



“Space and Place in Latin American History”

Historians of Latin America are increasingly turning to questions of space to understand how localities, regions, and territories have been transformed under different circumstances and in different periods of time. This thriving original scholarship has reinterpreted historical events in new and productive ways. New research has recast our understandings of familiar places we once thought immutable and contributed to our knowledge of important historical forces such as imperialism, nation-states, urbanization, capitalism, and subaltern politics.

This workshop provided a dialogue for spatial historians of Latin America who are working on diverse topics and using different methods. Can we find common ground within this rich diversity? In what ways do the concerns of spatial historians of Latin America diverge from or dovetail with the spatial histories of other world regions, and their colonial and postcolonial experience? What are the most promising lines of future research?

Agenda

FRIDAY, May 20, 2011

Location: UC San Diego Campus, The Village West, Meeting Rooms on Fifteen

8:45 am - 9:00 am | Opening Remarks

Alberto Díaz-Cayeros, Associate Professor and Director, Center for U.S.-Mexican Studies, IR/PS, UC San Diego

9:00 am | Presentation #1

Discussant: Patricia Seed, Professor, History, School of Humanities, UC Irvine

[“Mapping Mesoamerican Colonial Indigenous Economies in the Late Eighteenth Century” \[Presentation\]](#)

Ricardo Fagoaga Hernández, Visiting pre-doctoral Fellow, Center for U.S.-Mexican Studies, IR/PS, UC San Diego

10:00 am | Presentation #2

Discussant: Gabriela Soto Laveaga, Associate Professor, Department of History, UC Santa Barbara

[“Transatlantic Visions and Regional Designs: Cartography in the Making of an Independent Colombian Republic, 1799-1827” \[Presentation\]](#)

Lina María del Castillo, Visiting Scholar, Department of History, University of Texas, Austin

11:00 am - 11:15 am | Break

11:15 am | Presentation #3

Discussant: Eric Van Young, Department of History, UC San Diego

“Narrating Space and Place: Rio de Janeiro in the Novels of Machado de Assis in Rio de Janeiro”

Zephyr Frank, Associate Professor of Latin American History, Stanford University

12:15 pm - 1:15 pm | Lunch Break



1:15 pm | Presentation #4

Discussant: Exequiel Ezcurra, Director of UC-Mexus at the UC Riverside

[“Mapping Mesoamerican Colonial Indigenous Economies in the Late Eighteenth Century” \[Presentation\]](#)

Matt Vitz, Visiting post-doctoral Fellow, Center for U.S.-Mexican Studies, IR/PS, UC San Diego

2:15 pm | Presentation #5

Discussant: Mikael Wolfe, Assistant Professor, Department of History, UCLA

[“Global Trade, Contracts and Poverty Alleviation in Indigenous Communities: Cochineal in Mexico” \[Presentation\]](#)

Alberto Díaz Cayeros, Associate Professor; Director, Center for U.S.-Mexican Studies, IR/PS, UC San Diego

3:15 pm - 3:30 pm | Break

3:30 pm | Presentation #7

Discussant: Chuck Walker, Professor, Director of the Hemispheric Institute on the Americas, UC Davis

[“Geography into History: Mobility, Place, Region and Scale in Los Altos de Guatemala” \[Presentation\]](#)

Aaron Pollack, Professor, Instituto Mora, Mexico City

4:30 pm | Closing Remarks

Alberto Díaz Cayeros, Associate Professor; Director, Center for U.S.-Mexican Studies

Mapping Mesoamerican Colonial Indigenous Economies in the Late Eighteenth Century

Ricardo A. Fagoaga H.



Table 1. Rankings of all the political jurisdictions or alcaldías mayores of New Spain according to the manuscript "Yndize comprehensive..." of 1770

In parenthesis tribute revenue and percentage for 1767

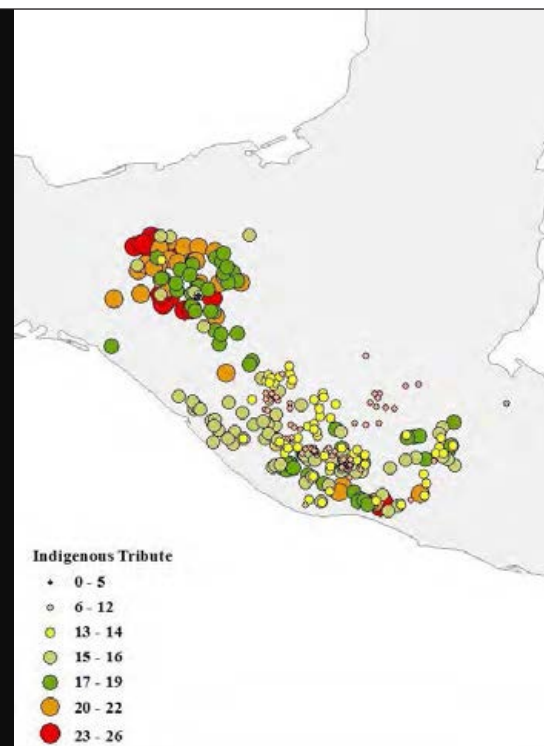
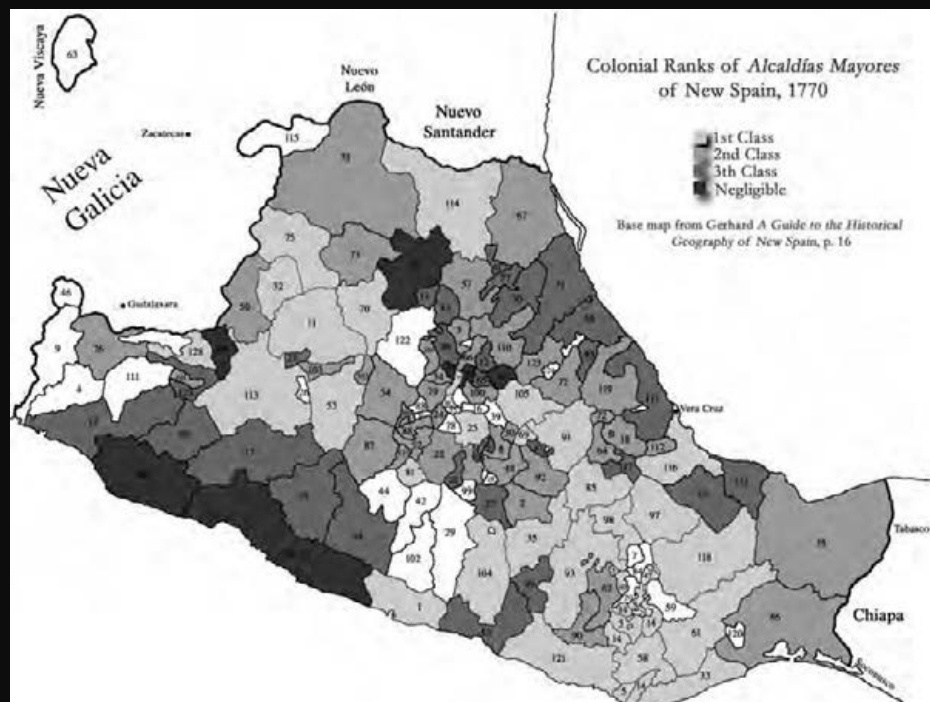
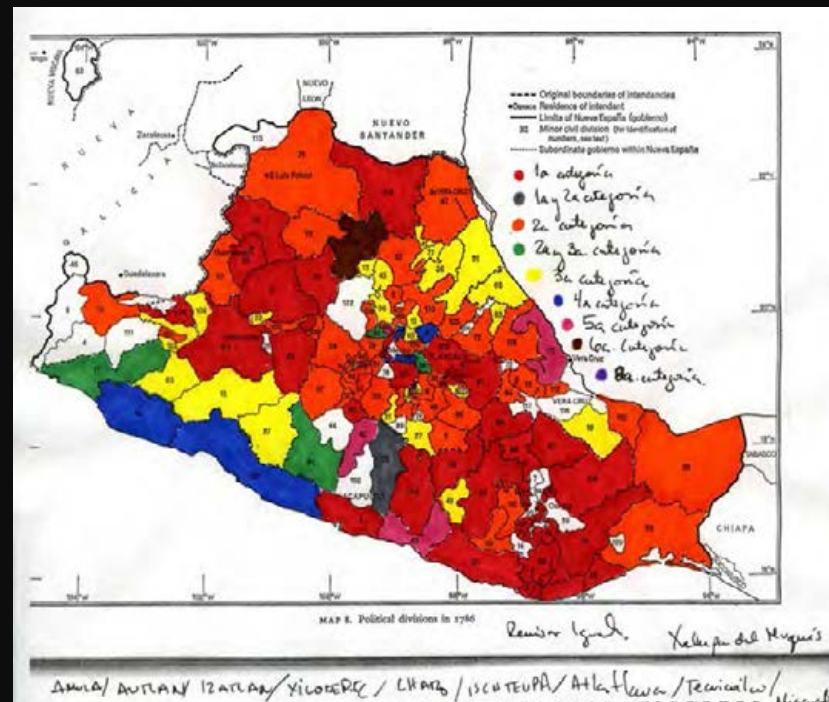
	OAXACA	MEXICO	PUEBLA	SAN LUIS POTOSI	GUANAJUATO	MICHOACAN	VERACRUZ	Not Classified	Total
1st Class	13 jur 47349/17.31%	7 jur 19565/7.08%	4 jur 27593/10.09%	1 jur 5087/1.86%	3 jur 11120/4.06%	2 jur 12077/4.41%			30 jur 122591/44.81%
1st-2nd Class		1 jur 3357/1.23%							1 jur 3357/1.23%
2nd Class	4 jur 5895/2.15%	15 jur 50528/18.47%	7 jur 27538/10.07%	1 jur	2 jur 1713/0.63%	3 jur 2386/0.87%	6 jur 14656/5.36%		38 jur 102716/37.55%
2nd-3rd Class		1 jur	2 jur 4580/1.67%			1 jur 928/0.34%			4 jur 5462/1.91%
3rd Class		8 jur 8051/2.94%	9 jur 1677/0.13%			6 jur 2781/1.02%	2 jur 2677/0.98%	1 jur	25 jur 30286/11.07%
4th Class	1 jur 493/0.18%	3 jur 2099/0.77%				2 jur 406/0.15%		2 jur	8 jur 2998/1.1%
5th Class		2 jur 1721/0.63%	1 jur 1021/0.37%				1 jur		4 jur 2742/1%
6th Class		2 jur 1652/0.60%							2 jur 1632/0.60%
8th Class		1 jur	1 jur 1056/0.39%			1 jur 328/0.12%			3 jur 1284/0.51%
Not Classified			1 jur 386/0.14%						1 jur 386/0.14%
Total	18 jur 53737/19.64%	40 jur 86753/31.710%	24 jur 78939/28.85%	2 jur 5087/1.86%	5 jur 12833/4.69%	15 jur 18906/6.91%	9 jur 17333/6.34%	3 jur	116 jur 273588/100%

Source: "Yndize comprehensive..." New York Public Library, Phillips Ms. 15796. "Cuentas del Medio Real de Ministros pertenecientes a el año de 1767 y 1768," Archivo General de la Nación, *Tributos*, Vol. II, exp. 1.

Table 2. Ranks and tributes (pesos) of some intendancies of New Spain, 1784

	México	Puebla	Michoacán	Oaxaca
1st Class	88, 270 (29.68%)	70, 898 (44.03%)	20, 266 (31.12%)	128, 928 (83.07%)
2nd Class	149, 170 (50.16%)	72, 534 (45.04%)	27, 776 (42.66%)	19, 363 (12.48%)
3rd Class	59, 937 (20.16%)	17, 597 (10.93%)	17, 073 (26.22%)	6, 915 (4.46%)
Total	297, 377	161, 029	65, 115	155, 206

Source: "General noticia de todas las jurisdicciones de la Nueva España [1794]," Archivo Histórico en Micropelícula Antonio Pompa y Pompa, *Papeles de Francisco del Paso y Troncoso*, Microfilm 21.



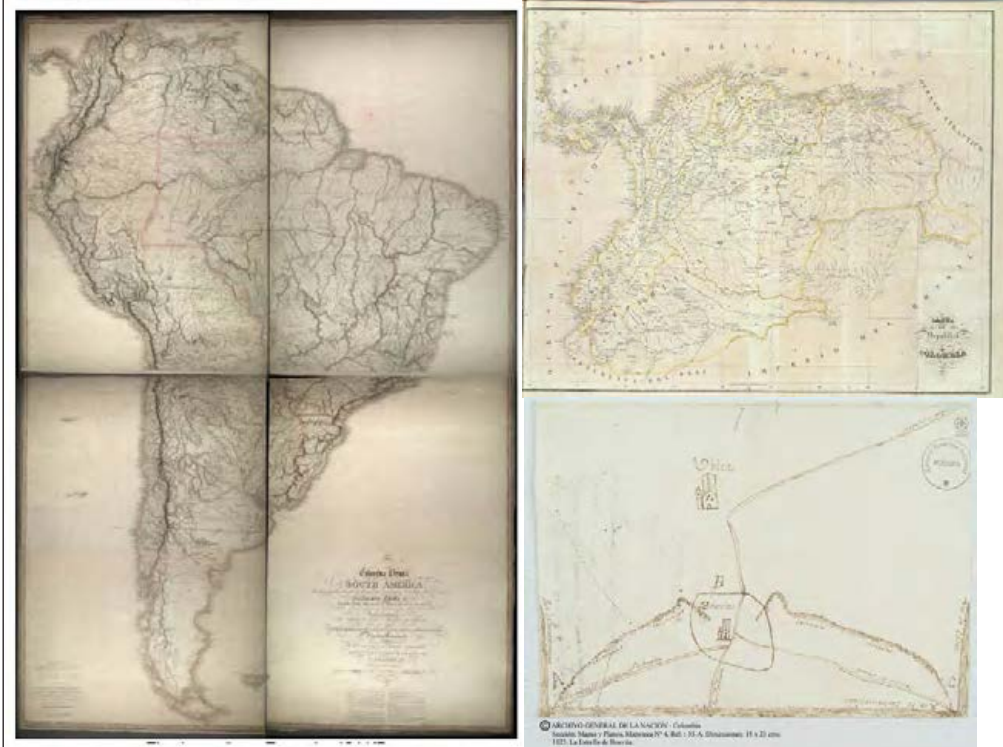
Transatlantic Visions and Regional Designs

Cartography in the Making of an Independent Colombian Republic

Space and Place in Latin American History
San Diego, May 20, 2011

Lina Del Castillo
Visiting Scholar
University of Texas at Austin

© ARCHIVO GENERAL DE LA NACION - Colombia
Sección: Mapas y Planos, Mapoteca N° 4, Ref.: 33-A. Dimensiones: 15 x 21 cms.
1825. La Estrella de Boavita.



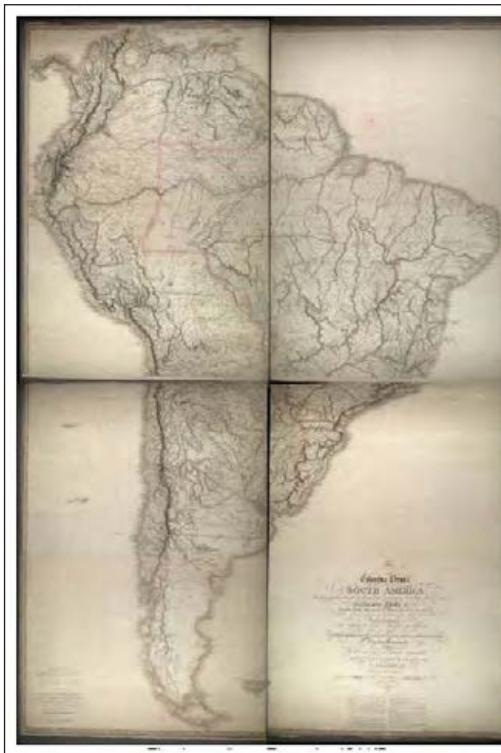
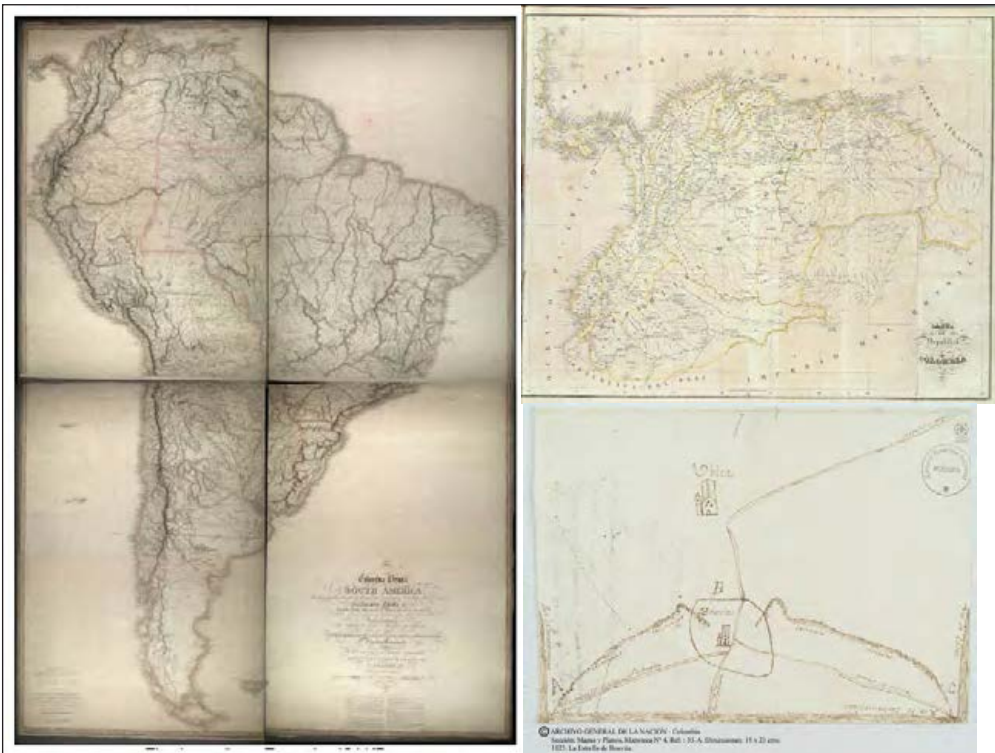
Excerpt from Restrepo letter to Santander, July 5, 1820:

“Although I write on the history of New Granada, this is still just a mere essay ...The map of **La Rochette** I think needs many reforms. Please collect as many maps as you possibly can from the different Provinces. At the moment that there may be some rest, perhaps two or three young engineers may work on the map. That way, when we publish the history, **we may publish a better map of Colombia, reforming that of La Rochette at all the points necessary.**”

Requirements of Executive Decree

Gaceta de Colombia, Bogotá, No. 112, Dec., 7, 1823.

- an exact map of the province and its cantons
- information on latitude and longitude measurements
- the province's approximate length and width in leagues
- information on navigable rivers
- the direction of mountain ranges
- available ports
- principle products traded
- suggestions on how to enhance prosperity
- a census separating slaves from free men



“Colombia Prima or South America”

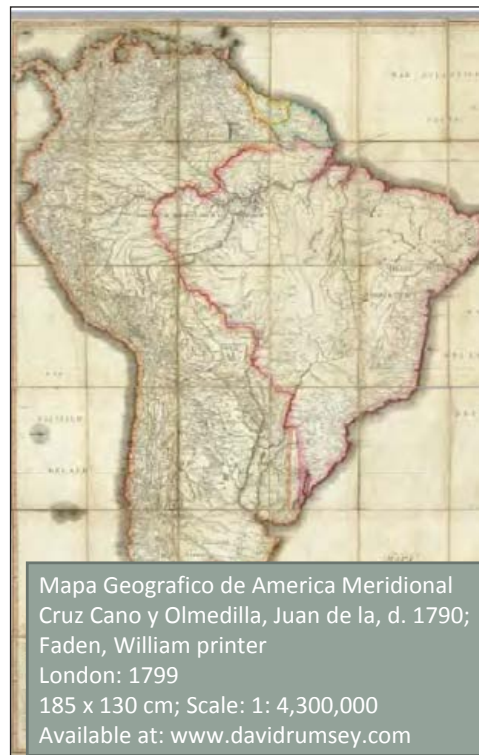
... digested & constructed by the late eminent and learned Geographer, **Luis Stanislas d'Arcy de la Rochette**

London : 1807

William Faden, Publisher

Map in 8 folios glued in pairs: print and watercolor. Scale: 1:3200000, 242,4 x 167,2 cm

Available at Biblioteca Nacional de Portugal: <http://purl.pt/865>



Mapa Geografico de America Meridional
Cruz Cano y Olmedilla, Juan de la, d. 1790;
Faden, William printer
London: 1799
185 x 130 cm; Scale: 1: 4,300,000
Available at: www.davidrumsey.com



Colombia Prima Map Detail

Chevalier Pinto

Portuguese minister to
Great Britain

Joao de Costa Ferreira

Portuguese military
engineer. Demarcated a
boundary between the
Portuguese and Spanish
Empires in 1780s

Joao Joaquim da Rocha

Originally from Minas
Gerais. Advisor to the
Portuguese Emperor

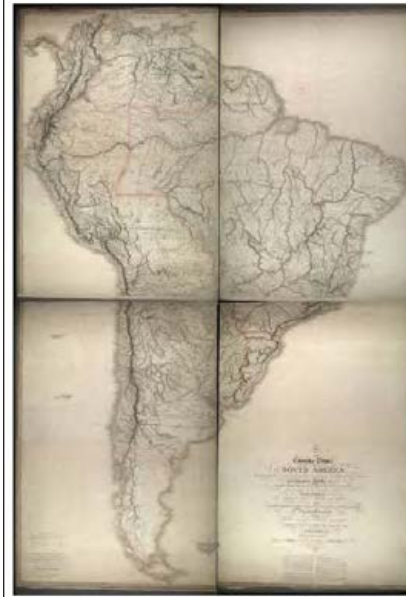
1807

Francisco Manuel Sobreviela

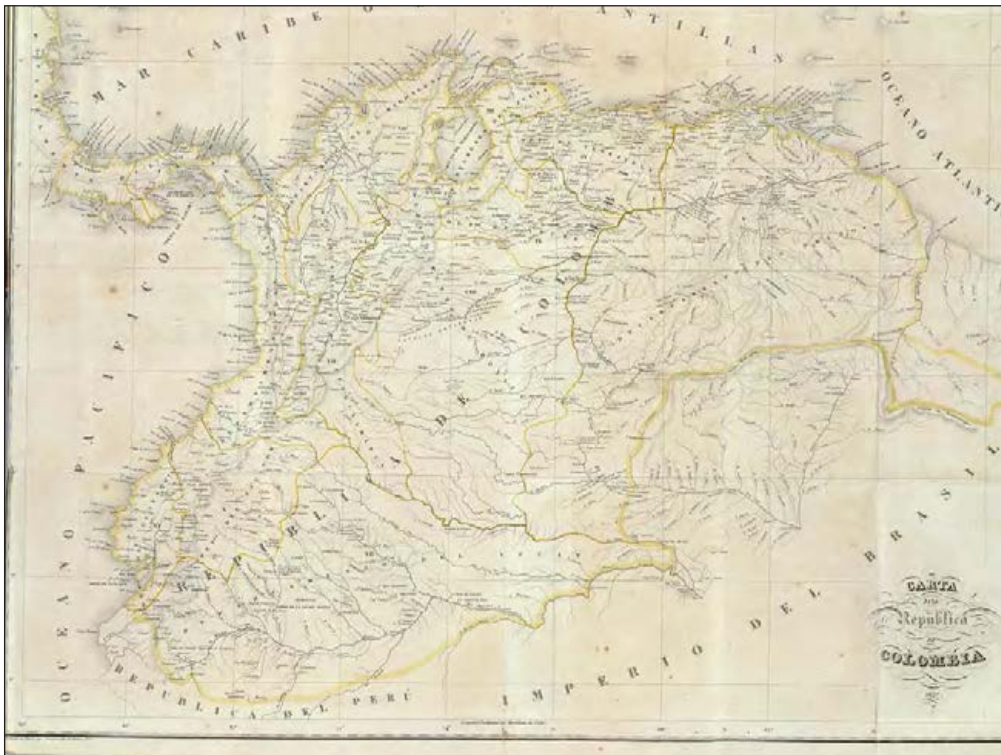
Relocated Indian settlements in
Amazonian region of Peru

Louis Stanislas Darcy La Rochette

Colombia Prima Circulates, 1811-1820

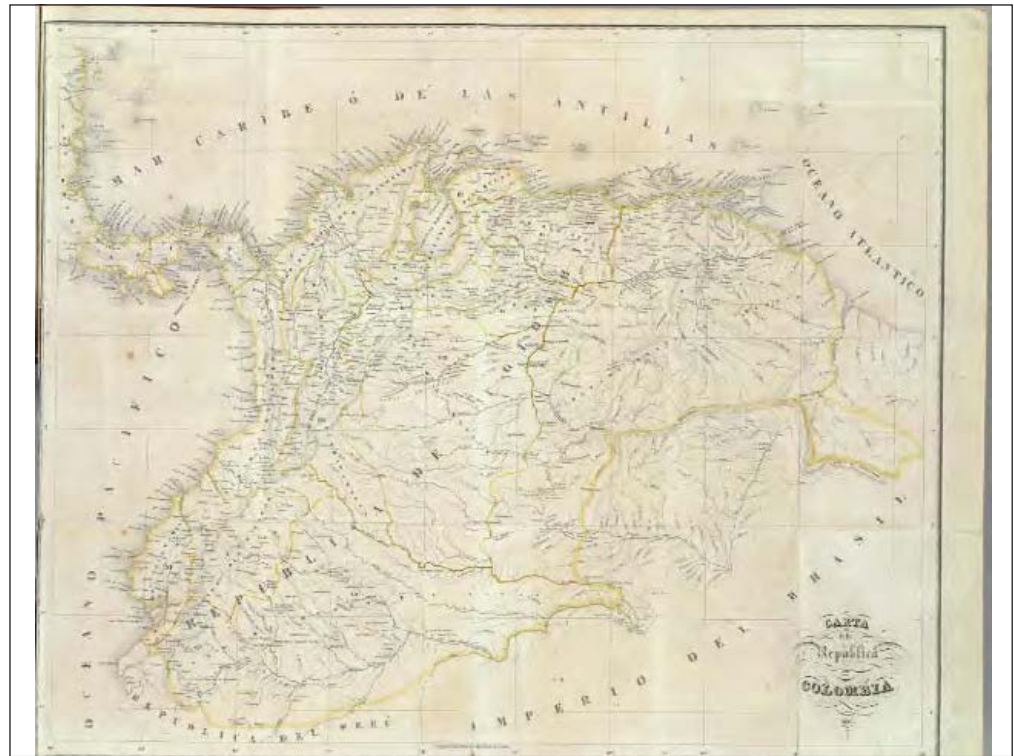


- Chilean Canon Dr. Jose Joaquin Cortes de Madariaga
- 1811: Caracas and Santafe (Bogota) Juntas unite as La Confederacion de la Tierra Firme
- 1811: “Colombia Prima” given to Santafe Junta by Madariaga
- 1812: end of First Republic
- 1820: “Colombia Prima” inspires Jose Manuel Restrepo



The “various intelligent people” who helped with Restrepo’s atlas

- **Man in charge of hiring:**
 - Francisco Antonio Zea
- **Cartographer/Military Engineer:**
 - Jose Maria Lanz, Mexican-born military engineer
 - Agustín Laperrière to care for instruments
- **Experts in Humboldtian earth science:**
 - Mariano Eduardo de Rivero y Ustariz, originally from Arequipa, Peru
 - Frenchman Jean Baptiste Boussingault
- **Zea hired several more for related endeavors:**
 - Naturalist, physician and illustrator, Francois Roulin
 - Zoologist and taxidermist, Justin Goudot
 - Physician and entomologist, Jacques Bourdon



Territorial Division Law Passed June 25, 1824

Created 12 Departments:

- Zulia
- Venezuela
- Orinoco
- Ismo (Panama)
- Magdalena
- Cauca
- Cundinamarca
- Boyaca
- Ecuador
- Apure
- Guayaquil
- Asuay

Each Department
divided into Provinces

Each Province into
Cantons

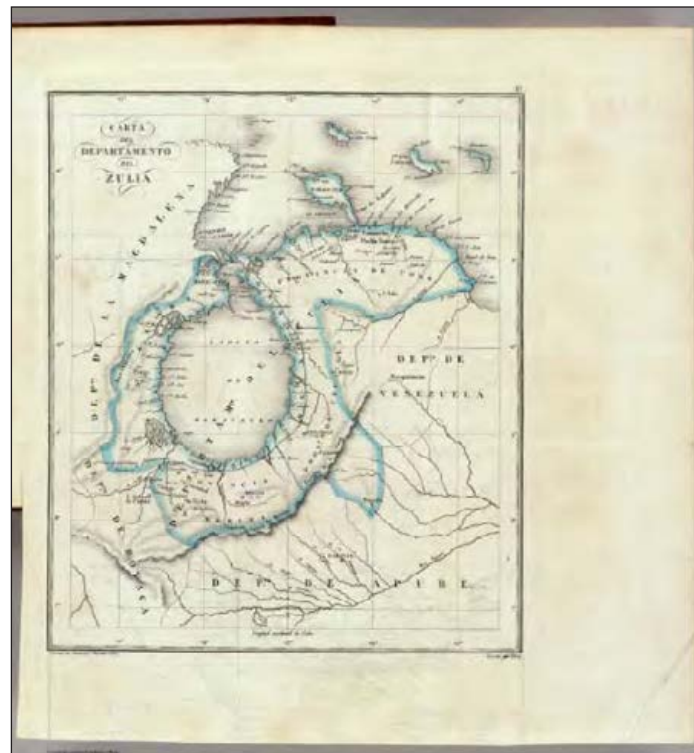
Each Canton into
Parishes



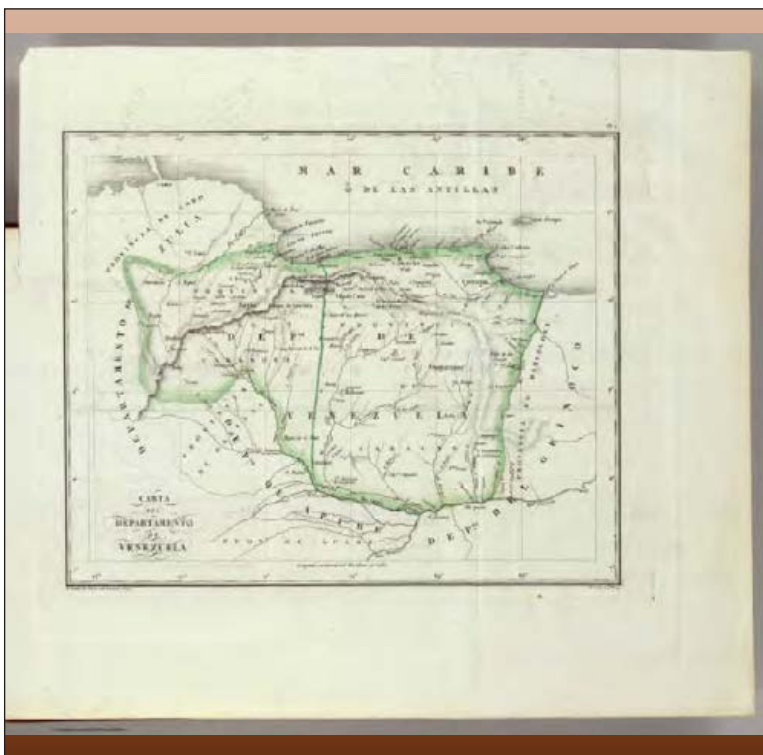
Departament
o
del
Ismo



Dept. del
Magdalena



Dept. de
Zulia



Dept. de
Venezuela



Dept. del Orinoco o de Maturin



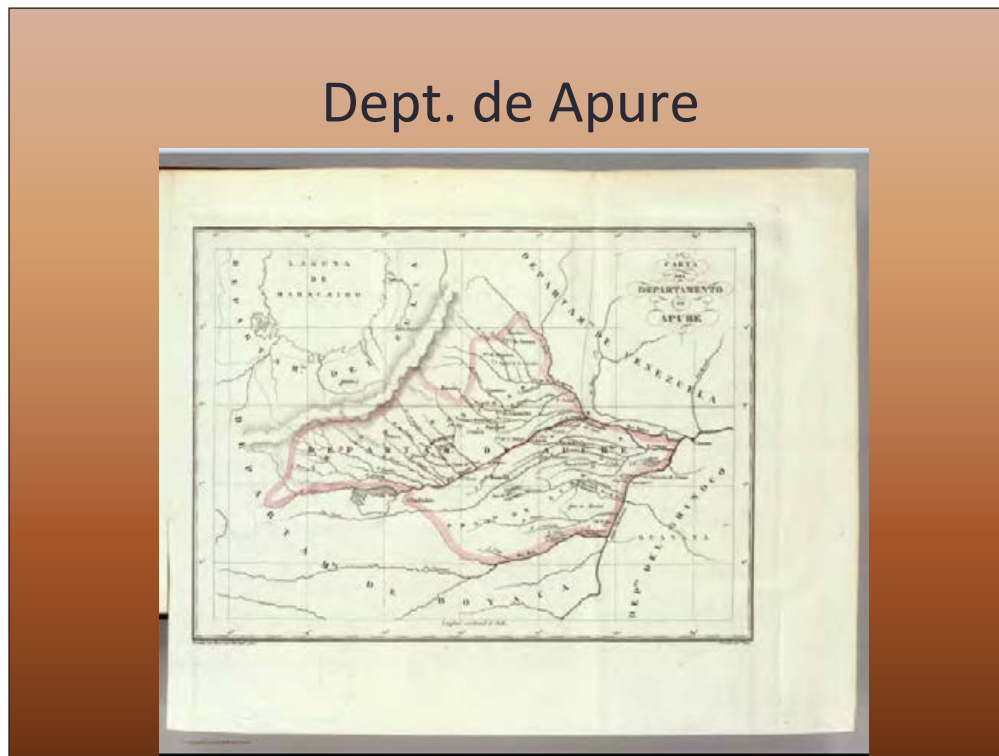
Dept. del Cauca



Dept. de
Cundinamarca



Dept.
de Boyaca



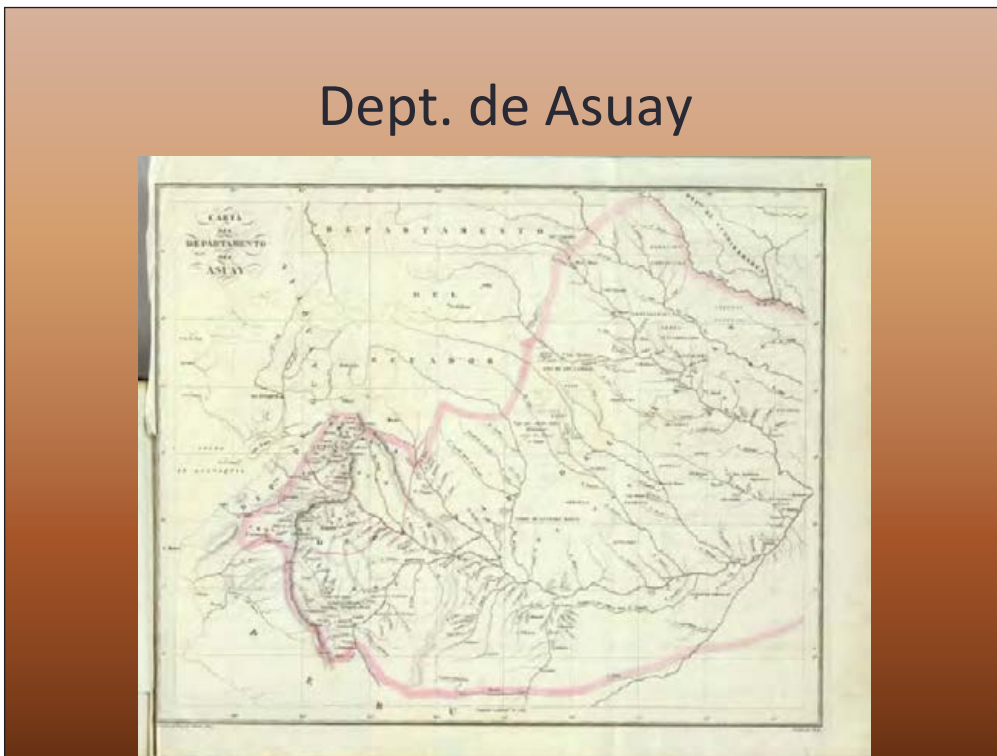
Dept. de Apure



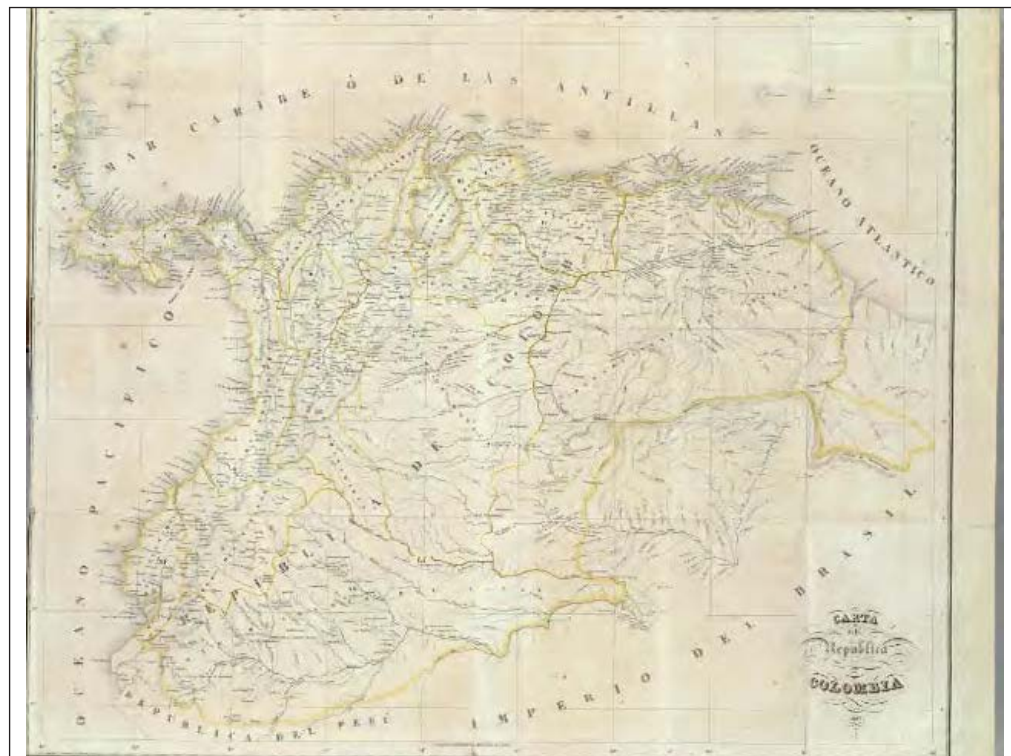
Dept.
del
Ecuador

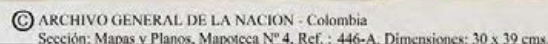
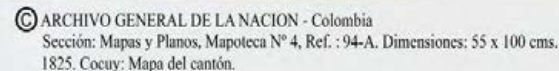
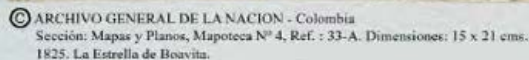


Dept. de Guayaquil



Dept. de Asuay





“In the midst of the hills, which continue to rise for short, successive concourses to the paramo of Escobal, is Boavita, with its small, thatched, and reduced village. Half a league beyond is Uvita. Both towns are heads of district and were founded in competition with each other. We have been told that one extensive parish was severed in half in order to punish a priest, whose greed focused his eyes on terrestrial wealth.”

The Creation of an Urban-Ecological Space: A History of Environmental Ideas in Mexico City

Matthew Vitz

Postdoctoral Fellow, Center for U.S.-Mexican Studies



The Texcoco Lakebed, 2006



Smog over Mexico City, 2000



Valley of Mexico at the time of the Conquest



Luis Covarrubias, *La gran Tenochtitlan en 1519*



José María Velasco, *The Valley of Mexico*, 1877



Constructing the Great Drainage Canal, ca. 1890



Miguel Ángel de Quevedo, ca. 1930



Quevedo (center) with Pres. Alvaro Obregón (third from left), supervising reforestation efforts in the Valley of Mexico, 1924



Pres. Miguel Alemán visits the Texcoco Reclamation Project, 1948



Héctor García, *Tlaloc*, 1960



Lake Nabor Carrillo, Project Texcoco, 2007



Vegetation project, Project Texcoco, 2007



Tree Nursery, Project Texcoco, 2007



Xochimilco Ecological Park, 2011



Alberto Kalach and Teodoro González de León,
A New Plan for Lake Texcoco: A Return to the City of Lakes

Global trade, contracts and poverty alleviation in indigenous communities: Cochineal in Mexico

Alberto Diaz-Cayeros (UCSD)
Saumitra Jha (Stanford GSB)

May 20, 2011

Introduction

Trade and poverty
Cochineal production in Mexico

Geographic and Climatic Discontinuity

Conditions Favorable to Cochineal
Discontinuity over several dimensions

Empirical identification strategy

Empirical specification

Results

tables of OLS estimates

Next steps

Trade and poverty Cochineal production in Mexico

Trade and poverty

Indigenous populations living in regions endowed with natural resources
Openness to trade leads to stunted development
Replicability of human capital, intellectual property and natural resources

This paper: sustained gains from world trade for indigenous communities were generated from:

1. contractual incentives
2. high risk economic activity
3. costly verifiability (climate vs. effort)

Trade and poverty Cochineal production in Mexico

Cochineal production in Mexico

Grana cochinilla fina: the "perfect red" coveted by kings and cardinals

Highly prized commodity in world trade. The second export product of the New Spain

Extremely fragile to environmental conditions: "natural enemies" and narrow range of ecologies where it could grow

Requires great skill and care to cultivate: Complex contractual environment

- * Residual claims in the hands of cultivators
- * Ethnically based specialization in marginal land
- * Risk sharing through financial intermediation (*repartimiento*)
- * Labor intensive (women) in small plots

Prehispanic origins



Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Tribute paying registered since Aztec times

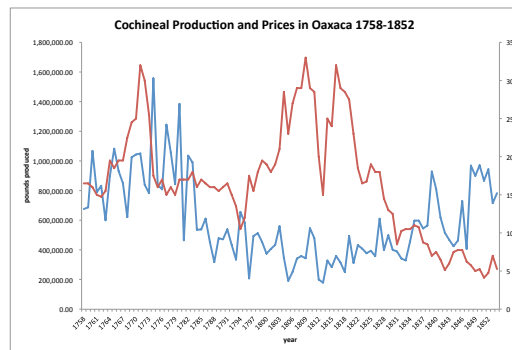


Figure: Source: Codex Mendoza

Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Highly prized commodity in world markets



Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Attracted attention of naturalists

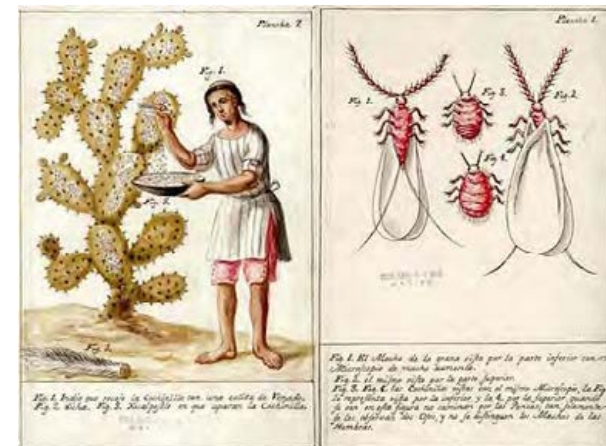


Figure: Source: Jose Antonio de Alzate

Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Cochineal is difficult to grow

- ▶ Cut and burn trees in the slopes of the mountain
- ▶ Plant cactus (Opuntia)
- ▶ Clean trees two times a year for three years
- ▶ April or May ready to "seed" the leaves
- ▶ Keep the mothers for 20 days in caves or huts
- ▶ By August or September females are fertilized
- ▶ Before they give birth move nests (*Paxtle*) to trees
- ▶ In four months get first harvest
- ▶ Migration to highlands if rain

Alexander von Humboldt [1808]

Modern farm: protect from weather and pests



Figure: Nohentlicalli, Museo Vivo de la Grana Cochinilla (picture by S.J.)

Modern farm: seeding



Modern farm: collected



Modern farm: killed



Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Modern farm: ground



Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Cochineal had many natural enemies

Chalchicomula	
Guilencatla	
Cuicatlan	
La Joya	
Nestecapala	
Tixtepec	
Nahuatlapan	
Cochineal	
Amolepala	
Chalchicomula	
Huamantla	
La Joya	
Matamoros	

Figure: Enemies of cochineal– Gonzalo Gomez de Cervantes:1599, *La vida económica y social de Nueva España el finalizar el siglo XVI*

Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Cochineal was difficult to grow



Figure: Dibujo de la obtención de la grana o cochinilla 1620-04-29 – Antonio de Figueroa

Alberto Diaz-Cayeros (UCSD), Saumitra Jha (Stanford GSB)

Global trade, contracts and poverty alleviation in indigenous co

Yucatan plantations failed

In 1620 Antonio de Figueroa reports that 3 million plants are growing in Yucatán

Knowledge was transferred from Tlaxcala growers: "they brought the cactus from the fields, and where there were already cactus it is an easy thing to breed it, both the cultivated and the wild, which is even easier"

Plantations were an utter failure: Largest successful plantations in Ocotlán in 1800, around 60,000 plants

Humboldt reports cochineal in Yucatan destroyed in 1750s: Indians blame the government wanting to increase price; whites claim Indians destroyed plants to protest traders who set prices

complex contractual environment

Repartiniento traditionally understood as an exploitative forced exchange, in which Spanish goods are traded for commodities, robbing Indians of their surplus.

Baskes (2000, 2005) reinterprets from New Institutional Economics perspective as:

- * Create a trusted magistrate who extends small loans
- * Standardize transactions into mutually accepted and understood terms
- * Reduce cross-cultural ambiguities and uncertainties

The Bourbon reforms eliminate the institution in 1786. with disastrous consequences to credit markets

Contractual incentives in high risk activity

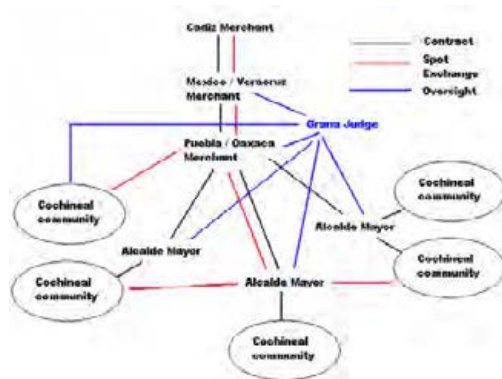


Figure: Schematic depiction of contractual arrangement

Discontinuity over several dimensions

- * Geographic Surface (Latitude and Longitude).
- * Topographic Surface (Altitude and Slope).
- * Climatic Surface (Temperature and Rainfall).

Figure: Optimal growing region for Cochineal

Figure: poor southern municipalities

We run cross-sectional regressions comparing municipalities that contained Indian *pueblos* in 1790.

$$y_i = \beta Cochineal_i + \sum_j^4 \gamma_j Geog_i^j + \sum_j^2 \xi_j Clim_i^j + X_i B + \epsilon_i \quad (1)$$

Where *Geog* includes latitude, longitude, altitude and their quadratic or quartic terms

And *Clim* includes temperature and climate and their quadratic terms

We include initial conditions of pre-Columbian native population:
Hiker distance to major archeological sites to capture
administrative centers and transportation corridors
Hiker distance to 16 century missions (Franciscan, Dominican and
Agustine) as proxy for initial settlement patterns
Restrict the boundary within 75km, 100km and Oaxaca

Dependent Variables

Test for effects of cochineal on the following variables

1. Poverty (nutritional headcount ratio)
2. Female literacy
3. Indigenous linguistic distinctiveness
4. Inequality (Gini coefficient of wages)
5. Remoteness (Distance to 21st century roads)
6. Governance (traditional institutions)
7. Public goods provision (water, electricity, sewerage)

	(1) OLS, State FE	(2) OLS, State FE	(3) OLS, State FE	(4) OLS, State FE, <100km	(5) OLS, State FE, <75km	(6) OLS, State FE, <100km
Panel A: Poverty Headcount Ratio (Paliha)						
Cochineal producer	-0.101*** [0.022]	-0.107*** [0.022]	-0.105*** [0.022]	-0.124*** [0.025]	-0.128*** [0.026]	-0.120*** [0.025]
Hiker's distance to pre-Columbian sites, 1000km	0.745*** [0.105]	0.876*** [0.104]	0.741*** [0.104]	1.089*** [0.177]	1.094*** [0.185]	1.101*** [0.181]
Hiker's distance to monasteries (16C), 1000km	1.068*** [0.101]	0.760*** [0.102]	0.947*** [0.107]	0.839*** [0.200]	0.867*** [0.209]	0.854*** [0.204]
Observations	1763	1778	1763	1011	933	1011
R-squared	0.59	0.59	0.59	0.63	0.63	0.63
Panel B: Women's literacy rate (Alfa Mujeres)						
Cochineal producer	0.050*** [0.012]	0.052*** [0.012]	0.050*** [0.012]	0.068*** [0.013]	0.066*** [0.014]	0.063*** [0.013]
Hiker's distance to pre-Columbian sites, 1000km	-0.323*** [0.077]	-0.390*** [0.073]	-0.332*** [0.077]	-0.527*** [0.130]	-0.561*** [0.131]	-0.534*** [0.133]
Hiker's distance to monasteries (16C), 1000km	-0.517*** [0.071]	-0.346*** [0.071]	-0.435*** [0.076]	-0.166 [0.141]	-0.126 [0.143]	-0.199 [0.143]
Observations	1763	1778	1763	1011	933	1011
R-squared	0.48	0.48	0.48	0.48	0.47	0.49
Quadratic in Lat, Long, Altitude	Y	N	Y	Y	Y	Y
Quadratic in Precipitation and Temperature	N	Y	Y	Y	Y	Y
Quartic in Lat, Long, Altitude	N	N	N	N	N	Y

Sample restricted to municipalities containing 1790 pueblos de indios. Robust standard errors in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%. This is approx. 62 miles (100km) of the optimal growing region frontier. This is approx. 52 miles (85km) of the optimal growing region frontier.

	(1) OLS, State FE	(2) OLS, State FE	(3) OLS, State FE	(4) OLS, State FE, <100km	(5) OLS, State FE, <75km	(6) OLS, State FE, <100km	(7) OLS, State FE, <75km	(8) OLS, Oaxaca only	(9) 2SLS-RD, State FE	(10) 2SLS-RD, State FE
Panel A: % speaking an indigenous language										
Cochineal producer	-0.067** [0.028]	-0.070** [0.029]	-0.059*** [0.028]	-0.059* [0.032]	-0.050 [0.034]	-0.052 [0.032]	-0.040 [0.034]	-0.065 [0.042]	-3.568** [1.386]	-3.161** [1.615]
Hiker's distance to pre-Columbian sites, 1000km	0.443** [0.178]	0.733*** [0.179]	0.499*** [0.175]	0.355 [0.299]	0.529* [0.309]	0.493 [0.301]	0.701** [0.310]	0.653** [0.329]	0.451 [0.536]	0.437 [0.535]
Hiker's distance to monasteries (16C), 1000km	1.343*** [0.165]	0.643*** [0.176]	1.130*** [0.173]	1.030*** [0.309]	0.824*** [0.316]	0.973*** [0.304]	0.750** [0.308]	1.455*** [0.367]	0.955* [0.493]	0.574 [0.493]
Observations	1763	1778	1763	1011	933	1011	933	485	1707	1707
R-squared	0.42	0.39	0.44	0.34	0.33	0.36	0.35	0.26		
Panel B: % bilingual in Spanish and an indigenous language										
Cochineal producer	-0.038 [0.024]	-0.041* [0.025]	-0.032 [0.024]	-0.031 [0.027]	-0.027 [0.029]	-0.026 [0.028]	-0.020 [0.030]	-0.033 [0.034]	-2.367** [0.940]	-2.109** [0.940]
Hiker's distance to pre-Columbian sites, 1000km	0.352*** [0.131]	0.562*** [0.134]	0.390*** [0.130]	0.214 [0.236]	0.361 [0.245]	0.311 [0.238]	0.483* [0.247]	0.567** [0.245]	0.344 [0.360]	0.338 [0.358]
Hiker's distance to monasteries (16C), 1000km	0.877*** [0.116]	0.356*** [0.125]	0.731*** [0.121]	0.866*** [0.243]	0.695*** [0.250]	0.831*** [0.240]	0.647*** [0.244]	1.116*** [0.264]	0.616* [0.331]	0.357 [0.362]
Observations	1763	1778	1763	1011	933	1011	933	485	1707	1707
R-squared	0.44	0.41	0.45	0.35	0.34	0.37	0.35	0.25		
Panel C: % monolingual in an indigenous language										
Cochineal producer	-0.028*** [0.008]	-0.028*** [0.008]	-0.026*** [0.008]	-0.027*** [0.007]	-0.022*** [0.007]	-0.025*** [0.007]	-0.020*** [0.007]	-0.031** [0.013]	-1.164*** [0.446]	-1.091*** [0.446]
Hiker's distance to pre-Columbian sites, 1000km	0.085 [0.066]	0.164*** [0.063]	0.102 [0.066]	0.125 [0.087]	0.153* [0.087]	0.165* [0.089]	0.202** [0.089]	0.081 [0.128]	0.100 [0.178]	0.092 [0.179]
Hiker's distance to monasteries (16C), 1000km	0.445*** [0.069]	0.274*** [0.069]	0.381*** [0.073]	0.167* [0.090]	0.133 [0.089]	0.143 [0.090]	0.106 [0.087]	0.329** [0.160]	0.323* [0.165]	0.205 [0.165]
Observations	1763	1778	1763	1011	933	1011	933	485	1707	1707
R-squared	0.25	0.23	0.26	0.21	0.19	0.23	0.21	0.18		
Quadratic in Lat, Long, Altitude	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Quadratic in Precipitation and Temperature	N	Y	Y	Y	Y	Y	Y	Y	N	N
Quartic in Lat, Long, Altitude	N	N	N	N	N	Y	Y	N	N	N

Sample restricted to municipalities containing 1790 pueblos de indios. Robust standard errors in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%. This is approx. 62 miles (100km) of the optimal growing region frontier. This is approx. 52 miles (85km) of the optimal growing region frontier.

	(1) OLS, State FE	(2) OLS, State FE	(3) OLS, State FE	(4) OLS, State FE, <100km	(5) OLS, State FE, <75km	(6) OLS, State FE, <100km	(7) OLS, State FE, <75km	(8) OLS, Oaxaca only	(9) 2SLS-RD, State FE	(10) 2SLS-RD, State FE
Panel A: Gini coefficient										
Cochineal producer	0.022*** [0.006]	0.021*** [0.006]	0.021*** [0.006]	0.018*** [0.007]	0.018** [0.007]	0.019*** [0.007]	0.019*** [0.007]	0.022*** [0.008]	0.278** [0.138]	0.266* [0.159]
Hiker's distance to pre-Columbian sites, 1000km	-0.104*** [0.039]	-0.116*** [0.037]	-0.113*** [0.039]	-0.046 [0.062]	-0.02 [0.064]	-0.06 [0.064]	-0.041 [0.066]	-0.208*** [0.065]	-0.116** [0.054]	-0.104 [0.054]
Hiker's distance to monasteries (16C), 1000km	0.191*** [0.037]	0.221*** [0.035]	0.203*** [0.038]	0.273*** [0.067]	0.257*** [0.069]	0.287*** [0.069]	0.276*** [0.071]	0.084 [0.073]	0.218*** [0.051]	0.191 [0.051]
Observations	1763	1778	1763	1011	933	1011	933	485	1707	1707
R-squared	0.19	0.18	0.19	0.24	0.25	0.25	0.26	0.16		
Panel B: Distance to major 21st century roads (km)										
Cochineal producer	-2.031** [0.810]	-2.120*** [0.800]	-1.966** [0.803]	-1.907** [0.786]	-1.849** [0.800]	-2.044*** [0.791]	-1.973** [0.805]	-1.553 [1.090]	-72.917** [30.406]	-71.917** [30.406]
Hiker's distance to pre-Columbian sites, 1000km	35.639*** [5.936]	42.437*** [5.770]	36.743*** [5.875]	32.037*** [7.781]	31.118*** [8.207]	27.326*** [7.198]	26.362*** [7.479]	78.527*** [7.479]	35.922*** [12.045]	34.922*** [12.045]
Hiker's distance to monasteries (16C), 1000km	15.449** [6.183]	9.364 [6.673]	13.981** [6.423]	18.423** [8.506]	16.055* [8.815]	18.298** [8.648]	15.866* [9.076]	1.725 [10.183]	7.983 [11.629]	2.352 [11.629]
Observations	1763	1778	1763	1011	933	1011	933	485	1707	1707
R-squared	0.27	0.26	0.27	0.34	0.33	0.38	0.37	0.44		
Panel C: Municipality adopted indigenous local governance institutions (Usos y Costumbres)										
Cochineal producer	-0.515*** [0.177]	-0.477*** [0.163]	-0.500*** [0.163]	-0.525*** [0.149]	-0.533*** [0.193]	-0.529*** [0.184]	-0.532*** [0.194]	-0.819*** [0.222]	2.108 [1.677]	1.155 [1.720]
Hiker's distance to pre-Columbian sites, 1000km	3.851*** [0.606]	4.226*** [0.641]	3.783*** [0.614]	1.425 [1.024]	1.160 [1.054]	1.432 [1.036]	1.179 [1.066]	7.408*** [1.280]	3.808*** [0.713]	3.833*** [0.713]
Hiker's distance to monasteries (16C), 1000km	-1.974*** [0.565]	-1.507*** [0.598]	-1.371*** [0.576]	1.304 [0.987]	1.423 [0.976]	1.189 [0.974]	1.327 [0.958]	-0.319 [1.315]	-1.617*** [0.625]	-1.617*** [0.625]
Observations	1748	1763	1748	996	919	996	919	485	1692	1692
R-squared	0.73	0.72	0.74	0.77	0.76	0.77	0.76	0.37	0.59	0.68
Quadratic in Lat, Long, Altitude	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Quadratic in Precipitation and Temperature	N	Y	Y	Y	Y	Y	Y	Y	N	N
Quartic in Lat, Long, Altitude	N	N	N	N	N	Y	Y	N	N	N

Sample restricted to municipalities containing 1790 pueblos de indios. Robust standard errors in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%. This is approx. 62 miles (100km) of the optimal growing region frontier. This is approx. 52 miles (85km) of the optimal growing region frontier.

Endogeneity of Roads and Trade

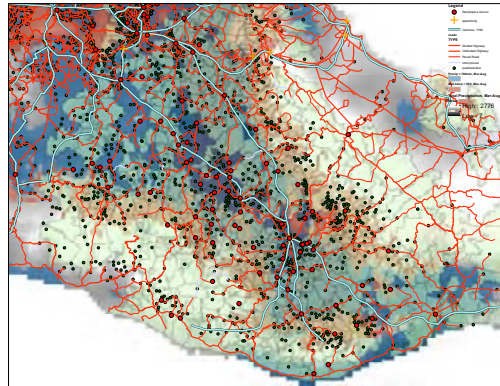


Figure: Roads and cochineal growing

	(1) OLS, State FE	(2) OLS, State FE	(3) OLS, State FE	(4) OLS, State FE, <100km	(5) OLS, State FE, <75km	(6) OLS, State FE, <100km	(7) OLS, State FE, <75km	(8) OLS, Oaxaca only	(9) 2SLS-RD, State FE	(10)
Panel A: % Households without piped water										
Cochineal producer	-0.009 [0.022]	-0.018 [0.022]	-0.012 [0.022]	-0.035 [0.024]	-0.039 [0.026]	-0.034 [0.024]	-0.039 [0.026]	-0.015 [0.034]	-0.45 [0.358]	
Hiker's distance to pre-Columbian sites, 1000km	-0.323** [0.131]	-0.348*** [0.132]	-0.311** [0.132]	-0.226 [0.199]	-0.185 [0.209]	-0.233 [0.202]	-0.179 [0.212]	-1.293*** [0.208]	-0.238 [0.152]	
Hiker's distance to monasteries (16C), 1000km	0.747*** [0.121]	0.586*** [0.121]	0.585*** [0.126]	0.548*** [0.206]	0.547*** [0.218]	0.521*** [0.207]	0.511*** [0.219]	0.436* [0.227]	0.691*** [0.142]	
Observations	1763	1778	1763	1011	933	1011	933	485	1707	
R-squared	0.28	0.28	0.29	0.23	0.23	0.24	0.24	0.16	0.1	0.27
Panel B: % Households without electricity										
Cochineal producer	-0.013 [0.013]	-0.018 [0.013]	-0.015 [0.013]	-0.026** [0.012]	-0.026** [0.013]	-0.024* [0.012]	-0.023* [0.013]	-0.022 [0.022]	-0.048 [0.186]	
Hiker's distance to pre-Columbian sites, 1000km	0.186** [0.078]	0.238*** [0.074]	0.188** [0.078]	0.388*** [0.112]	0.428*** [0.117]	0.355*** [0.110]	0.399*** [0.115]	-0.01 [0.131]	0.210*** [0.081]	
Hiker's distance to monasteries (16C), 1000km	0.790*** [0.079]	0.670*** [0.082]	0.706*** [0.083]	0.377*** [0.129]	0.368*** [0.136]	0.405*** [0.128]	0.395*** [0.134]	0.278* [0.160]	0.785*** [0.083]	
Observations	1763	1778	1763	1011	933	1011	933	485	1707	
R-squared	0.32	0.33	0.34	0.43	0.45	0.45	0.46	0.16	0.33	0.32
Panel C: % Households without drains										
Cochineal producer	-0.072*** [0.023]	-0.076*** [0.023]	-0.076*** [0.023]	-0.094*** [0.027]	-0.099*** [0.028]	-0.086*** [0.027]	-0.088*** [0.027]	-0.096*** [0.032]	0.019 [0.345]	
Hiker's distance to pre-Columbian sites, 1000km	-0.033 [0.147]	0.091 [0.142]	-0.044 [0.148]	0.447** [0.203]	0.518** [0.212]	0.491** [0.207]	0.578*** [0.216]	-0.470* [0.244]	0.003 [0.146]	
Hiker's distance to monasteries (16C), 1000km	1.221*** [0.133]	1.051*** [0.134]	1.153*** [0.141]	0.833*** [0.237]	0.828*** [0.248]	0.809*** [0.241]	0.818*** [0.252]	0.509** [0.257]	1.225*** [0.141]	
Observations	1763	1778	1763	1011	933	1011	933	485	1707	
R-squared	0.5	0.49	0.5	0.56	0.56	0.57	0.57	0.17	0.51	0.5
Quadratic in Lat, Long, Altitude	Y	N	Y	Y	Y	Y	Y	Y	Y	
Quadratic in Precipitation and Temperature	N	Y	Y	Y	Y	Y	Y	Y	N	
Quartic in Lat, Long, Altitude	N	N	N	N	N	Y	Y	N	N	

Sample restricted to municipalities containing 1790 pueblos de indios. Robust standard errors in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%. 1 represents those municipalities within 100km (75km) of the optimal growing region frontier. This is approx. 52 miles (47 miles).

Climatic conditions

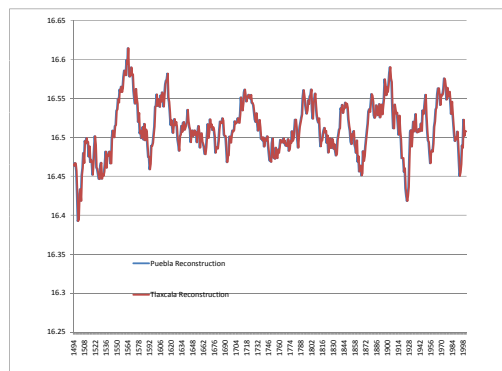


Figure: Dendrochronology reconstructions of Puebla/Tlaxcala region

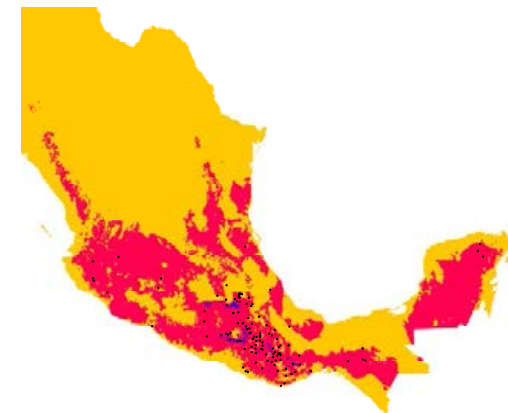
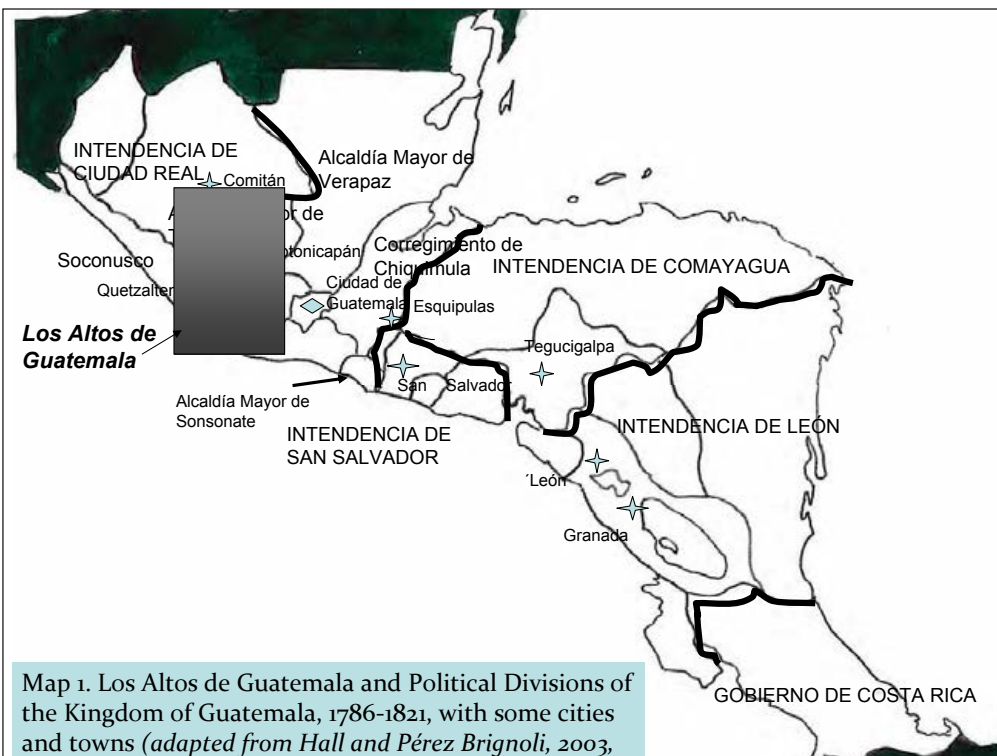
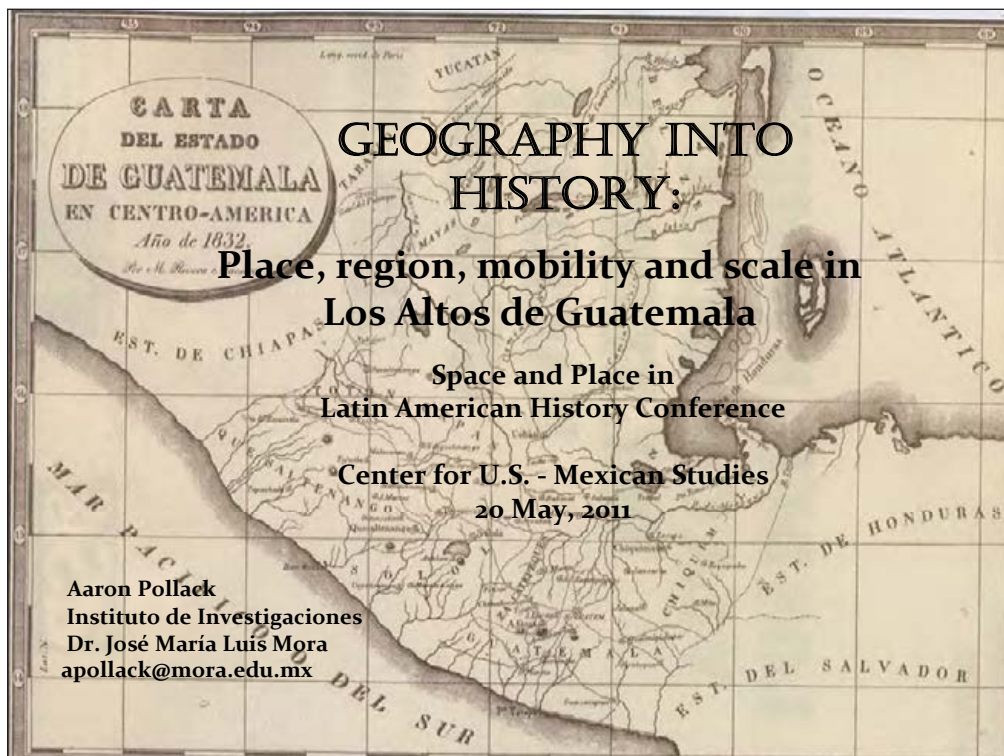


Figure: Bioclimatic Envelope Algorithm with 49 climatic variables



Map 1. Los Altos de Guatemala and Political Divisions of the Kingdom of Guatemala, 1786-1821, with some cities and towns (adapted from Hall and Pérez Brignoli, 2003,

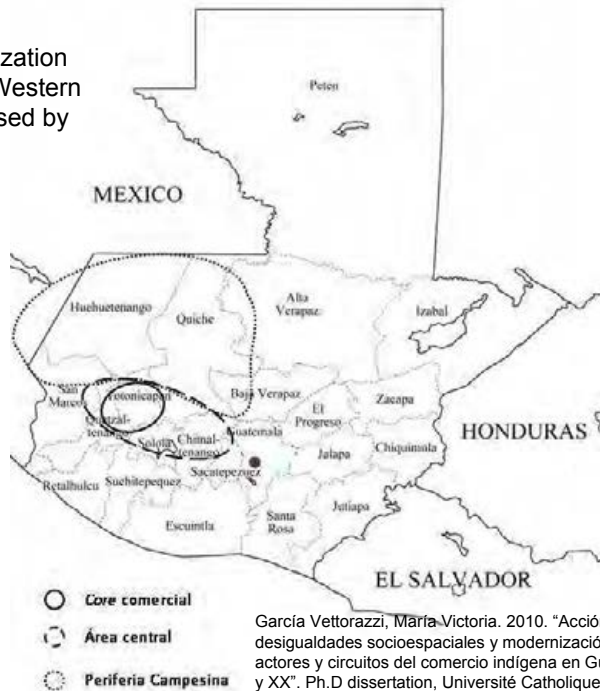
Presentation outline

1. Assume movement
2. The social construction of places through the relationships among them
3. Regionalizing the meanings of “indigenous” and “ladino” in Guatemala
4. The definition of scale in social conflict

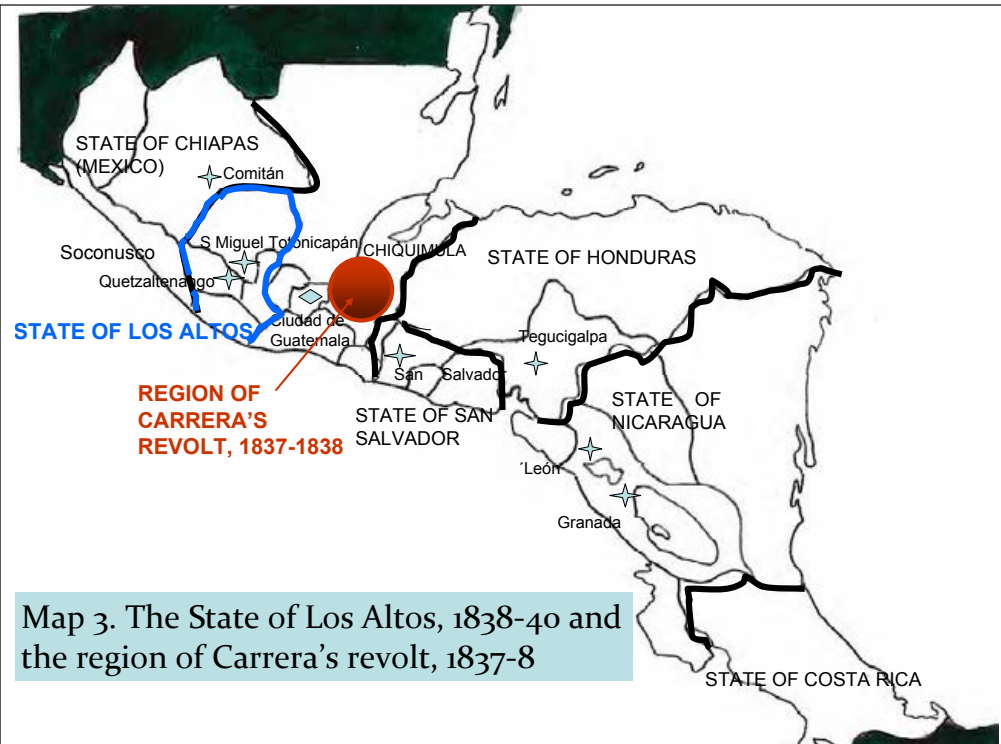
San Cristóbal Totonicapán Exogamous baptisms in selected years, 1771-1827

Year	Total Marriages with one spouse baptized in another parish	Total No. marriages	% of Marriages with spouse baptized in another parish
1771	4	37	10.8%
1776	10	53	18.9%
1781	5	65	7.7%
1786	4	28	14.3%
1791	10	38	26.3%
1796	10	44	22.7%
1801	10	61	16.4%
1806	13	69	18.8%
1811	8	55	14.5%
1814	20	98	20.4%
1815	19	120	15.8%
1816	29	95	30.5%
1817	12	47	25.5%
1818	25	71	35.2%
1819	15	60	25.0%
1820	16	55	29.1%
1821	21	63	33.3%
1822	13	76	17.1%
1823	29	77	37.7%
1824	21	90	23.3%
1825	19	92	20.7%
1826	20	84	23.8%
1827	17	63	27.0%

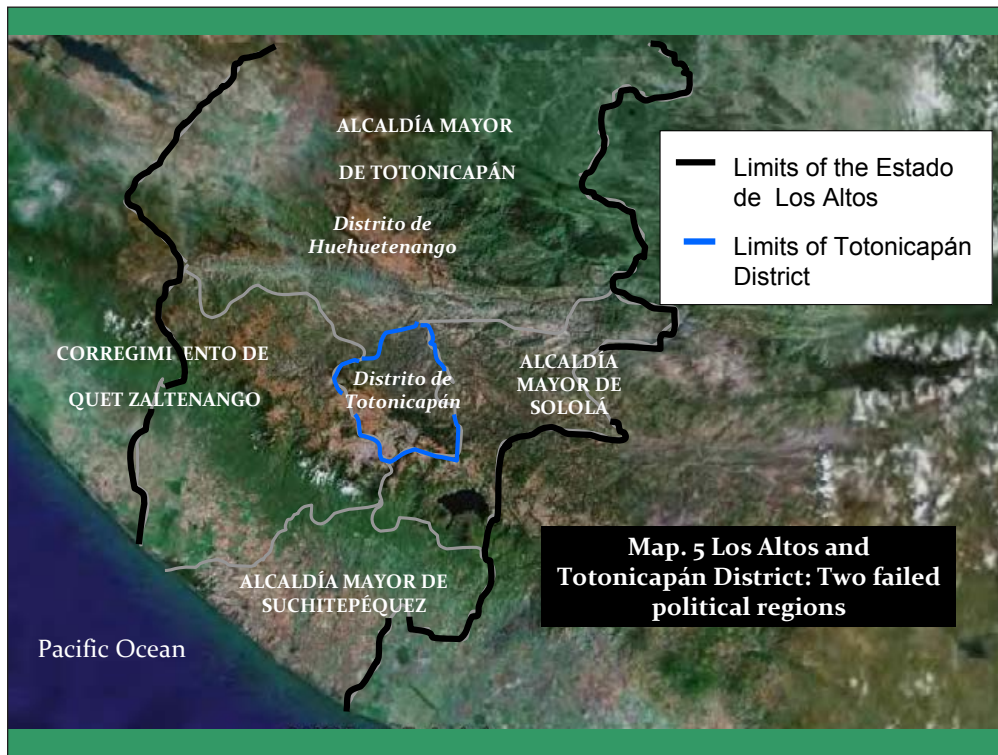
Map 2. Regionalization of Guatemala's Western Highlands proposed by Carol Smith



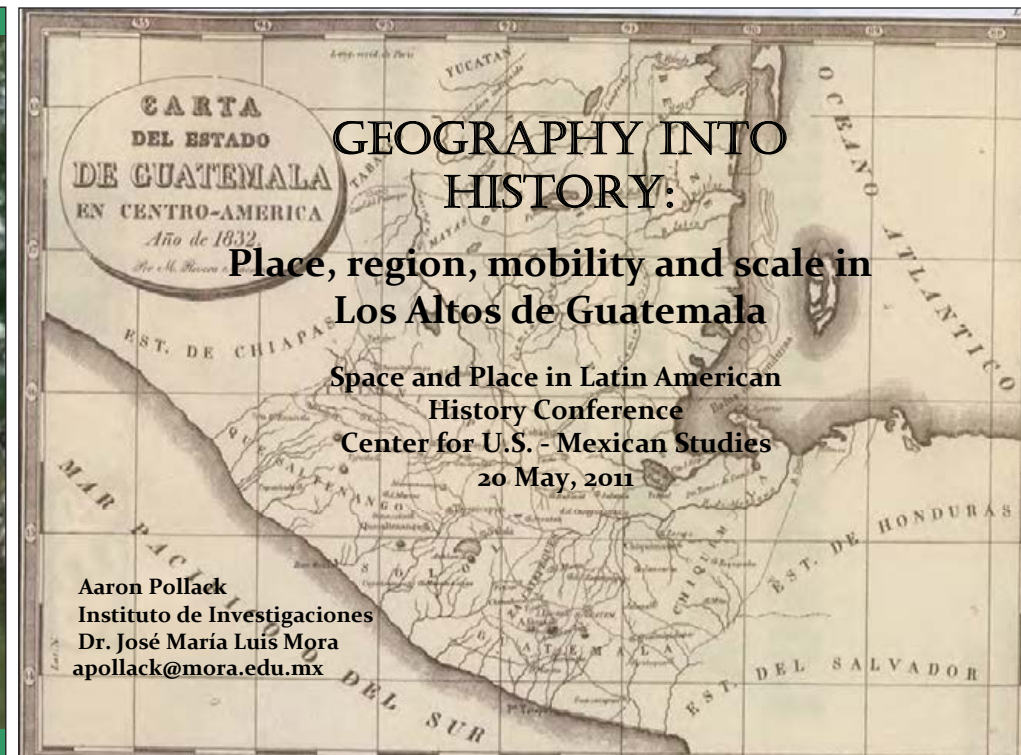
García Vettorazzi, María-Victoria. 2010. "Acción subalterna, desigualdades socioespaciales y modernización. La formación de actores y circuitos del comercio indígena en Guatemala, siglos XIX y XX". Ph.D dissertation, Université Catholique du Louvain. Louvain. p. 58



Map 3. The State of Los Altos, 1838-40 and the region of Carrera's revolt, 1837-8



Map. 5 Los Altos and Totonicapán District: Two failed political regions



Aaron Pollack
Instituto de Investigaciones
Dr. José María Luis Mora
apollack@mora.edu.mx