adapted phonologically in borrowing languages. Care was taken that similarities pertain to entire forms rather than parts thereof, and that residual material can be explained in a satisfactory manner. Where this is not the case, it is explicitly noted.

Bearing in mind that some semantic and formal leeway was allowed in the comparisons, the possibility of spurious matches must be considered. Therefore, an additional methodological requirement made is that languages should share at least two items for a connection between them to be considered plausible. This requirement serves to reduce the likelihood of chance similarities being reported. It goes at the expense of eliminating some perhaps genuine cases of shared lexical material, e.g., Waukana *okok* ‘turtle’ – Yupiltepeque Xinca <kóko> ‘turtle’ – K’iche’ *kok* ‘turtle, wooden key in old doors’ (this reflects proto-Mayan **kok* according to Campbell 1972: 188 and a diffused Central Mayan root **kok* according to Kaufman with Justeson 2003) or Mapudungun *l·əl·i; ləli, l·əli*, Proto-Huave **lili* ‘scale, scar; pastel tree lizard’.

There are a number of reasons which, at the present state of research, preclude a more systematic quantification of the strength of the evidence for the individual connections. Paramount among these are the highly heterogeneous representation systems that were used to transcribe the data, which range from standardized phonology-based orthographies to unsystematic transcription in the early sources that would require in-depth philological analyses for post-hoc standardization. Data from early wordlists must not be taken at face value. For instance, Urban (n.d.a, n.d.b) has demonstrated that an unusual correspondence between orthographic <g> or <ġ> and <m> in two closely related varieties of the poorly documented Tallán languages does not reflect a heterogeneous sound correspondence involving a stop and a nasal, but very likely different orthographic traditions of representing the same velar nasal [ŋ]. Such exercises have been carried out for a number of sampled languages (e.g., Bertoglia Richards 1997), but for other languages the necessary work is still outstanding. The lack of comparable representation precludes, for the time being, meaningful calculations of the likelihood of chance correspondences which take into account the makeup of the phoneme inventory of the involved languages. Moreover, for a significant subset of languages, the phoneme inventory is not just unclear regarding a restricted number of distinctions but actually completely unknown, making approaches to calculating chance correspondences that operate on the basis of phoneme inventory size such as Nichols (1996) unworkable.

While the abovementioned criterion of two items per connection is a strong restriction that reduces the chance of false positives, it cannot be ruled out that such spurious cases are among those reported in this article. Given its exploratory nature this was accepted for the purpose of the present article, but confirmatory studies which preferably also explore lexi-

cal similarities in semantic domains other than maritime vocabulary are a desideratum for the future to confirm or disconfirm the results presented in the following.

RESULTS

Local interactions

Introduction

The data, first of all, suggest what may be termed local interaction among neighboring languages (once) spoken in a well-definable subarea. The following discussion presents three such local interaction zones: the Guerrero and Oaxaca coast in Mexico, the Isthmo-Columbian area, and the Peruvian and Chilean coast. Figure 2 shows these areas by black circles.

A generic gloss is provided for all comparisons; where individual languages differ, a separate gloss is provided for the relevant forms. Also provided are additional comments in the form of table notes where pertinent.



Fig. 2. Map highlighting the coast of Guerrero and Oaxaca, the Isthmo-Columbian area, and the Pacific coast of South America as linguistic interaction zones.

The Guerrero and Oaxaca coast

This interaction zone implies the Huavean languages, Lowland Chontal, and to a lesser extent Cuitlatec, as Table 2 shows. It is not excluded, however, that speakers of the major Mesoamerican languages were involved here, too, cf. the possibility of Maya and Mixe-Zoque speakers on the Pacific coast of South Mexico (Love 2007: 296).

As the data show, shared items exclusively denote maritime creatures. The correspondence between initial prenasalized stop in Huavean to a VCC sequence in Lowland Chontal in the words for ‘popoyote’ and ‘shad’ suggest an origin in Huavean, the prothesis of the vowel being a phonological adaptation to Lowland Chontal phonology. Also, the morphological complexity of *mbah-ili ‘milkfish’ suggests a Huavean language as the donor of the corresponding Cuitlatec form.

The Isthmo-Columbian area

The evidence in this case is slimmer and comes from San Blas Kuna (Chibchan) and different varieties of Emberá, which pertain to the Chocoan family. Table 3 shows the relevant forms.

Table 2.
Locally shared vocabulary
items among languages of the
Guerrero and Oaxaca coast.

| | Huavean | Lowland Chontal | Cuitlatec |
|------------------------|----------------------------|--|-------------------------|
| ‘mojarra’ | *kowalı ‘graceful mojarra’ | <i>kogali ~ cogali</i> ‘type of small fish. Charrita’ | |
| ‘popoyote’ | *ndòno | <i>antono’</i> | |
| ‘shad’ | *mbára | <i>ampaylya’ ~</i> <i>am’pa’lya’ ~</i> <i>pampaylya’</i> | |
| ‘catfish’ ^a | *riwi | <i>uwi ~ uhui’</i> | |
| ‘shrimp’ ^b | *tisimì | <i>tyixmu</i> ‘shrimp, prawn’ | |
| ‘snook’ | *pihi | | <i>pùhci</i> |
| ‘kind of fish’ | *mbah-ili ‘milkfish’ | | <i>mali?i</i> ‘catfish’ |

^a Noyer (2012: 688, 2015: 320) considers *riwi to be related to Mayan languages, although the involved language(s) as well as the direction of borrowing is not clear. Cf. further Guazacapan Xınca *tz’iiwi* ‘catfish’?

^b Noyer (2012: 769, 2015: 334) suggests the same connection with Chontal citing Highland Chontal *dixmu*. Noting that shrimps are among the most important products of Huave economy he suggests that Huave is the donor language. Noyer (2012: 42, 166) also relates *cili ‘black mojarra’ with Highland Chontal *-atsili* ‘mojarra’, and the generic *katu ‘fish’ with Highland Chontal *ladu* ‘fish’, which would suggest a more complex borrowing scenario. This is also true for the case of forms similar to *tisimì in further Mesoamerican languages, which suggest a Wanderwort scenario (Noyer 2015: 334).

| | San Blas Kuna | Emberá |
|--------------------|--|--|
| 'harpoon' | <i>esawala</i> 'iron point or harpoon (fish spear) with an iron point; used of the heron's beak' | Panamanian Emberá <i>chawála</i> |
| 'oar, paddle, row' | <i>kammi</i> 'paddle', <i>kammia-</i> 'to paddle' | Northern Emberá <i>kamisui</i> 'paddle; kitchen implement', <i>kamisui</i> 'row' Note: <i>-su</i> is unexplained. |

Table 3.
Locally shared vocabulary items among languages of the Isthmo-Columbian area.

Kuna is nowadays spoken mostly in the Panamanian *comarca indígena* of Guna Yala, but this is due to relatively recent migration of Kuna speakers. The language was originally spoken in Colombia, from where speakers were pushed northeast by expanding Chocó-speaking groups in the 17th century (Mejía Fonnegra 2000: 55). It is difficult to ascertain where exactly Kuna was spoken in earlier times, but there is toponymic evidence suggesting that it was once spoken along the pacific littoral, even if the map of indigenous languages of Colombia (González de Pérez and Rodríguez de Montes 2000: 52) does not show Kuna-speaking communities there at present. Specifically, the name of the coastal municipality Juradó in Colombia's Chocó province translates as "Cuna River" in Emberá (Adelaar with Muysken 2004: 62). In addition, Pinto García (1974: 221) suggests a Kuna etymology for Abegá, the name of a hamlet on the Pacific Coast and of a river emptying into the Pacific there. The complex post-contact population movements that took place in the implied area makes it virtually impossible to specify a time and date for the contact events. What can be said is that the word for 'harpoon' is Kuna in origin, given that *esa* in that language means 'knife' and *wala* 'tree, stem, wood' and 'wooden parts of various instruments'.

Peruvian and Chilean coasts

Table 4 presents lexical similarities among the languages of the South American coast from Northern Peru to Tierra del Fuego (some other relevant terms for seashells or types thereof that have a wider distribution are discussed in the section on words for 'seashells' as possible Wanderwörter below).

In addition to these comparisons, one can also mention words for 'seaweed': Mochica has <kōtškōtš, kōtškōtš>, and Quechua *cochayuyo*. In the Spanish of the region of Trujillo, the form *mococho* is found; it may derive from Quingnam. Quechua *cocha-yuyo* is quite literally 'sea-vegetable'. Its absence in Santo Tomás Quechua suggests that it may be a late formation (Willem Adelaar p.c.) Salas García (2012: 73) argues that the Mochica form originates from Quechua, and specifically from the reduplication of (a reflex of) proto-Quechua *quča 'lake' (Parker 1969: 37). In addition to the forms <kōtškōtš, kōtškōtš> with the meaning 'alga', Brüning (2004) also has <kōtškōtš> 'kind of thick thread' and

| | Mochica | Santo Tomás Quechua | Mapudungun | Huilliche | Qawasqar | Chono |
|-----------------------------|------------------------------------|------------------------|--|--------------------------|---|--|
| ‘sea lion’ ^a | <tšōmi, tšūmi> ‘adult sea lion’ | <thome> | <i>l-ame</i> ‘sea lion, seal’ | <dlame> ‘sea lion, seal’ | | |
| ‘seagull’ | <chojek> | | <i>challe</i> ‘Andean gull’ ^b | | <i>qolák, qájes</i> | |
| ‘fish’ | | <challua> ^c | <i>challwa</i> | | | |
| ‘boat’ | | <guambo> ^d | <i>wampo, wampu</i> | | | |
| ‘marine otter’ ^e | | | <i>chimchimko</i> | | | <cincimen> |
| ‘kind of bird’ | | | <i>ketru, küturu</i> ‘steamer duck’ | | <i>karréto</i> ‘penguin’ <i>xarato</i> ‘kind of big penguin’ | <quetu> ‘birds from which they [i.e. the Chonos, MU] extracted feathers to dress warmly’ |

Table 4.
Locally shared vocabulary items among languages of the Peruvian and Chilean coast.

^a well-known, e.g. Adelaar (1990).

^b May be further compared with Quechua *qiwlla* ‘gull’. Willem Adelaar (p.c.) points out that /ch/ is the replacement for initial /q/ in another loan into Mapudungun from Quechua, *chillka* ‘letter’ < *qillqa* ‘inscription, writing’ (Smeets 2008: 58).

^c This item is < Proto-Quechua *čalwa (Parker 1969: 8).

^d Compare also Smeets (2008: 58). <guambo> has cognates in other Quechua varieties. Quechua and Mapudungun speakers have been in contact in the northern Mapudungun territory at least in the wake of Inca expansion, leading to some borrowings also in other domains. Pache (2014) discusses evidence for earlier contacts.

^e This comparison has already been made by Viegas Barros (2005: 86fn8). He also compares the forms with Tehuelche <yem’chen> ‘nutria’ and <iemisch> ‘tigre del agua’. Mapudungun *ko* is ‘water’.

<kótskötš, kótskötš, kétésketš> ‘humita, kind of dish’. Among the possible Mochica-internal reduplication bases are <kóts> ‘thick (of thread)’ and <kóts> ‘peanut butter fruit’; the story may therefore well be more complex than that suggested by Salas, with both internal and external factors playing a role.

In contrast to the cases of coastal Mexico and the Isthmo-Columbian area, many of the connections implied by the data in Table 4 are supported by evidence outside the maritime domain. Hovdhaugen (2000) points out that the irregular Mochica verb forms <amoch> and <amochich> ‘Let us go’ may derive from Mapudungun *amuchi* ‘Let me go!’ or ‘I want to go!’ and suggests lapis lazuli trade along the coast as the possible socio-historical background of borrowing. Also, Jolkesky (2016) presents data to suggest contact between speakers of Mochica and Mapudungun.

Discussion

These pairwise comparisons do not suggest one large interaction sphere extending along the entire part of the American Pacific coast investigated here. Instead, the evidence points to more localized contact zones. In the

case of South America, this “localized” interaction nevertheless spans an impressive distance of around 4,000 km, from northern Peru to Tierra del Fuego. Its existence does not necessarily imply that speakers of all these languages were in direct contact with each other (compare the lack of evidence of directly shared items between, e.g., Mochica and Qawasqar), although Hovdhaugen (2000) suggests this in the case of Mochica and Mapudungun. The evidence is also compatible with borrowing of maritime vocabulary between speakers of languages occupying adjacent territories. Additively, this then leads to the emergence of lexical similarities that extend along a large section of the South American coast.

‘Seashells’: coastal Wanderwörter?

Introduction

There are three sets of words in the data that may link broader areas than those discussed above. Remarkably, all concern ‘seashells’ generally or specific types thereof. One of the three items, in fact, denotes oysters or Spondylus shells specifically. Since Spondylus is an item of considerable archaeological and ethnohistoric interest, I provide a somewhat more extensive discussion of terms denoting oysters in the investigated languages in the subsection below, followed by a discussion of the other two lexical sets.

#muLu: linguistic correlates of Spondylus trade?

Words denoting oysters specifically—if they exist at all—are not frequently found in lexical sources. Panamian Emberá has *otióna* and Huilliche, a dialect of Mapudungun, *ortion*, both borrowed independently from Spanish *ostión*. Guaymi has the form *siri* with the somewhat enigmatic gloss ‘opossum, oyster’.

Other indigenous words, however, may be connected historically. The Quechua word applied to the Spondylus shell is *mullu*, and is amply attested in early colonial sources. Santo Tomas (1560) has <mollo> ‘coral, or pearls’, Ricardo (1586) <mullu> ‘seashell, bead, coral, which the indians sacrificed and which is done today’, and González Holguin (1608) <mullu> ‘colored seashell, bead, or local coral’ (“coral de la tierra”). As the Spanish colonial administrators banned the use of *mullu* and punished users as part of a broader attempt to eradicate native Andean religion, the use of *mullu* decreased. Among modern varieties *mullu* with the meaning ‘coral, reddish seashell, adornment of clothes made from seashells’ is nevertheless attested in Cuzco Quechua (Academia Mayor de la Lengua Quechua 2005). Otherwise, (possible) cognates of the word in contemporary varieties are attested not with the meaning ‘spondylus’, but semantically related meanings. These include *mullu* ‘roseate’ in Cuzco-Collao (Espinoza Rojas et al. 2004), *mullu* ‘pink’ (Beér with Muyolema and Aguilar 2006) or ‘of two or more colors,

mottled' (Menacho López with Paredes Estela 2005) in Ancash, *mullu-na* 'to thread' in Ecuadorian Quichua (Stark and Muysken 1977), and *mullu* 'bead, necklace' in San Martín (Park et al. 1976).

As these glosses already suggest, and as Blower (2000) demonstrates at length, *mullu* in the Central Andes is more than simply a word for Spondylus shells. Its denotational range also includes worked beads made from seashells and pearls (which Blower 2000: 211 interprets to the effect that *mullu* also includes alternative sea shells, the pearl oysters). In addition, *mullu* is not just a term for (a class of) object(s), but carries or carried a complex web of cultural associations. Among many other aspects, this web also extends to colors, which not only include red and white (i.e., those of *Spondylus princeps*), but also a kind of resplendent yellow as well as green, bluish-green, or turquoise hues. In addition, *Spondylus princeps princeps* and *Spondylus calcifer* can have orange and purple hues, creating "the impression that *mullu* can be a many-colored thing" (Blower 2000: 215). There is a kind of herb called *huacamullu*, but it is unclear just what species it denotes. One possibility suggested by Blower (2000: 217) is that it is amaranth, the red and white seeds of which not only resemble Spondylus color-wise, but also may have been conceived of as miniature versions of beads made from Spondylus.

Here, at least, another Quechua word family is relevant. Parker (1969) reconstructs proto-Quechua **mur* 'seed, pit, smallpox', noting that in Huanca, Ayacucho and Cuzco Quechua two stems are found: *muhu* 'seed' and *mur* 'seed; speckled, smallpox'. Reflexes of these forms are amply attested in present-day Quechua varieties. Given the ethnographic evidence, it is also relevant that *mur*, in several varieties is attested with the meaning 'multicolored', just as *mullu* is in Ancash Quechua and also in Chachapoyas-Lamas (Taylor 1979). This is the case in Ecuadorian Quichua (Stark and Muysken 1977), Pacaraos (Adelaar 1982), Chachapoyas-Lamas (Taylor 1979), cf. also *mur puyu* 'a multi-colored butterfly' in Tarma Quechua (Adelaar 1977). In colonial sources, this meaning is associated specifically with the reduplicated form (González Holguín 1608: <murumuru> 'thing of various colors or mottled with colors', Ricardo 1586: <murumuru> 'thing of various colors'). Notably, *mullu* itself is attested with this meaning in Ancash Quechua (Menacho López with Paredes Estela 2005), and it seems that the Ancash form is not derived from **mur* given the regular regular /ll/: /ll/ correspondence between Quechua I and Quechua II. In more than one way, therefore, forms evolving from **mur* are in a semantically relevant relation with Spondylus shells and its ethnographically attested web of cultural associations.

Adelaar (1977: 290–291) draws attention to sound-symbolic processes in Tarma Quechua specifically. These involve the association of certain phonemes with "large size, coarseness or unpleasant feelings" and of another group of phonemes with "small size, refinement or affection." The former he calls "type I: 'pejorative-augmentative,'" the latter "type II: 'hypocoristic-diminutive.'" Relevant phonemes of one type can

be substituted in lexical items (though the productivity is very limited) by one of the other type with the associated change in semantics/connotation. If a type I phoneme is replaced by a type II phoneme, one gets a hypocharistic-diminutive semantics from the ‘normal’ one, whereas in the other direction one gets a shift from normal to pejorative-augmentative. One of the patterns is /r/ ‘type 1’ : /ʃ/ ‘type 2’, as in *uyru* ‘round, spherical’: *uyʃu* ‘little round object’. References to such processes are lacking in the description of other Quechua varieties, but this may reflect lack of attention rather than absence. Therefore, it is quite possible that *mullu* is related sound-symbolically to *muru* ‘seed’; the intertwining of the roots would speak in favor of a Quechua-internal etymology.

This is suggested even more strongly by an observation by Nick Emlen (p.c.). He points out a large number of lexical items with initial *mu- that reconstruct to proto-Quechua and that have something to do with small round objects. This suggests the possibility of reconstructing *mu- as a nominal root or shape classifier that was productive at a stage of development of the linguistic lineage that precedes proto-Quechua. Since the meaning ‘bead’ is attested in the earliest lexical sources for the form alongside ‘Spondylus’, *mullu* fits into the pattern of lexico-semantic regularities. The form may therefore well reconstruct to proto-Quechua and even beyond. This suggests that the form is of considerable antiquity within the Quechuan language family. If it was originally intrusive, it was so well integrated into the native Quechua lexico-semantic system that a foreign origin is nearly impossible to detect.⁵

The Mochica word for the Spondylus is <miš(i)u>, only recorded in the early 20th century by German ethnographer Hans Heinrich Brüning, whose data were published as Brüning (2004). At the same time, Mochica has a phonetically extremely close match to the Quechua form in <mullu> ‘egg’. A semantic bridge may be seen in the common semantic feature of round shape, but comparison remains nevertheless difficult. In the light of this, it is worthwhile looking in somewhat more detail at Brüning’s form <miš(i)u>. The Mochica language underwent considerable sound changes in the 250 years or so between its first known documentation by de la Carrera Daza (1644) and Brüning’s work, changes which affected laterals and sibilants in particular (Adelaar with Muysken

5 The form is also present in Aymara. Ludovico ([1614]1879) already has <mullo> ‘stone, or colored bone like coral from which they make necklaces. And also the witchers use it’ (see Blower 2000: 212 for the association between *mullu* and bones). Huayhua Pari (2009) defines Aymara *mullu* as ‘amulet made from berenguela stone of volcanic origin, grayish and white’, and also informs that it is used in rituals, in particular as the symbolic salt of ritual plates. Another reading of the term, and closer to that found in Quechua, is snail shells [concha de caracol] used in ceremonies, sometimes coral imported from the coast and required in water rituals (cf. Grotehusmann 2010: 229, Burman 2011: 198). A cognate is not found in Central Aymaran, to the effect that borrowing from Quechua in this case is the most parsimonious explanation for Aymara *mullu*.

2004: 324). Therefore, one may ask whether the shape of this term may have been different in earlier Mochica. A palato-alveolar fricative [ʃ], transcribed by Brüning as <š>, in all likelihood existed in 17th-century Mochica, transcribed by de la Carrera as <x>. Hence, there is no need to assume a different former pronunciation of this segment. Such a difference is nevertheless possible. One sound change that is of concern here is that leading from a 17th century lateral to a 19th century fricative. De la Carrera employs an enigmatic digraph <xll> (a graphemic convention taken over from the earlier Ore manuscript), which has received several interpretations: as a voiceless palatal (or postpalatal) lateral by Torero (2002: 318), as [h] by Salas (2002), but as a retroflex fricative [ʂ] by Hovdhaugen (2004: 13), and finally as a prepalatal fricative with lateral release [çʰ] by Cerrón-Palomino (1995: 109). Torero (2002: 319) considers two possible trajectories of sound change: one to [ç] or [çʰ] or to either [x] or [xʰ], depending on the position of original <xll> in the syllable. Cerrón-Palomino (1995: 153-154) considers the change to simply have been çʰ > ç, which latter represented by Middendorf (1892) fairly consistently as <jʰ>, sometimes followed or preceded by <i>. In Brüning's materials, however, one variously encounters <š>, <tš>, <ÿ>, <g>, <gÿ>, and <gÿ>. That this sound, at least in some cases, does not indicate simple fricatives [ç] or [ʃ] is indicated by the variant transcription <šag> ~ <syak>, which for Cerrón-Palomino (1995: 154) suggests [ç], but which may indicate a transitory palatal approximant rather than a palatal character of the fricative. Indeed, one can interpret <míš(i)u> in the same vein, supporting indirectly the interpretation of de la Carrera's <xll> as a lateral. If one considers Brüning's various transcriptions (digraphs such as <syak> as a variant of <šag> and more conspicuously <gÿ> and <gÿ>, which clearly bespeak a palatal quality of the sound at least in some instances), an origin of Brüning's <míš(i)u> from an original form involving a lateral rather than a palatal fricative becomes likely. Then, the palatal phase of the term would reflect the earlier pronunciation. Such a form, of course, would match the Quechua form considerably better than one with the fricative, and would make the suggestion that the Quechuan and Mochica are related more plausible.

In Kuna, a Chibchan language, the form *timmulu* 'little white shell, oyster' is found. The semantics is not entirely clear from Holmer's (1952) gloss, and reference by Holmer to little white shells does not chime well with the appearance of the colored and spiny appearance of *Spondylus*. In addition, the form in question requires some additional discussion: it would undergo some phonological processes, in the first place elision of final vowels and then alternation liquid and rhotic in the word-final position thereby created (cf. Holmer 1947: 16; Llerena Villalobos 2000: 65), and thus actually surface as *timmur*. Puig's (1944) earlier Kuna dictionary, phonologically less well informed than Holmer's, indeed has *timmur* 'oyster'. An attractive explanation for initial *ti-* is to identify it with *tii* 'water, river, rain'. It clearly appears with a short rather than a long vowel in *timoli* 'dugong', literally 'sea horse or tapir'.

What is more, Kuna also features a form *mullu*, which Holmer (1952) tentatively glosses as “roundish and bulging (formation)” (cf. *murū* ‘point, headland; the big point in Yantup’). The element figures in *Tippirmullu* ‘name of a little point on Yantup (Narganá)’. This form shows a geminate (<ll> in Kuna orthography does not represent a lateral /ʎ/, but geminated /l:/). If *mullu* were a constituent of *timmulu*, an erst-while literal meaning ‘round bulging object associated with the sea’ might emerge, but this etymology cannot be accepted at present, both on semantic (*mullu* as described by Holmer appears to apply to landforms specifically) and formal grounds (an explanation for the shift of gemination from the lateral to the nasal that is not ad hoc is lacking). In addition, as Willem Adelaar points out in personal communication, an alternative possible etymology of *mullu* is Spanish *muelle* ‘pier’.

Given the evidence for Kuna speakers on the coast of Columbia (cf. with section on the Isthmo-Columbian similarities above), the Kuna form suggests the intriguing possibility of a role of Colombia in pre-Colombian trade networks. While the Middle Sicán polity of coastal Peru is believed to have had trade connections as far north as Colombia (Shimada 2000: 58), the trade items were emeralds rather than Spondylus shells. Andagoya ([1540]1865: 41) reports having received valuable information “from merchants and interpreters, concerning all the coast, and everything that has since been discovered, as far as Cuzco; especially with regard to the inhabitants of each province, for in their trading these people extend their wanderings over many lands.” Marcos (1977/1978: 107) believes this encounter to have taken place in Colombian waters. In addition, Manteño items were “possibly” traded along the Colombian coast (Villamarín and Villamarín 1999: 609), and a distributing role of the Ecuadorian chiefdoms is likely in the travel of the northern goods to Peru which may have facilitated the diffusion of the form. However, linguistically, the different pieces of evidence at present cannot be brought together to establish a convincing etymology that would account for all aspects of the forms in question satisfactorily. In particular, there is evidence for both internal Kuna and Quechua etymologies, but both are not straightforward. Regarding Kuna, external comparisons within Chibchan in search of cognates for *mullu* and *-mmulu* might provide the required answers.

There is another relevant point which further complicates the picture. As just discussed, there is evidence that both the Quechua and Kuna forms are etymologically connected to material relating more general to roundish shape. At this point it becomes difficult to distinguish language-to-language lexical borrowing from more widespread, and likely older, lexical similarities among languages of Central and South America. Pache (2014: 366–367, 371, 373) points out a range of comparable forms, which either denote the quality of roundness generally or saliently round objects in Mapudungun, Huilliche, Quechuan, Aymaran, Allentiac, Catio, and most interestingly Proto-Tol in Central America. He tentatively also puts Mochica <mullu> ‘egg’, which was already discussed, in this

context. The origin of these similarities, likewise, is not clear, and Haynie et al.'s (2014) remark on the difficulty of distinguishing widespread lexical similarities resulting from repeated lexical borrowing from ancient substratum and even old ancestry is pertinent here. Whatever their origin, these similarities with their more general semantics, are likely older than those between Kuna *timmulu* and Quechua *mullu*. This opens up the possibility that the Quechua and Kuna forms are independent developments growing from an older layer of resemblances of unclear origin. Alternatively, they may be a more recent case of borrowing which overlays an older, and geographically speaking more extensive, stratum of lexical similarities.

‡(t)ʃak(V)

There is a second recurrent shape of words for 'seashell' or certain types thereof in languages from Meso- to South America. On the basis of its most common shape, it can be mnemonically represented as ‡(t)ʃak(V).⁶ It is found in Mapudungun as *chakantu* 'shells of the macha' and *chakañ* 'kind of seashell with a rounder shell than that of the macha', and in Mochica as <šáku> 'black seashell living on the posts of the pier; Pacific sand crab'. For Mapudungun *chakantu*, cf. *-(e)ntu* 'group' (Smeets 2008: 109); there is no productive suffix **-ñ* but it is quite common as a fossilized ending and may have acted as a stem formative perhaps under the influence of contact with Andean languages analogously to **-ʃ* posited by Pache (2014), cf., e.g., *kamañ* 'shepherd, guardian (a person or a dog)' with *kama* 'big quantity' (Smeets 2008: 514). This suggests a pre-Mapudungun root **chaka*. For Mochica <šáku>, the likewise attested <šákpi> 'round mollusc with hair' (original German gloss: 'Käferschnecke') suggests that a root **<šák->* can be posited as historically underlying. On the other hand, <sak> is 'body hair', which is a highly plausible constituent for <šákpi>. Indeed, <sákpi> ~ <sákpi> is 'beard'.⁷ The difference between <š> and <s> may well be merely orthographic, and the involved seashell named by a combination of metaphor (the tentacles (?) likened to beard hair) and metonymy (the creature itself named for said organ). In Qawasqar, *c'áqo* (Aguilera and Tonko 2005) or *c'áqok*, *čáxo* (Clairis 1985) is attested denoting, according to Clairis, a gastropod of the *Patella* genus. The local Spanish of the region of

6 This is not a reconstructed form, but a mere generalization over the shape of the forms that may be shared. Haynie et al. (2014) use the percent symbol % for Wanderwörter. As this already implies a historical connection, I stick to the sharp sign ‡ proposed by Hymes (1964), who uses it in a different context, but with whom I share the simple need for a shorthand way of referring to a set of forms while at the same time emphasizing just what parts of the forms are similar mnemonically.

7 The same source, Brüning (2004), also has <sákpi> ~ <šákpi> 'barquito'. Compare also proto-Quechua **šapra* 'beard, body hair' (Parker 1969: 43).

Trujillo, Peru, has the term *chanque* ‘Chilean Abalone’, which may originate in Quingnam, although the term appears in use in a wider area of Peru than just the North Coast where Quingnam was spoken; the final vowel would be explainable as an adaptation to Spanish, which prohibits plosives in word-final position. In Mesoamerica, one finds Proto-Mixe-Zoque **sa:k*a ‘shell’ and Chorti *cha’k* ‘shell, land snail’. In addition, Jumaytepeque Xinka has *misaka* ‘seashell’, but *mi-* is unexplained. The reconstructability to proto-Mixe-Zoque and the internal etymology available for Mochica suggests that one or more spurious forms may be involved in this set. Somewhat further removed from the canonical shape are Mochica <*tšáilya*> ~ <*tschaiya*> ~ <*šaya*> and Chachi *chuya* ‘seashell’.

Remarkably, forms similar to this set also occur far inland. In the Panoan language family of Western Amazonia, for one, reflexes of a proto-form **šakata* mean ‘skin, bark, husk’ or ‘empty’ according to Shell (1965: 233), but in Catuquina, Chácobo, and Shipibo-Conibo the reflexes also mean ‘shell’ (Kennell 2015; Key 2015a; Prost and Key 2015). Given the range of meanings involved, these cases may well be independent, however. With a somewhat greater degree of likelihood the form *sʔaʔáko* in Siona (Key 2015b), a Western Tucanoan language of lowland Ecuador, may belong to the set #*(t)šak(V)*. Some formal aspects remain problematic, however. A more systematic search for similar forms in languages of the highlands and Western Amazonia may well be able to uncover more evidence.

#Curu

A third item is canonically representable as #Curu. Instances are found in Guaymi *churú*, *chrú* ‘a seashell’, Epena Pedee *kʰooro* ‘snail’, (*kʰooro*) *e* ‘shell’, Proto-Huave **hoŕo*, Yoŕo ‘seashell’, and Santo Tomás Quechua <*choro*> ‘snail, seashell’. Inland, the item is also found in Aymara as *ch’uru* ‘snail, shell’ (Deza Galindo 1989), but cannot be reconstructed to proto-Aymaran for lack of cognates in Central Aymara. Parker (1969: 10), on the other hand, reconstructs **čuru* ‘snail’ to Proto-Quechua, suggesting that the meaning ‘seashell’ found in the variety described by Santo Tomás is a semantic specialization. Reconstructability and semantic specialization in Quechua has consequences for the interpretation of the data: either a variety of Quechua akin to that of Santo Tomás is the source of the forms, or this or other comparisons are spurious and do not belong to the set in the sense that borrowing is the mechanism responsible for the similarities.

Also, this item is found inland: in Cofán, spoken in the highlands of the Ecuadorian-Colombian border area, *čoro* (Borman 2015) could well be from Quechuan; there is more originally Quechua lexical material in Cofán. More surprising is the existence of *-koro* in Tuyuca, a Tucanoan language of the Amazonian lowlands of Colombia and Brazil (Barnes 2015).

Discussion

From a semantic point of view, it is interesting to note that on the Atlantic side of the Americas, also precisely a word for ‘seashell’ travelled from the Atacapa language of the U.S. Southeast to the Mayan language Huastec, spoken in the Mexican state of San Luis Potosí and the North of Veracruz (Pache et al. 2016). And on the Pacific side, we do know that seashells were exchanged across vast distances and were assigned a high ideological value. This is of course true of the shells of the *Spondylus*, but also *Strombus* shells play a prominent role, in conjunction with *Spondylus*, in the iconography of the Central Andean Chavín culture. It would not be surprising, therefore, to find words for seashells shared across many languages and large distances, including the eastern side of the Andes and the Amazonian lowlands. However, with their wide dispersal the forms stand out, and their proper interpretation, in particular in the light of the fact that different languages are involved in each case, remains difficult. Also, the distribution of lexical similarities, in particular regarding the sets $\#(t)ʃak(V)$ and $\#Curu$, do not match known patterns of exchange of *Spondylus* and *Strombus* shells, nor is there semantic evidence that these shells are implicated at all. It is nevertheless not impossible that (some of) these forms are *Wanderwörter* which indicate contact between Meso- and South America. A *Wanderwort* is traditionally considered to be a widespread word, occurring in many languages within a usually wide area, and of such antiquity that its origin cannot be determined with certainty anymore. Although reconstructability in Mixe-Zoque in the case of $\#(t)ʃak(V)$ and to Quechuan in the case of $\#Curu$ may indicate a Mesoamerican and South American origin respectively (bearing in mind the necessary provisos made above), the cases have key properties usually associated with *Wanderwörter*. Haynie et al. (2014), however, draw attention to the shortcomings of traditional accounts of *Wanderwörter*, and point to the fact that material culture terms are more likely to become *Wanderwörter* than flora and fauna terms, which are in turn more susceptible to diffusion than basic vocabulary. Here, one is mostly dealing with generic-level terms, with the notable exception that $\#(t)ʃak(V)$ appears to denote individual species of seashells rather than a class in South America. Their denotation therefore does not fall within the most common of *Wanderwörter* semantics. In addition, there is a need to pay attention to the network structure involved in the diffusion of lexical material. Is it the result of chain-like borrowing, or rather the result of an item being borrowed from one language into several others independently? The wide distribution of $\#(t)ʃak(V)$ in South America does not point to a single point of contact with Mesoamerica, but rather suggests that the form is of considerable antiquity in South America itself and diffused there independently of the supposed relations between Ecuador and Mexico and the exchange of *Spondylus* shells. This is furthermore indicated by the presence of a comparable form in Qawasqar, very far into the south. Other possibilities need to be considered as well.

While a common substratum appears not particularly likely given the large distances involved, yet another one is even shared ancestry as a partial explanation for the similarities (cf. Stark's 1972 suggestion of a genetic relation between Mayan and Mochica and Mora-Marín's 2016 recent discussion of possible relations between Maya and Mixe-Zoque). Finally, and most importantly, bearing in mind the frequent monosyllabism of the material, sheer chance cannot be ruled out (cf. the apparent Mochica-internal etymology where the formally similar sequence is in fact identical to the word for 'beard'); a search for further commonalities between the implicated languages outside the domain of maritime vocabulary might deliver the desired hints at the proper interpretation of the data.

CONCLUSION

The data that have been presented and discussed in this paper suggest ample and long-distance contact of languages spoken along the Pacific coast of Middle and South America. However, evidence is considerably stronger for interactions within well-defined subareas. In particular regarding the forms for 'seashells', one would have to confirm and refine the picture obtained from the investigation of maritime vocabulary by considering other semantic domains in a next step. This would also be indicated given the general exploratory approach of the present article.

While this study therefore has not delivered conclusive linguistic evidence in support of contacts between Middle and South America, the existence of such contacts remain a possibility. Such evidence may be absent simply because of the massive loss of languages along the littoral of both Middle and South America.

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