

# Our Voice

Everything in the world flows. Until a law, a treaty, or a wall stops it. Two constants run through this issue of *Voices of Mexico*: human beings and water. From the standpoint of the social sciences or of art, researchers, photographers, a writer, and a poet traverse the flows of human beings and the water that gives us life.

Why and how do they travel? Where and why do they stop? How do they enrich the lands where they arrive—if they do arrive?

I want to thank all those who contributed their knowledge here so that we readers could become aware that this journey is differentiated, that not all of us are privileged with the same freedom of movement, for example, or access to running water, just to mention two differences.

This issue centers on the intense relationship between Mexico and the United States, covering everything from environmental legislation to the harsh, critical, tart interpretation of how they see us and how we see them.

In the interaction these pages make possible between academic accounts and artistic prisms, once again the whole attempts to build a bridge so we can understand each other better, since we are neighbors in an area of constant flows. We hope that the exchange of ideas does not stop and can transcend momentary political whims.

Graciela Martínez-Zalce  
*Director of CISAN*  
July 2019



William Deshazer / Reuters

Oyuki Arce Miyaki\*  
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# Corporate Borders Auto Industry Migrants in Mexico

## Introduction

Globalization has changed migratory conditions for workers with professional training. This means that the classical theories on the subject are being questioned because of labor mobility within transnational corporations.

This article examines the mobility conditions of skilled workers, compared to those of similar migrants: foreign corporate migrants transferred within multinational companies, specifically coming into Mexico. These two differ because the latter are part of a labor set-up that, in and of itself, generates a high degree of migration in the short and medium terms. Specifically, we are interested in knowing what relationship exists between the growth of the auto industry in Mexico and the number of immigrant workers it employs.

To do this, we have estimated the number of foreign corporate migrants in Mexico in the auto industry who work in executive and technical areas, based on official data from the censuses done by Mexico's National Institute of Statistics and Geography (INEGI) and National Migration Institute (INM).

## Mobility through the Companies

Executives and technicians move differently from other skilled migrants: while the former have a company to back them up and that facilitates the circulation of workers in different headquarters worldwide, the latter move independently, uncertain as to whether they will successfully find employment.<sup>1</sup>

Intra-corporate worldwide mobility is often temporary and operates according to the guidelines and needs

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**One of the aims of transnational manufacturing companies is moving to places where labor and resources are cheaper.**

imposed by the company: technical and administrative personnel are constantly relocated inside the corporate structure.<sup>2</sup> They may remain in a specific space for intermittent or longer periods, which can range from months to years.<sup>3</sup> This dynamic has an impact on who migrates as well as on the interaction with and perception of the host society.

The length of stay is usually determined according to how high up the individual is within the organizational structure, as well as in accordance with the work he/she does: those with managerial positions tend to remain longer in one place; high-ranking technical workers have shorter stays; and those involved in a specific project or trainees stay the shortest amount of time.

These workers also have an advantage in mobility processes, above all if they are going to developing countries, since this kind of migration means they move up the social scale and enjoy better living conditions due to wage increases that the company gives them as incentives for taking an international posting. Some academic studies also point out that their resumes improve, since when they migrate they are assigned to better positions than they had in their places of origin, and they receive other benefits that only overseas workers enjoy.

## The Auto Industry in Mexico

One of the aims of transnational manufacturing companies is to move resources and technology to places where labor and resources are cheaper. This movement from corporate headquarters to other countries is guided by quality criteria and mistrust of the training the locals may have received. That is why they assign managerial and productive duties to individuals trained in places the company trusts and that act in its interests.<sup>4</sup>

Mexico is a strategic point for manufacturing and commercializing vehicles and auto parts globally due to its geographical location, low production costs, and the existence of skilled human capital. The auto industry is

one of the main sources of foreign direct investment (FDI): between 2010 and 2015, more than US\$22 billion flowed into this sector in Mexico for building new plants and other expansion projects.<sup>5</sup>

According to INEGI's North America Industrial Classification System data on FDI variations in Mexico channeled into manufacture and transportation equipment, in 2002 FDI increased and, after a few fluctuations, another important growth spurt began in 2013.

While at the beginning of the North American Free Trade Agreement (NAFTA), Mexico was manufacturing 17 percent of the region's heavy vehicles, by 2011, that figure had risen to 35 percent. By 2015, Mexico was the world's seventh largest vehicle producer, putting out 3.6 million a year. Among the leading companies are Volkswagen and Daimler from Germany and Toyota from Japan.<sup>6</sup>

The INEGI Economic Data Bank reported that between 2009 and 2015, the number of auto manufacturing subsidiaries oscillated between 28 and 29, and between 2000 and 2015, the number of Mexican and foreign employees increased from 451 865 to 737 238.<sup>7</sup>

## Foreign Workers in Mexico's Auto Industry

INEGI population and housing surveys reveal that the number of foreign professionals in the auto sector rises constantly.<sup>8</sup>

The United States was the country with the greatest number of workers in Mexican auto parts manufacturing between 2000 and 2010 (see Table 1). Between 1990 and 2010, the other most important countries of origin for these workers were Germany and Argentina. However, the 2015 inter-census survey showed that Japan had increased its number of workers, followed by Germany.

The United States and Germany are the most important countries with regard both to their auto manufacturers in Mexico and to the number of foreign workers employed in them. The Japanese population in the industry grew 36-fold from 2010 to 2015, compared to the previous census, on a par with the opening of Japanese plants in the country. In that period, the South Korean worker population also grew notably.

In the case of the United States, a Ford plant was opened in 1925, followed by General Motors and Chrysler. Germany has a history of well-established companies like

TABLE I  
FOREIGN WORKERS EMPLOYED IN THE MANUFACTURE OF  
TRANSPORTATION EQUIPMENT AND AUTO PARTS (1990-2015)

Origin	No. of workers, 1990	Origin	No. of workers, 2000	Origin	No. of workers, 2010	Origin	No. of workers, 2015
Germany	140	United States	604	United States	1003	United States	1478
United States	120	Germany	134	Argentina	168	Japan	847
Japan	40	Argentina	72	Germany	119	Germany	630
Spain	30	Spain	69	Ecuador	117	Brazil	165
Chile	20	Chile	37	Japan	82	Italy	110
Nicaragua	20	Japan	23	Brazil	66	France	107
Italy	20	Brazil	22	Canada	66	South Korea	80
Switzerland	20	Venezuela	22	France	62	Honduras	75
Granada	10	El Salvador	20	Slovenia	42	Spain	64
Peru	10	Guatemala	14	Chile	39	Colombia	58
Venezuela	10	Morocco	14	England	38	Argentina	57
Lebanon	10	Uruguay	13	South Korea	31	Venezuela	48
Austria	10	Canada	12	Colombia	29	Togo	47
France	10	England	12	Spain	23	Canada	40
Sweden	10	Belgium	9	Bolivia	16	India	37
-	-	Switzerland	8	Italy	16	Nicaragua	35
-	-	Portugal	6	Israel	5	Guatemala	33
-	-	Peru	4	Guatemala	4	Peru	32
-	-	-	-	Ukraine	3	El Salvador	28
<b>Total</b>	<b>480</b>	<b>Total</b>	<b>1095</b>	<b>Total</b>	<b>1929</b>	<b>Total</b>	<b>3971</b>

**Source:** Developed by the authors using data from the general censuses of 1990, 2000, and 2010, and the INEGI's 2015 Inter-census Survey.

Volkswagen, which opened in Puebla in 1964, and others like Audi, BMW, and Mercedes Benz, giving rise to a flow of German immigrants to Mexico. Japan set up its first Nissan plant in 1966, followed by Honda, Mazda, and Toyota, among others.<sup>9</sup>

National Migration Institute figures also reveal the main countries of origin of workers in Mexico's auto industry through the number of temporary resident card (TRT) holders. Our neighbor to the north has the greatest number of card holders, and the figures do not vary significantly with regard to those cited above. The rest of the countries maintain a mean, but by 2011, the number of

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TRTs issued to German nationals increased, as did those for Japanese nationals in 2013. The general figures increased in 2015, except for the case of Italy.

If we look at all the TRTs issued for work-related reasons by country, the United States has the greatest num-



ber; Japan's numbers grew starting in 2013 and remained nearly constant until 2016. Germany also saw an important increase in 2015 and 2016, just as did South Korea starting in 2015, which could be linked to the establishment of companies like Kia.

## Final Comment

The statistics suggest that the presence and increasing numbers of foreign workers in Mexico's auto industry are due to the growth of foreign direct investment in this sector. This can be explained through the processes of economic globalization and the internationalization of labor, which increase the flows of specialized workers not only from North to South, but also in reverse and among the regions of the Global South. As a medium-income country that is increasingly relevant in the world economy, Mexico is receiving a growing number of skilled workers, thus revealing a tendency toward cosmopolitanism and an important social change, since it is becoming both an international migration transit and destination country. ■■■

## Notes

- 1 João Peixoto, "The International Mobility of Highly Skilled Workers in Transnational Corporations: the Macro and Micro Factors of the Organizational Migration of Cadres," *International Migration Review* vol. 35, no. 4 (December 2001), pp. 1030-1053.
- 2 Shinji Hirai, "Migración y corporaciones japonesas en el noreste de México: las prácticas sociales y culturales de los migrantes y su salud mental," in Lucía Chen (Hsiao-Chuan Chen) and Alberto Saladino García, comps., *La nueva nao: de Formosa a América Latina. Bicentenario del nombramiento de Simón Bolívar como libertador* (Taipei: Universidad de Tamkang, 2013), pp. 71-100.
- 3 Peixoto, op. cit.
- 4 Jaime Bonache, "El valor estratégico de la movilidad global de puestos, personas y conocimientos en las multinacionales," *Universia Business Review* no. 27 (2010).
- 5 ProMéxico, *La industria automotriz mexicana. Retos y oportunidades* (Mexico City: Secretaría de Economía, 2016), p. 12.
- 6 Ibid., p. 45.
- 7 INEGI, Censos y Conteos de Población y Vivienda 2016, <http://www.inegi.org.mx/est/contenidos/Proyectos/ccpv/default.aspx>, accessed September 25, 2017.
- 8 This data base includes the number of individuals who stated that they were working in the auto industry and had been born outside of Mexico. Unfortunately, the information is not the most precise or up to date, but it is the closest approximation offered by censuses, allowing us to see how this group evolves and compare it with other sources.
- 9 Clemente Ruiz Durán, "Desarrollo y estructura de la industria automotriz en México," *Friedrich Ebert Stiftung* no. 6 (September 2016).



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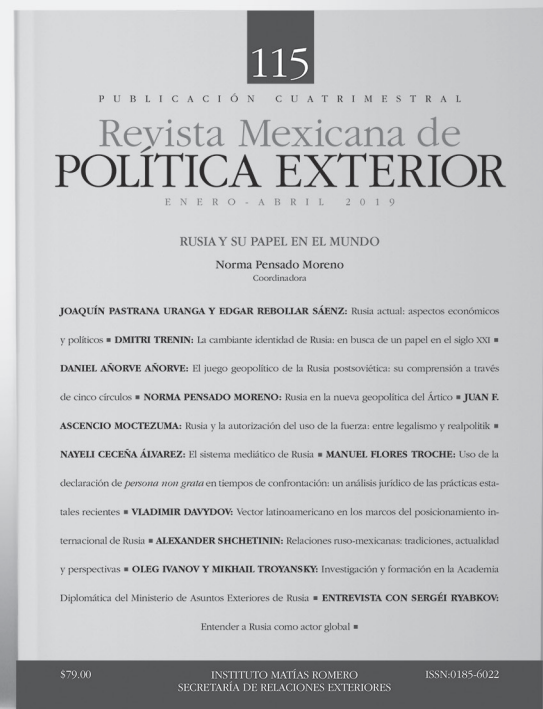
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Araceli Pérez Mendoza\*

## Canadian Refugee Status Pinning Hope on the “Other Norte”

“I’m goin’ far away, Father; so, I’ve come t’tell you.”  
 “And where’re ya goin’, if ya don’t mind tellin’ me?”  
 “I’m goin’ to the North.”

*Paso del Norte*, JUAN RULFO<sup>1</sup>

“El Norte” is an expression used by Mexican migrants as a synonym for the border area between Mexico and the United States, or figuratively, to refer to the United States. It conjures up the imaginary line between their poverty in Mexico and the hope of a better life, despite the hostile reality of a risky, deadly border for those who cross it clandestinely.

Borders are visible or intangible: geographical, cultural, symbolic. The borders of countries that consider themselves stable and economically prosperous are the most controlled; and these legal borders—restrictive or flexible, depending on the case—regulate the flow of migrants and determine which people are desirable for entry into their lands. In recent years, thousands of Mexicans have gone through the iconic North between Mexico and the United States to reach the *other* “Norte,” Canada. However, after clearing the physical and legal bor-

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ders, they come up against others: the cultural and symbolic.

### The “Other Norte”

The implementation of the General Strategy to Fight Drug Trafficking and Organized Crime (2007-2012) did not lessen organized-crime-related violence in Mexico. It did, however, increase the number of forced internal displaced persons and individuals who left the country seeking asylum in Canada. Information from the Immigration and Refugee Board of Canada shows a significant increase in applicants from 2006 to 2011 compared to the period between 1996 and 2005. The number multiplied almost tenfold in ten years.

### Intangible Border: The DCO List

On December 15, 2012, the Canadian government reformed its Immigration and Refugee Protection Act, which specifies the time and procedural limitations on application processing.<sup>2</sup> Two months later, on February 15, 2013, Mexico was included on the list of Designated Countries of Origin (DCO), those that do not normally produce refugees and do respect human rights and offer state protection. This practically disqualified the central argument of the Mexican asylum applications.<sup>3</sup> But in contradiction to this, human rights defenders have reported on how the Mexican population is exposed to growing violence in the country and that the government has not been able to control the situation.<sup>4</sup> Thus, “Canada has recognized that Mexico is a refugee-producer country, despite its safe country labeling.”<sup>5</sup>

### The Legal Border

Renata’s family, made up of her father and mother and a brother over 18, arrived in Vancouver, British Columbia in 2008.<sup>6</sup> She is the youngest. In Mexico, her dad worked in a bank. Between him and his wife, a public clerical employee, they earned enough money to be considered middle class, to have a home of their own and two cars, and to

REFUGEE APPLICANTS OVER THE AGE OF 18  
(the stock on December 1 each year)

Year	2005 Report	2012 Report
1996	1 327	
1997	1 845	
1998	2 401	
1999	2 703	
2000	3 060	
2001	3 652	
2002	4 525	
2003	4 832*	5 906*
2004	6 843*	6 911*
2005	7 677*	8 001*
2006		10 030
2007		13 416
2008		18 340
2009		21 118
2010		16 296
2011		11 133
2012		7 944

**Source:** Developed by the author using data from *Facts and Figures. Immigration Overview. Permanent and Temporary Residents, 2005 and 2012.*

**Note:** The asterisks indicate the years in which variations were detected in the figures for 2004 to 2012 in the *Facts and Figures. Immigration Overview. Permanent and Temporary Residents reports.* The table was developed using the two figures that showed the least variation.

pay their two children’s private school tuition. Family life was disrupted when the father witnessed a robbery at his workplace during which one person died. Unfortunately, he saw the killer’s face perfectly. Like all the other employees, he testified that he had seen it and gave a detailed description of the facts.

In recent years, thousands of Mexicans have gone through the iconic North between Mexico and the U.S. to reach the “other Norte,” Canada. However, after clearing the physical and legal borders, they come up against others: the cultural and symbolic.

**Cassandra is eager to chat. Once her refugee request was approved and she had crossed the legal border, she talks about another symbolic border, intangible, but visible and audible: Canadian racism.**

As the investigation progressed, the authorities arrested a suspect and a face-to-face hearing was held in which he declared that the arrestee was indeed the aggressor. A few days later, Renata's father received threatening phone calls on his cellular phone and on their home phone demanding that he recant his statement or "he'd be sorry." He did not do that because he was afraid of everyone, including the investigative police, since he had also noticed that during that time, more than once a van had been circling his house. He was so afraid that he suspected that the justice system was in cahoots with the robbers. So, after talking with a cousin who lived in Toronto, he decided to move his family to Canada, since his cousin told him, "With what happened to you, you can ask for asylum."

The family arrived in Vancouver, where they made contact with some acquaintances of his cousin, and, while they were doing their immigration paperwork, the father worked as a construction worker. He did not have a work permit or experience in construction since he had always done a desk job in Mexico. It took almost five years to process the asylum request (2008 to 2013), but it was denied, and they were ordered to leave the country within 30 days. As Renata says,

When I came here five years ago, it was very hard. I was afraid of arriving in Canada because I didn't know if we were going to be able to stay. At first, school was very frustrating because I didn't speak much English. Fortunately, I became friends with a Chinese girl and an Indian girl, and they helped me translate what the teachers were saying and to learn a little English. I missed my friends, my grandparents, and my home very much. It took me almost a year to learn enough English for school and to make myself understood. I made friends. And now they're telling me that we have to go back to Mexico because our application was denied. Five

years ago nobody asked me if I wanted to leave Mexico, and now they're throwing us out of this country, where I have friends, where I've studied, and where I've learned to appreciate the good things here.

## Cultural Borders and the Return

Like Renata, hundreds of children and teens spend the whole period in which their asylum applications are being reviewed feeling alien in a country where many do not understand the language and the culture. This is because they were abruptly taken out of their family surroundings with the idea that they would be safer in a country known for defending human rights.

For them, this is a drastic change that shakes them up emotionally because they have barely begun their process of symbolic crossings over cultural barriers by learning English. They may even have gotten used to the idea that they have a future in Canada, and now they have to leave everything behind again to go back to their countries of origin.

Renata, like so many who have been refused asylum, returned to Mexico, where the levels of violence have not changed. Suffice it to cite an example: the statistics state that 2013 was the year with the most kidnappings in a very long time; and 2017 was the most violent of the previous six years, with 84 169 homicides. Together with those who have been forcibly displaced internally, Renata will have to face her life in surroundings in which the murders of women and disappearance of adolescents and young people just do not stop. In addition, she will have to reinsert herself into interpersonal communicational processes with her counterparts and with adults in which her more-than-five-year absence from Mexico will mean she goes through yet another crossing of cultural borders.

## The Symbolic Border: Canadian Racism

Cassandra is 15 years old. She arrived in Canada with her parents from the state of Guanajuato when she was seven and her sister was six. They live in a modest apartment in Vancouver. Sitting on a log in Deer Lake Park, near Canada Way, Cassandra is eager to chat, speaking in a mix of Spanish and English. Once her refugee request was ap-

proved and she had crossed the legal border, she talks about another symbolic border, intangible, but visible and audible: Canadian racism. This materializes in harassment and humiliations due to her origins, particularly at school, that affect many Mexicans, above all teens, in their process of crossing cultural borders:

They make fun of you . . . : “Go back to the border, you Mexican.” They also call you “beaner” or “cholo”; they say you “smell like a burrito” . . . or that you’re a “burrito maker.” . . . It doesn’t matter where you’re from, from Chile or Argentina. They call you a Mexican because that’s the meanest stereotype they can label you with. For them, you’re “a dirty Mexican.” That’s the biggest insult.

## Afterword


As the “other Norte,” Canada has given refuge to Mexicans escaping from the violence at home. But that is only the beginning, because, in addition to competing in the labor market with highly skilled migrants, they will also have to learn to cross cultural and symbolic borders. In addition, Mexican asylum applications due to violence reveal the existence of both internal and international forced displaced persons, a phenomenon that has been invisible in the media and is ignored by the Mexican government. This is yet another task inherited by the new govern-


ment, which, as international bodies to protect human rights have pointed out, will have to create public policies to mitigate the implications of forced displacement. ■■


## Notes


- 1 A short story included in Juan Rulfo, *El llano en llamas* (1953), translated as *The Burning Plain, and Other Stories* (Austin: U. of Texas, 1967). [Editor’s Note.]
- 2 For detailed information about the changes, consult the following documents of the Government of Canada at the Justice Laws Website: *Balanced Refugee Reform Act*, [https://laws-lois.justice.gc.ca/PDF/2010\\_8.pdf](https://laws-lois.justice.gc.ca/PDF/2010_8.pdf); *Protecting Canada’s Immigration System Act*, [https://laws-lois.justice.gc.ca/PDF/2012\\_17.pdf](https://laws-lois.justice.gc.ca/PDF/2012_17.pdf); *Immigration and Refugee Protection Act*, <https://laws-lois.justice.gc.ca/PDF/I-2.5.pdf>; *Immigration and Refugee Protection Regulations*, <https://laws-lois.justice.gc.ca/PDF/SOR-2002-227.pdf>; and *Refugee Protection Division Rules*, <https://laws-lois.justice.gc.ca/PDF/SOR-2012-256.pdf>.
- 3 Designated Country of Origin Policy, Immigration Canada. See <https://www.canada.ca/en/immigration-refugees-citizenship/services/refugees/claim-protection-inside-canada/apply/designated-countries-policy.html>, accessed June 10, 2018.
- 4 See the recommendations of the High Commissioner for Human Rights, Zeid Ra’ad Al Hussein, after his 2015 visit to Mexico about violence and human rights violations, [http://www.hchr.org.mx/images/doc\\_pub/Recommendationsmx\\_HighCommissionerhr\\_en.pdf](http://www.hchr.org.mx/images/doc_pub/Recommendationsmx_HighCommissionerhr_en.pdf), accessed July 20, 2018.
- 5 Maia Rotman and Kristin Marshall, “Unsafe” and on the Margins. *Canada’s Response to Mexico’s Mistreatment of Sexual Minorities and People Living with HIV*, p. 7, University of Toronto, Faculty of Law, International Human Rights Program, [https://ihrp.law.utoronto.ca/utfl\\_file/count/publications/Report-UnsafeAndOnMargins2016.pdf](https://ihrp.law.utoronto.ca/utfl_file/count/publications/Report-UnsafeAndOnMargins2016.pdf), accessed July 20, 2018.
- 6 The names of interviewees have been changed to protect their identities.


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Mike Blake / Reuters

David R. Maciel\*

# Mexamerica at War with Donald Trump

## A Case Study in California

### Part II<sup>1</sup>

#### The Consolidation of Chicano Power

In the face of aggression and hostility from Donald Trump and his administration, California's Chicano civic organizations and policymakers responded with full force and by all possible means to counter and even spin those initiatives, particularly in the political arena. Today, Chicanos are by far the dominant ethnic group at both the local and state levels and are at the forefront of the resistance. No other state in the Union even comes close to the number of Chicano elected and appointed policymakers in California.

The decades of ethnic struggles and the legacy of the Chicano movement in California are now visible and a *bona fide* reality. Key Chicano civic organizations, such as Hermandad Mexicana and Vamos Unidos USA, are very active in their advocacy for the civil rights of the Mexian/Latino Diaspora. Moreover, a generation of Chicano policymakers between the ages of 38 and 60 collaborate closely with these civic organizations.

The members of this generation are almost all bilingual and bicultural with working-class origins. They are all the product of the public university system of California, one of the finest in the nation. Many of them —if

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All California Chicano policymakers are members of the Democratic Party and most certainly subscribe to its core ideology and agenda.

not all—initiated their political careers as community activists or as staff members for established politicians. All Chicano policymakers are members of the Democratic Party and most certainly subscribe to its core ideology and agenda. The clearest example of their endeavors is the fact that today a Chicano is the speaker of the State Assembly, one of California's legislative bodies. What follows in this text is a succinct profile of some of the most influential Chicano state politicians today and key reflections about their impact and absolute opposition to President Trump.

**Xavier Becerra.** First generation son of Mexican immigrant parents. In 1990, after completing college and law school, he became a member of the State Assembly. Subsequently he was elected member of the federal House of Representatives and served from 1996 to 2016. In 2017, he was appointed California's attorney general by Governor Jerry Brown, replacing Kamala Harris, who had been elected to the Senate.

Throughout his political career, Congressman Becerra has consistently advocated Mexican immigrant issues and civil rights. He was a major proponent of the Dream Act, and he specifically supported the Deferred Action for Childhood Arrivals (DACA) proposal, signed as an executive order by President Barack Obama. DACA authorized temporary legal status in the United States for the youth brought to the U.S. as undocumented children, who are the product of the U.S. school system or enlisted in the armed forces under certain conditions. Regarding this, Becerra stated, "This is a new day for the Dreamers all across America. Through President Obama's leadership, our youth now have the opportunity to put their talents and education to work for the country they know and call home."<sup>2</sup>

Since the first day of his confirmation as California's attorney general, Becerra has made it abundantly clear that he will defend immigrant rights with legislative

initiatives and legal battles in the courts. As California's chief legal officer, he sets the stage and leads the struggle against the Trump administration's anti-Mexican, anti-Latino rhetoric and legislative agenda at the state level. He most certainly serves as a role model nationally for what a principled politician can do against injustice and discriminatory actions. He has just been re-elected for a second term.

**Kevin de León.** His mother immigrated from Mexico at a very young age. After graduating from law school, he was elected to the California Assembly. A short time later he became a member of the State Senate. He rose through the ranks because of outstanding legislative endeavors to become the Senate's first Chicano president *pro-tempore* since the nineteenth century. As Senate leader, he has set forth a most active agenda that includes advocacy for education, housing, economic development, and international relations. An important priority on his agenda has been his many efforts to considerably enhance ties and projects between California and Mexico. He has personally led various successful Senate delegations to Mexico over the years.

Analysts have pointed out the remarkable advocacy, energy, and personal commitment that Senator Kevin de León has displayed during his tenure. He has served tirelessly and meticulously and has been a consistent champion of Mexican/Latino civil rights. He was the author of the first national legislation to avoid the separation of undocumented families as a result of deportation processes. In 2013, he headed negotiations with Governor Jerry Brown to pass a law to grant driving licenses in California to undocumented workers. He also successfully led the drive to raise the minimum wage, which greatly benefited Mexican-origin workers in the state. The very latest of Senator de León's initiatives is SB54, a bill known as The California's Values Act, which just awaits Governor Jerry Brown's signature. Its ultimate purpose is to make California a sanctuary state; in other words, "to protect the safety and well-being of all Californians by ensuring that state and local resources are not used to fuel mass deportations, separate families, and ultimately hurt California's economy."<sup>3</sup> This bill provides essential safeguards to ensure that police, schools, health facilities, and courts remain accessible to Californians, regardless of their immigration status. Specifically, it states,

1. State and local law enforcement agencies and school police and security departments will not engage in immigration enforcement. No state or local resources will be used to investigate, detain, detect, or arrest persons for immigration enforcement. No agency will detain or transfer any persons for deportation without a judicial warrant.
2. State agencies will review their confidentiality policies in order to ensure that eligible individuals are not deterred from seeking services or engaging with state agencies. State agencies shall not collect or share information from individuals unless necessary to perform agency duties.
3. California schools, health facilities, and courthouses will remain safe and accessible to all California residents, regardless of immigration status. Each shall establish and make public policies that limit immigration enforcement on their premises to the fullest extent possible consistent with federal and state law.<sup>4</sup>

So far, this bill is the most forceful and comprehensive anti-Trump initiative yet. As columnist Harold Meyerson recently wrote in the *Los Angeles Times*, “The California elected official who most personified the state’s resistance to President Trump and all of his work is Kevin de León.”<sup>5</sup> Because of term limits, De León concluded his tenure as president *pro tempore* of the Senate. He remains quite active and influential in the political arena.

**Anthony Rendón.** He is a third-generation descendent of Mexican immigrants who came to the United States in the 1920s and settled permanently in Southern California. He has a Ph.D. in political science from the University of California at Riverside. After college, he directed the important organization Plaza de la Raza Child Development Center, whose task was to advocate for child development and welfare, particularly of immigrant children. He was subsequently elected to the California Assembly where he continued supporting social programs including immigration and civil rights.

In the same vein as his Senate counterparts, Rendón has highlighted that the legislative branch in California is more than ready to confront the anti-Mexican rhetoric and practices of Donald Trump and his associates. He emphatically stated,

As can be observed, both leaders of the State Assembly and Senate are totally in accordance on their stances against this

horrid anti-Mexican discourse and agenda of Donald Trump. What Trump really meant when he stated that “California is out of control” is the fact that the State (according to him) is handily outside the political norm, but in fact the opposite is the case.<sup>6</sup>

State Assembly Speaker Rendon said California has the most manufacturing jobs in the nation and produces a quarter of the country’s food. He added, moreover, “If this is what Donald Trump thinks is ‘out of control,’ I’d suggest other states should be more like us.”<sup>7</sup>

**Ricardo Lara.** Lara is a first-generation son of parents who came originally to California as undocumented workers and subsequently gained their legal status under the 1986 immigration reform. From an early age, he was very passionate about politics. He began his political career serving as a staffer for California Assemblyman Antonio Firebaugh, a champion of immigrant rights. He was later elected to the California Assembly for five years. In 2012, he became a California Senator where he has held leadership positions on important committees such as the Committee of General Resources and others on education, immigration, civil rights, and international relations. He authored the law called the California Dream Loan Program, which provides financial aid for Dreamers to help with their university expenses.

In addition, Lara was instrumental in supporting other important bills in favor of immigrants; for example, a law permitting undocumented workers to get driving licenses. He was also a major proponent of a law, unprecedented in U.S. legal history, granting state professional licenses to undocumented workers to allow them to practice professions that require state licenses, such as law, medicine, and accounting, among others. No other state has ever passed such a law. Yet, California and the Chicano political leadership are once more in the vanguard

Trump’s most persistent rhetoric is unquestionably his anti-Mexicanism. It is also abundantly clear that his ire and racism against Mexicans are an integral part of his policy agenda.

In the November 2018 elections the Democratic Party in California experienced a “blue tsunami”; 21 Chicanos occupy seats in the Assembly and 7 in the state Senate.

of addressing the realities of California that ultimately also benefit the state as a whole.

Senator Lara introduced the Education for a Global Economy Bill, voted in by the electorate. It re-introduces bilingual education in California public schools, which has been banned by Republican administrations. This was a major victory for minority education and especially for non-English-speaking students in California.

Ricardo Lara has also worked extensively on promoting closer ties between California and Mexico on issues of economic development, education, and culture. He has met on a regular basis with Mexican officials and politicians to advance these efforts.

In 2018, Ricardo Lara was elected insurance commissioner, a position with a great deal of influence. As insurance commissioner, he is in fact part of the top echelon of California politicians. Lara is now part of California’s “Plural Executive,” which includes the governor and seven other elected officials.

**Eric M. Garcetti.** Of dual heritage, Garcetti is Los Angeles’s first elected Jewish mayor as well as the second Mexican-American mayor in over a century. His grandfather, Salvador Garcetti, was born in Parral, Chihuahua; subsequently, the family emigrated to the U.S. In 2006, Eric Garcetti became a member of the Los Angeles City Council. He was elected mayor in 2013 and re-elected in 2017. From the onset of his administration, he made immigrant rights and issues a central priority, establishing an office of immigration affairs as part of his agenda. When Donald Trump was elected, Garcetti stepped up his advocacy for Dreamers and other immigrants. Recently, he pointed out that the city of Los Angeles not only offers sanctuary to undocumented persons, “but we defend them.”<sup>8</sup>

Under his tenure, Los Angeles became a *de facto* sanctuary city and has been in the forefront of the battle against Trump’s threats to limit grants to the sanctuary cities.

His great commitment to this cause is exemplified by his recent statements to the effect that no one should be targeted in Los Angeles because of immigration status.

## A Concluding Note

It is obvious that, although important, these multifaceted initiatives and major victories by Chicano politicians in the Golden State do not represent a definitive triumph in this ongoing conflict. Donald Trump will be president for at least two more years. The significance of this is that the “war” between the two polarized factions has just begun. Trump’s most persistent rhetoric is unquestionably his anti-Mexicanism. It is also abundantly clear that his ire and racism against Mexicans are an integral part of his policy agenda. Despite the various key institutional checks and balances on the presidency, the head of the executive branch does wield enormous power and influence on all fronts.

After all, the president sets the national agenda and the overall tone of national politics. And let us not forget that the Supreme Court, the Senate, and a majority of state governorships are currently in Republican hands. And while certain members of the Republican Party do not necessarily subscribe to Trump’s extremism, many do. Also, the important factor of his substantial base of supporters must not be forgotten, with their deep-seated fear of the “threat” of the Latino-Americanization of the United States to their well-being, culture, and identity. All combined, these forces and proponents will unleash a most difficult upcoming period for the Mexican-origin community as well as other Latinos in the United States.

However, the outcome of the “war” is far from decided, especially in California. The demographic growth of the Chicano/Latino community, a substantial number of civic organizations, an increasingly college-educated population, a recent generation of Chicano and Chicana principled, nationalist, well-educated, and experienced elected and appointed officials will become defiant pressure groups that will use all the legal and political avenues at their disposal to confront this adversity. They all come one way or another from an immigrant experience, have contemporary personal immigrant ties, and have a substantial immigrant-based constituency. They have consistently struggled for immigration reform and for the

protection of immigrants' civil rights and provide a human face and dimension for the subject of immigration from Mexico and Latin America. And while the future is uncertain and the material conditions and political climate hostile, the will, power, energy, and knowledge that justice and history are on their side will be a more formidable foe to Donald Trump and his followers than they ever anticipated.

The November 2018 elections solidify this effort because of the fact that the Democratic Party in California experienced a "blue tsunami." Democratic candidates won even in previous Republican strongholds like the San Joaquin Valley and Orange County. In total, 21 Chicanos occupy seats in the Assembly and 7 in the state Senate. All these struggles remind us that throughout their history, Chicanos/Chicanas have faced Herculean odds and have been many times victorious. In the end, they will be again. In the words of Cesar Chavez, "Sí se puede." **MM**

▼  
Notes

- 1 The first part of this article was published in *Voices of Mexico* no. 104. [Editor's Note.]
- 2 Statement by Representative Becerra "A New Day for Dreamers," Washington, D.C., August 15, 2012. <https://votesmart.org/public-statement/735091/rep-becerra-a-new-day-for-dreamers#.XEISZ1xKg2w>.
- 3 Office of the Attorney General, "Attorney General Becerra Issues Law Enforcement Bulletins Providing Guidance to California's Public Safety Authorities under the Values Act," March 28, 2018, <https://oag.ca.gov/news/press-releases/attorney-general-becerra-issues-law-enforcement-bulletins-providing-guidance>.
- 4 See <http://www.cbhda.org/wp-content/uploads/2016/01/SB-54-De-Leon-CA-Values-Act-FACT-SHEET.pdf>.
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- 7 Ibid.
- 8 "Los Angeles Mayor Eric Garcetti Weighs In on Immigration Debate," NPR, March 1, 2017, <https://www.npr.org/2017/03/01/517988135/los-angeles-mayor-eric-garcetti-weighs-in-on-immigration-debate>.



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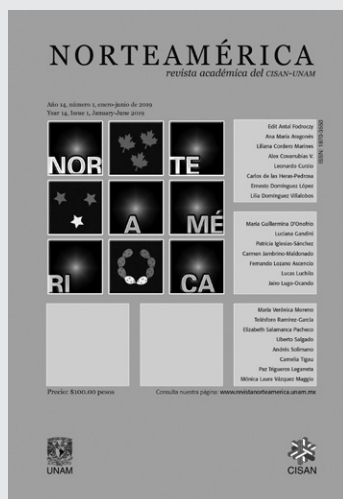


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# Italian and Mexican Migrants in the U.S.<sup>1</sup>

In today's complex world, differences, disagreements, and even rivalries among nations stand out. "Walls" have come into fashion for defending territories, privileges, and individuals, ratifying the position that considers setting up even more barriers to separate us and distinguish us from "the others" is a legitimate right. These circumstances surround our daily lives and are explicit in the migration that has acquired strategic importance in the international context.

For these reasons, and with the same conviction laid out by U.S. political scientist Seymour Martin Lipset when he said that nations can only understand each other in a compared perspective,<sup>2</sup> I consider it pertinent to remember the origins of the migration of two peoples to the United States whose experience is similar. They do not recognize themselves in each other, however, in the mirror of diversity that prevails in the United States and that often divides more than it unites.

Rudolph J. Vecoli's documented history relates that the largest number of Italians who emigrated to the United

States did so between 1850 and 2000, reaching six million. But it is also important to recognize that Italian language professors, musicians, and dance teachers began arriving from colonial times, and managed to inculcate local elites with a taste for Italian culture. However, by contrast, we should underline that in the nineteenth century, Italians became increasingly visible in urban spaces in the U.S. as street artists, manufacturers of plaster statues, and itinerant salespeople.

A particularly interesting story from that period involves the arrival of a group of political refugees after the failure of the movement for Italian national unity. Among them was Giuseppe Garibaldi, who lived for a time in New York. Garibaldi, who by coincidence was born on July 4, had a friendly relationship with Abraham Lincoln himself, and was invited to join the army to fight the Confederates. It is even said that the Italian hero wanted to become the head of the Union's armed forces, an aspiration he failed to achieve.

In the framework of the parallels between Italians and Mexicans that this article attempts to underline, another Garibaldi with the same libertarian vocation as his grandfather would arrive in Mexico in the first decade of

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the twentieth century, and join our revolutionary forces. Peppino Garibaldi did become a general in the service of President Madero's army.

It would be during that same era that more than 3.5 million Italians arrived to New York's Ellis Island. Most of them were young men who only emigrated temporarily, seeking to escape the extreme poverty in their homeland. Many of them were from Southern Italy (Calabria, Sicilia, and Abruzzo), and worked mainly as agricultural day laborers or construction workers in shipyards and building the railroads. It is estimated that only 20 percent came from Northern or Central Italy, although they did have in common their resistance to assimilation, manifested in their lack of interest in learning English.

One important change came about with the outbreak of World War I, since the labor market broadened out for them in the United States. They managed to become part of an industrial proletariat in steel and coal mining with the result that they gradually became more skilled due to on-the-job training. At the same time, others became tailors, barbers, and shoemakers who opened up small workshops or businesses.

It should be mentioned that imports to the United States of foodstuffs absolutely necessary in the Italian diet became more important, accompanied by the opening of fish markets, butchers shops, and the obligatory traditional bakeries. Traditional Italian cuisine made enormous headway in the destination country, giving rise to more and more restaurants. The oldest of these, according to CBS, was Fior d'Italia in San Francisco, California, founded in 1886.

No one who thinks he or she is familiar with the United States can deny the huge influence of this migration; it is clearly shown with the proliferation of pizza and pasta restaurants and shops. Even if Vecoli's opinion is that these migrants arrived to educate U.S. Americans' palates,<sup>3</sup> any realist has to say from the start that there is an immense distance between great Italian cuisine and the other kind that, geared to mass consumption, would

end up succumbing to fast food chains, where hamburgers, pizzas, and today even Mexican tacos fight for the taste of local consumers.

By 1920 there were more than 800 000 Italians in Manhattan, Brooklyn, and Queens, while on the Pacific Coast they concentrated in San Francisco. The state government itself implemented an incentives policy for agriculture, which gave rise to what are now the famous Napa Valley vineyards, where the Italian wine tradition put down roots thanks to families like the Gallos, who, by 1993, controlled 25 percent of the entire U.S. market.

### Contrasts with Mexican Migration

Let's contrast this now with certain aspects of the origins of Mexican migration to the United States, which obliges us to recognize that between the two countries there is a border of more than 3 000 kilometers that has changed over time. The most dramatic moment was precisely the Mexican American War (1846-1848). Mexico's defeat in that war cost it the loss of half its territory, giving rise to the paradox of many of our compatriots being settled in the area, making them *de facto* the first Mexican migrants to the United States when they opted to remain in their own places of origin (California and New Mexico).

By 1853, the borders between the two countries had been established, but the entry checkpoints took four more decades to appear.

Like with the Italians in the nineteenth century, extreme vulnerability was the main cause of growing emigration of Mexican men to our northern neighbor. They benefitted from the demand for labor in seasonal agriculture, mines, and, according to historian Barbara Driscoll, to cover the imperious need for labor generated by the dynamism that the laying of the railroad tracks brought to the country. She argues that Mexican labor in this sphere of the economy has been just as valuable as their contribution in the countryside.<sup>4</sup>

It was precisely the construction of the railroads in which the immigration of Chinese, Italians, and Mexicans coincided, at the same time that it differentiated them. Driscoll argues that the Chinese, despite being submissive and working tirelessly, did not assimilate into the receiving society, exacerbating the mistrust of U.S. Americans, which led to a xenophobic consensus that backed

Both groups have dealt with the rejection and stigmatization by mainstream U.S. society, but their work, tenacity, and effort have turned them into long-term protagonists.

the passage of the Chinese Exclusion Act in 1882.<sup>5</sup> Its impact was not long in coming, so employers began to try to attract other immigrants. However, Driscoll argues, company managers thought that Italians were prone to fighting, unless they were from the same town in Italy.<sup>6</sup>

All of this benefitted the Mexicans, who, from 1880 on began, concentrating in the U.S. border area. But even their cheap labor was not enough to make up for the lack of workers. By the early twentieth century, the economic and social situation in Mexico, with the deterioration of the countryside, precarious conditions, and scarcity of jobs, became the decisive factor for the mobility of our labor force toward the *Norte* in concurrence with the interests of U.S. railroad companies' recruiters. By 1920, crews of Mexican workers in this sector made up more than 80 percent of all the crews in Arizona and nearly 50 percent in Texas.

Today, we can understand how the work of our countrymen on U.S. railroads created the conditions for them to gradually move into and be distributed throughout its huge territory. This process also made possible their entry into new kinds of jobs; this is what happened when they reached the Midwest, where, in Chicago, for example, they would move into steel and meat packing as well as the service sector. With time, the big cities of Los Angeles, California, Chicago, Illinois, and Houston, Texas, became the places where the largest population of Mexican migrants concentrated.

It is important to recognize that, according to the Migration Policy Institute, in 1860 only 27 500 Mexican migrants lived in the United States; by 1900, there were 103 400. One hundred years later, there would be more than 9 million, and by 2017, the figure had risen to 11.2 million, or 25.3 percent of all immigrants in the United States.<sup>7</sup>

The first flows logically came from the most densely populated areas of central-western and northern Mexico (Guanajuato, Jalisco, Michoacán, and Zacatecas), but beginning in 1980, southern states like Guerrero, Oaxaca, and Chiapas joined the list of sending states.

We cannot overlook the fact that, down through the complex history of Mexican migration to the United States, the wage gap between the two countries has always favored our neighbors. To get an idea of what that means, suffice it to say that in 2017, the minimum wage in Mexico was Mex\$80 a day (US\$4.20), while in the United States, it was US\$7.25 per hour.

Giuseppe Garibaldi, who lived for a time in New York, by coincidence was born on July 4, and had a friendly relationship with Abraham Lincoln himself.

In short, we can say that the development of Italian and Mexican migrants to the United States are comparable historically and humanly speaking. A great deal could be added about their similarities: the influence of Catholicism, the community and family traditions, and even gender relations. However, given space limitations, my objective here is simple and direct: to show that these comparisons are needed, beyond identifying common problems.

We recognize that both groups have dealt with the rejection and stigmatization of mainstream U.S. society, but their work, tenacity, and effort have turned them into long-term protagonists. Are invisible barriers like xenophobia perhaps the most difficult to bring down?

The mark Italians made continues to be visible among the 16 million U.S. Americans who considered themselves Italian-Americans in 2000. To them, we must add a new wave of young talented migrants who in the twenty-first century are pursuing the American dream. For their part, many young, well-educated Mexicans are doing the same: in 2015, the United States could boast 36 million people of Mexican origin. ■■■

## Notes

**1** This article has been made possible thanks to support from the National Autonomous University of Mexico and the General Office for Academic Personnel (DGAPA) through the 2018 UNAM Program for Support for Academic Personnel Ongoing Professional Development (PASPA)

**2** Seymour Martin Lipset, *La división continental. Los valores y las instituciones de los Estados Unidos y Canadá* (Mexico City: FCE, 1993), p. 13.

**3** Rudolph J. Vecoli, "Negli Stati Uniti," in Piero Bevilacqua, Andreina de Clementi, and Emilio Franzina, eds., *Storia dell'Emigrazione Italiana* vol. 2 (Rome: Donzelli, 2009), p. 60.

**4** Barbara Driscoll, *Me voy pa' Pensilvania por no andar en la vagancia. Los ferrocarrileros mexicanos en Estados Unidos durante la Segunda Guerra Mundial* (Mexico City: CIESAN, UNAM/Conaculta, 1996), p. 40.

**5** This is seen as the first law that restricted immigration to the United States.

**6** Driscoll, *ibid.*

**7** Migration Policy Institute (MPI) Data Hub, "Mexican-Born Population Over Time, 1850-Present," <https://www.migrationpolicy.org/programs/data-hub/charts/mexican-born-population-over-time>, accessed January 14, 2019.



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Text and Photos

# FREEDOM HAS NO BORDERS AND NO HUMAN BEING IS ILLEGAL<sup>1</sup>

*The quest for a social Utopia is a ministry. My human commitment is my central axis and photography is my tool. This innate urge has not changed yet, despite my wishes, but I have. And I think that I have at least managed to contribute questions to others, to pass on to them the feeling of urgency about these times, the need to be moved to outrage in the face of injustice and to bear witness using solidarity as a language, the passion of going after the living stories, trying to narrate from inside oneself, living every process from the point of view of beings of flesh and bloods, almost always as a lone wolf, listening to others with all my senses, accompanying them despite the risks to continue building a life, a testimony, a struggle that goes beyond the image and the consequences it might have and of our own acts.*

FRANCISCO ELÍAS PRADA<sup>2</sup>

## A Life Story

Everything began when I migrated to live with our ancestors, without being too aware. I was just a child, preceded by my parents' Utopia and their lifelong quests that I later recovered and have proudly appropriated, adding my mistakes and circumstances. We traveled into the depths of these lands in Capanaparo, to the wonder of the plain, intending to contribute to stopping the violence and historic extermination of the Pume and Kuiva of Venezuela's Apure

Highlands. The attempts at getting justice continued to survive there in the memory of these peoples.

Many believe that migrating is a voluntary decision, that it's just picking up your bags, saying good-bye to your loved ones, and leaving. The truth is that you leave many things behind, and that's why it's so hard. In most cases, it's a matter of waking up and leaving the house in whatever you're wearing and having to do anything to save your life and the lives of your family. In that very instant, you become another human being: an immigrant, a transmigrant, a displaced

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\* Photographer of the Ojos Ilegales (Illegal Eyes) project; ojosilegales@gmail.com.



7 duelos (Mexico, 2012).



A young man waiting for a train questions us with his gaze -questions without answers. Thousands like him are awaiting the opportunity to get on the deadly machine (The Beast) to continue their journey through Mexico to the northern border. Tultitlán, State of Mexico, 2012.

person, often a target of political persecution, or someone running from a dire social or economic situation who is only trying to survive.

I've been a migrant all my life, persecuted by my own anxieties and dreams. Mine has been a perennial Diaspora; I've had to leave everything time and again, like a law of life, sometimes as a target of political persecution or by my own decision when I couldn't find a decent place to exist and fulfill myself, and other times because of instantaneous deportation from your own country.

Transmigrants are ephemeral human beings; extremely vulnerable, overwhelmed by the circumstances of their exodus. This is why I try to construct a testimony of those processes in the

quest to somehow desperately contribute to the construction of the urgent social Utopias.

I believe in the image as a tool for creation, for narrating gestures in a moment and certain circumstances. I believe that freedom is a human right: we all have the right to be free, to try by different means to find happiness. And one of those means is migration.

In the United States, I experienced deportation, persecution, family separation, the sadness of uncertainty, direct confrontation with a legal system that judges and executes without listening to reasons. I was separated from my family there. My U.S.-born son and his mother were expelled. I still remember her, handcuffed like a criminal at the door of the plane that was

*Faith* (Huehuetoca, State of Mexico, 2012).



A solitary man waits for the train to continue the road to the *Norte*. His only possession: hope.



Nicaraguan Mother (Mexico, 2014).



Atop the train known as “The Beast,” this mother is traveling in search of her daughter, presumed to have been kidnapped on the Mexico-Guatemala border to work in a prostitution ring.

waiting to carry out the verdict surreptitiously, illegally handed down in an underground city located under the airport, where thousands of migrants will be deported and where they wait, rubbing elbows with their captors, their judges, and their executioners.

### Mexico, a Vast Territory

Mexico is not a country: it's a vast surreal territory, magical, violent, and mystical. There come together the times from Quetzalcóatl down to the Pachucos; its population; its colors; its 68 original languages; its codices; its diverse cul-

tures; its peoples in struggle; the monuments, mute after so many centuries, that tell us where we come from; poetic and brutal images. The first revolution narrated by photography and cinema, which seduced us all, but then went away betrayed, after the bullets were aimed at its own people. Mexico is an iconic place for me; I had to go there, trying to experience its vastness. Since I was a boy it was part of my imaginary; I wanted to meet up somehow with that profound country, toward which the great photographers turn their gaze. I followed that trail, especially to photograph the First Peoples, the lives of those who migrate, their abandoned towns, the loneliness of their houses, to capture

the transmigrants, daring to cross the hostile territory that takes their lives.

With that emotional burden, we arrived in self-exile from Venezuela. It was like approaching what my life has been, with photography as a medium and pretext to reach that other human being. For that reason, I'm here with the mutilated, with those who take the risk as a last attempt at survival, with the mothers who desperately seek some news of their children, some trace; with the loneliness of their sad towns with their luxurious houses built with the dollars earned in silence, houses empty of emotions and abandoned to time, brothers and sisters in

the cause of those drowned in the Mediterranean, of the little *cholas* of Quiaca, on Argentina's border with Bolivia, and those who cross over the triple South American border, who come and go like ants. No one is illegal. We're all human beings with the right to seek a better life. You cannot persecute or criminalize migration.

Mexico has traditionally been a migrant-sending nation, to the United States. This is the densest, most important epic drama of today, when huge contingents are exposed to these circumstances: the world has 191 million migrants, 25 million of whom left Latin America in the first five years of the twenty-first century.

*Hope as Faith (Tapachula, Chiapas, n. d.).*



Mothers, sisters, grandmothers follow the tracks of their loved ones who have disappeared on their way through Mexico as migrants. Nothing in the world can stop this incessant search for answers.



Innocence Lost (Huehuetoca, State of Mexico, 2014).



Beaten indigenous teenaged girl Migration does not distinguish between genders or ages, and hundreds of children, women, and teenagers abandon their homes.

Other Hells (Coatzacoalcos, Veracruz, 2012).



Central American mother, looking for her disappeared migrant daughter.

### Transmigration in Movement

It's not just about doing a photo-essay. The intention is to contribute to changing this situation and, through photography, my instrument, I generate other discourses in alliance with processes of struggle and social change. There are so many stories behind the photos, and often they have more weight than the images. The images reflect a small part of my connection to the people in them, and I think that if I manage to transmit that, I can make a difference: experiencing the experience, the mixture of emotions, challenges, fears, and insecurities. Without that emotional connection, the images would not have that which someone perceives even without any references to this or that story.

I was coming from the United States; I've been on "the other side," the side of "the Amer-

ican way of life," with the privileges and dramas of living in the iconic city of New York and with its imaginary. I had also experienced the reality of the migrants, confronting the levels of intolerance in the city; in fact, I had done a series of photographs about police brutality.

Once in Mexico, I began working with the Meso-American Migrant Movement and with I Am a Migrant and Migrant Culture (both NGOs). Among their many activities, they provide economic, logistical, and human support to migrant shelters. And it should be noted that the train known as "The Beast" often runs right in front of some of these shelters.

Many try to get to El Norte on that train, although it's not made for passengers: it's a cargo train that transports manufactured products



from the big maquiladora plants in Mexico and Central America to the U.S. border. The migrants travel on the roof, running all the risks that this implies, beyond just getting on board, which is dangerous in itself, in order to get to a country that doesn't take them into account except as just another commodity.

You have to go look for the migrants at the train tracks. At first, they don't want to go near the shelters, oases of solidarity in the middle of nowhere, because they're afraid to be detained by immigration authorities or caught up by members of organized crime who are on the prowl near them. So, I take photos in the shelters, on the train tracks themselves, at garbage dumps, and in the places where the migrants

protect themselves from organized crime, from the Maras, from the police, from migration officials.

### A Work in Progress

I have set out five crosscutting axes for this ongoing project: unaccompanied migrant children, women migrants, people injured on The Beast, Central American mothers looking for their disappeared migrant children, and we migrants ourselves.

Migration is a global drama. Right now I'm in Mexico; I must go to Guatemala, Honduras, El Salvador, Nicaragua, and Belize, using my own

### Witnesses of Exception (Lecheria, State of Mexico, 2012).



At least three migratory routes cross Mexico from south to north: uncertain spaces, full of the most unimaginable dangers.

Eternal Rest (Tapachula, Chiapas, 2014).



Thousands of migrants disappear along Mexico's routes. Here, a mother in search of her daughter puts marigolds on a mass grave in the cemetery.

money. I also need to go to the Quiaca border between Bolivia and Argentina and to the triple border joining Argentina, Brazil, and Paraguay.

This project will be disseminated on several trans-border platforms: a website, where the work can be seen from anywhere in the world, with images, interviews, selected videos, and a section —perhaps the most important— where every migrant who wants to, who identifies with this reality, can contribute with his/her stories and images and where disappearances will be denounced.

Traveling exhibitions will also be organized on The Beast, in shelters, and on the street,

which is where migration is experienced. A photo book will also be prepared. But, to do all this, I will have to make alliances and partner with others to contribute to the knowledge about one of the most complex human processes of our time. **VM**

Notes

- 1 Photographs in this article, by Francisco Elías Prada, are part of the photographic essay *7 duelos. Transmigración en movimiento* (7 Duels. Transmigration in Movement). [Editor's Note.]
- 2 <http://franciscoeliasprada.wixsite.com/franciscoeliasprada>, 2016.





Gretta Hernández\*

Text and Photos

## THERE, IN THE CLEAR WATERS

**T**he history of the communal outdoor laundry in southern Mexico City's La Candelaria Neighborhood is not easy to tell. The existing archives show little record of it. However, we do know that before it existed, the San Lorenzo Chapel stood on the same spot; but a judge ordered the saint be removed to a church already built for it a few streets away.

### Legend and Tradition

In the beginning, the washboards were on the ground, on a dirt floor. That's how Señora Tiempo (Mrs. Time) —strange as it sounds, that's really her name— remembers it. She's 65 today, and she has been washing there for 55 years.

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Swinging her brown hands as she talks, she says that her mother had washed in the same place, but she did it on her knees on the ground.

There was a channel where the water flowed, and everything was surrounded by grass and a few cows. At that time, the white clothing was left soaking in lye and then beaten against the floor, rinsed, and hung on *mecate* clotheslines [a Nahua word for a cord made of agave cactus fibers] strung from two large wooden poles. By the time night fell, we were surrounded by walls of clothing stretching everywhere. The washerwomen brought with them a stew of some kind; we children passed the day joking and running through the green fields.

Most of the people who wash there have no running water in their homes or only have it intermittently.

That's how things were until the city put an end to that landscape, dried up the rivers, and raised a string of badly distributed houses among labyrinthine streets paved in stone, characteristic of the town of La Candelaria.

Señora Tiempo assures me that some women drank *pulque*, and, even though today they no longer share their food or drink that traditional beverage made out of maguey, they often cooperate to give soap and pay the entrance fee for those who don't have enough to pay for it themselves, so that no one is kept from scrubbing her clothes.

But the non-official chronicles, the ones the women talk about while washing, attribute an even older history to the place where the chapel had once stood.



They say that before the altar to Saint Lawrence was there, there had been a cemetery, which may be why some of them swear they can hear the lamentation of the souls in pain around the big pool. Some say that it's a child and swear that someone has pulled on one of their braids or on their skirt. I heard a women tell a more fanciful story, saying that once she stayed on, washing until nighttime, and when all the street sounds had gone quiet, she heard the typical

noise of horse hooves. Puzzled, she went to look and saw a couple of men picking up bodies and piling them on a cart. "I pinched my forearm to see if I was dreaming, but it all kept happening," says Ángela without taking her eyes off the garment she was washing.

It costs five pesos per washstand. It doesn't matter how many hours you spend there or how much clothing you wash; those five pesos give you access for the whole day. Most of the people who wash there have no running water in their homes or only have it intermittently. Others don't have a washing machine, and some of them just go because they enjoy it.



### The Survival of a Place to Meet and Learn

The inhabitants of the town of "La Cande," as they affectionately call this area devoured by surrounding neighborhoods, have defended the continued existence of these facilities for years. Term after term, they convince the local Coyocacán borough heads —now called mayors— not to close them.

Natives from La Candelaria, but also other people from towns as far away as Topilejo, on the edges of Mexico's capital, or closer areas

Natives from La Candelaria  
have been coming here  
for more than 70 years  
to wash clothing,







like Santa Úrsula, have been coming here for more than 70 years to wash clothing, not only their own, but also other people's. "Washerwomen who do other people's laundry are at their posts at the washstands starting at 6 a.m. so they have enough time to get it all done," Señora Inés tells me. She only comes on Saturdays and Sundays with the clothing accumulated during the week.

She has a washing machine, but she assures me that the clothing just doesn't get clean in the machine, and so she comes to the public laundry. She goes to the market very early to buy liquid soap sold to her in a "Jarritos" soft drink bottle,<sup>1</sup> and she hurries to get the best washstands. Those are the ones close to the main pool of water. "That way you don't break your back carrying the buckets of water to the washstands at the back," says Inés as she rinses dozens of socks in a basin with fabric softener.

Julia has been coming to wash here for 30 years. First she came when she was single; and, when she got married, she brought her husband; and now she brings her three grown sons so they can learn to wash their own clothes. Across from her, another woman shares her opinion that washing machines don't get the clothing clean, and recommends putting the garments with the most difficult stains in boiling water, and then, after a few minutes of the soap bubbling, they're ready to scrub.

Washerwomen who do other people's laundry are at their posts at the washstands starting at 6 a.m.





In addition to the clothing, troubles are also scrubbed here. The women insist that washing helps them clear their minds.



### “Some Problems Can Only Be Solved Like That: Scrubbing and Scrubbing”

In addition to the clothing, troubles are also scrubbed here. The women insist that washing helps them clear their minds, and that it's just not the same doing it at home as coming to the laundry where, when you hear the splash of the water and smell the lemony scent of the bar of soap, your ideas come clear and you forget your troubles. At least, that's what Julia says. She gets up Monday to Friday at 4 a.m. to go to work, but on the weekends, she comes to “relax” by washing.

“Even if I get tired of scrubbing, some problems can only be solved that way: scrubbing and scrubbing,” one woman adds to the conversation. When I ask her name, she asks me to call her “incognito.” She's there with her husband, who washes the blankets and heavy clothing. He speaks little, but seems friendly when filmed. He says he doesn't like all the gossiping at the laundry and concentrates on washing, rinsing, wringing out, and hanging the clothing, and then waiting in the shade while it all dries and he reads *La Prensa* (The Press), a city tabloid focusing on crime reports.

Stories of heartbreak are by no means absent. Another woman who doesn't want to give her name tells the story of a young woman who gave them the details of her wedding preparations as she washed. But one afternoon she stopped coming; they didn't see her that day or the next. Many months later, she came back with a cane: diabetes had taken her sight, and her fiancé, scared at seeing his future wife blinded, disappeared. Even without her eyes, this young woman continued washing there until the disease took her. At the end of her story, the woman gathers her dried clothes, folding them meticulously.



And to do honor to the Mexican phrase “public laundry catfight,” amidst scarcely hidden laughter, they admit that, yes, there are tussles, but not very frequently. Women might go after each other because one might pick up a wash basin that wasn’t hers or because another one stole a piece of soap. Naturally, there are those who have their favorite washstand, who feel that their seniority gives them the right to its exclusive use, and so they fight with the “usurpers.” However, they do say that democracy and cordiality is the prevailing tone.

### Parrish Announcements under the Sun

This Saturday, everything is calm and relaxed. There are few washerwomen, so few that Julia can use two washstands, one for colors and the

other for whites. Under the aluminum roof, the air is cool; outside, the sun heats up the sidewalks. It’s only April and there are already murmurs about how the expenses for the August 10 Saint Lawrence patron saint fiesta will be shared.

Some say that the parish priest will say mass at the laundry in honor of the saint who was worshiped here in the distant past, but others contradict that, saying that the mass will be held in the church. We’ll have to wait until August and revisit the communal public laundry in the town of La Candelaria to see which of the two is right. After all, that’s just how public laundry gossip is. **MM**

### Notes

<sup>1</sup> “Jarritos” is the trademark of a very popular Mexican soda. [Editor’s Note.]



# TIGERDOG<sup>1</sup>

by Raúl Motta\*  
Illustrated by Santiago Solís\*\*

*Night is an immense mouth trying  
to learn to speak an ancient language.*

JUAN VICENTE MELO

“Who’s that?” I ask, looking at myself in the mirror. Nothing, nobody. I take another sip of rum and light up a cigarette. With closed eyes, I spell her name out loud.

“B-r-e-n-d-a.”

I’ve already waited terribly far from her name. That name that necessarily must be the only one that fits her, and, anyway, the only one I can call her so it doesn’t fade away from my lips.

Then I spell it syllable by syllable, touching the roof of my mouth with my tongue as if caressing her skin.

“Bren-da.”

That name is fire, the invocation awakening the night, and with it come flaming snout hounds ready to devour everything. One of them has hidden in the darkest corner of the room, the tigerdog with burning eyes like two pagan pyres. I take another sip of rum, repeating to myself that it’s only a hallucination. You’re drunk, Juan Vicente, that’s all. Is that all? I’m dreaming, I say. Nightmares again, this not knowing for sure where I am, if I’m asleep or awake. I try to calm down, light another cigarette; I can’t stop shaking. The tigerdog is lurking, still, waiting for me to turn my back to bite me. I can see its orange skin with black stripes along its back. It growls

at me, baring its teeth, drooling its white, thick saliva on the floor of the room. He’s the same one I saw before, the one who ripped Brenda’s blue dress apart the night she walked out on me. I yell at him to leave – the yell bouncing off the walls of the room, dying in there. I won’t let him devour me. I rush out to the street, trusting that the beast will lie still and not chase after me. I feel the shadows following me, talking to me amidst the sound of the whistling wind: *Credo in unum Deum, Patrem omnipotentem, factorem coeli et terrae, visibilium et invisibilium. Credo in unum Deum.*

I walk, avoiding looking at anybody; they all look so alike: the same black, shifting eyes. The moon burns in the sky, its reflection guiding me around the embers of the city, that other city of towers and labyrinths. I carry the bottle of rum in my hand, take a sip from it, feel the burn in my throat, coming out through my mouth and my eyes.

My steps lead me to Carlos, my musician friend. I climb the steps to his apartment. I run into a couple down the hallway; looking out of the corner of my eye, something seems familiar about them. They don’t notice me since they’re devouring each other with kisses, destroying their bodies, one against the other. I stop for a minute to smoke, burning my fingers with the match. She’s wearing a blue dress that hugs her shape like an extension of her skin. I imagine

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she smells like fresh grass, or limes. He turns his head to look at me, our eyes meeting, and I recognize him, I recognize them both: it's me; it's Brenda and me. I run down the hallway stopping outside Apartment 33. I'm out of breath, inhale deeply, and knock on the door loudly until Carlos opens. He looks me up and down, asks if I am well. Without answering I walk into the apartment, sitting down quietly on the sofa for a moment, agitated like a wounded animal. I get my wallet from my pants pocket, taking out Brenda's picture. Carlos comes from the kitchen with a bottle of whisky and two glasses, pours for both, and sits across from me. I can't let go of her picture, but I close my fist and crush it. I take a big swig of the whisky. My friend says the only goddess has been broken to pieces, that I should stop looking for her, that all women are one and the same. His words are meaningless. I finish my drink and ask for a refill. I open my hand and look at the crumpled picture, letting it fall inside my glass, so it floats on the whisky with a soft, ochre-tinted movement. I look at the deformed picture floating on the surface; it seems as if it might speak to me or try to tell me a secret I can't understand. I ask Carlos to play the piano. He refuses. I drink the glass down in one gulp. He says we need to talk, that I must forget all the nights, that I must fight the fear, the hope. I peer out the window toward the avenue, the wind blowing in my face. I feel dizzy, the light flickering timelessly around town. I tell him I'm forced to not forget her. He pours more; I light up another cigarette and burn my fingers with the match again. I insist on him playing the piano. He looks at me with a tired expression, maybe a little fed up. He puts his sheet music in my hands and asks me to pick a tune. I open them at random and pick the first one I see. Carlos carefully opens his piano lid, settles himself on the bench, and starts playing. The music seems to be alive, materializing in front of me. The

**The sounds multiply,  
turning into birds, crashing  
against the windows.  
Music is no longer music:  
it's a roar.**

sounds multiply, turning into birds, grackles croaking and crashing against the windows. I can't stand it and cover my ears with my hands. Music is no longer music: it's a roar. I tell Carlos I have to leave; he wants me to stay, to have another drink. I try to answer but I can't, words faltering on my lips. I pick up the bottle of rum I left on the floor, get up from the sofa, and stumble toward the exit. Carlos opens the door, hugs me goodbye, and asks me not to turn back. I leave the apartment, tottering toward the end of the hall. I look around, not wanting to run into the kissing couple again. There's nothing there, nobody. I take a sip of rum and go downstairs holding on to the walls, almost clawing at them.

On the street I hear again the voices of the shadows, now louder and closer:

*Credo in unum Deum, Patrem omnipotentem, factorem coeli et terrae, visibilium et invisibilium. Credo en unum Deum.*

Walking aimlessly down the avenue, I run into a clutch of hookers. One of them comes up to me and asks for a cigarette; I give her the last one and offer a match; she shows me her buttocks, her firm buttocks under a short, yellow skirt. "Wanna fuck?" she asks. "It's 200, 250 if I blow you." I shake my head no. "Why? You a fag?" The others laugh. I walk by them, their faces deformed, expanding and contracting, their laughter sounding deep and low, washing over my skin and giving me shivers. I try to run but my legs won't work; they feel heavy and tremulous. I walk away slowly until I reach a parallel street. I'm looking for a place to buy more cigarettes, but everything's closed and quiet. I need a cigarette. Watching the smoke coming out of my mouth relaxes me, makes me feel lighter, reminds me of the fog rising from the sea surrounding my house at night when I was a kid. A police car comes by,



lights shimmering blue-red, blue-red, blue-red, siren blasting next to me. The squad car stops; I take a deep swig of the rum. Two cops get out, the fatter one asking me, “Your horny ass is looking for hookers, right? Fuck, you went right past them; they’re a block back there.”

The other cop, tanned dark by the sun, stares me down, looks at the bottle of rum and says, “You’re shitfaced; you’re coming with us.”

“I can’t go with you,” I say, “I have to go ahead.”

“Get in the car, we’re taking you in.”

“I can’t go back, Carlos said not to.”

He opens the squad car’s door and drags me toward it. “Get in there and stop talking bullshit.”

“I have to find her; I’m sure she’s nearby, night feeds on her body.”

The fat cop takes the bottle of rum away from me, I try to hit his jaw but miss. The other one punches me square in the face; I fall on the sidewalk, my face is burning, blood flowing down my nose and staining my shirt collar.

“Let’s see if that shuts you up, you fucking drunk.”

Between the two of them, they pick me up and shove me inside the car. They turn their lights on and start moving. We drive down several streets; I see cars out the window, their headlights blinding me. My face is burning. The cops talk to each other, but I can’t make out what they’re saying; there’s some kind of buzz inside my head, surely caused by the blow I took. We drive around the slums until we come to an empty lot. They push me out of the car and force me to walk a few yards. The fat cop punches me in the stomach, knocking me down, breathless. They kick me; I feel their boots all over my body, but there’s no pain. I try to protect myself, covering my face with my arms, but it’s pointless; they’re kicking me harder and harder. When they get tired, they go through my pant pockets, find my wallet, empty it, and throw it near me. One of them —I

**The tigerdog looks at me,  
its snout aflame. It’s waiting  
for me to shut my eyes so  
it can pounce and devour me.**

can’t tell them apart anymore; they look so similar—pours what’s left in the bottle of rum on my face and neck. The taste of blood and rum in my mouth is sweet. They walk briskly away, covered by the loneliness of this

place. I lie there for a while, motionless, until I gather enough strength to stand up. I dust myself off; my ribs are aching. I pick up the wallet, fix my hair a little bit. I want a cigarette and a little more rum. I walk straight ahead, but can’t find anything; everything seems to be dying away, vanishing amidst the shimmering street lights. I rub my hands and raise my collar trying to fend off the cold. I cross a few streets suddenly realizing I’m about to arrive home. Night is dying, about to be perfectly still.

Dawn breaks when I get home. I look for my keys inside my pockets; I can’t find them; I must have lost them in the empty lot, but the door isn’t locked. I walk in and go upstairs to my room. Everything seems quiet. I hear a howl in the room and find the tigerdog in the same corner where it had taken refuge. I feel nauseated when I see it and cover my mouth with my hands, trying to hold off the vomit. I take a deep breath, my body aches all over. Nausea turns into heaves. I run to the bathroom to throw up. I look at myself in the mirror and see a reflected face covered with dust and dry blood.

“Who’s that?” I ask myself. Nothing, nobody. I go back to the bedroom and lie on the bed, listening to the shadows chasing me down the street but I can’t see them: *Credo in unum Deum, Patrem omnipotentem, factorem coeli et terrae, visibilium et invisibilium*. The tigerdog looks at me, its snout aflame. It starts barking; it’s waiting for me to shut my eyes so it can pounce and devour me. I’m so tired. I close my eyes. ■■■

Translated by Gerardo Cárdenas.

## Notes

1 Original title, “Perro tigre.”



# Universidades

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La Universidad Andina del Cusco

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Text by Ana Luna\*  
Illustrated by Ricardo Figueroa\*\*

# THREATENED SPECIES OF COMMON CONCERN



Canada, the United States, and Mexico share ecosystems that are home to land and marine species that freely cross national borders, and they can only be protected with tri-national collaboration.



Pink-footed shearwater

Short-tailed albatross

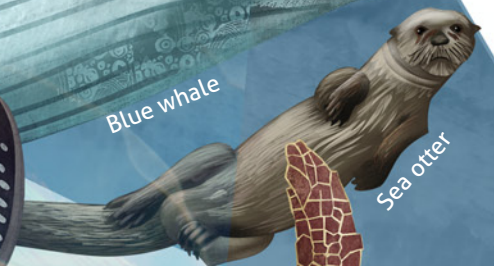


Killer whale



Blue whale

Grey whale



Sea otter



Leatherback sea turtle

Hawksbill sea turtle

**Shared threatened marine species** include mammals (the blue whale, the grey whale, the killer whale, and the sea otter) and birds (the pink-footed shearwater, the short-tailed albatross, the Pacific green turtle, the hawksbill sea turtle, and the leatherback sea turtle or luth).

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These species depend on the continued availability of habitats for breeding and feeding, as well as transit corridors and stopping-off points along their migratory routes.

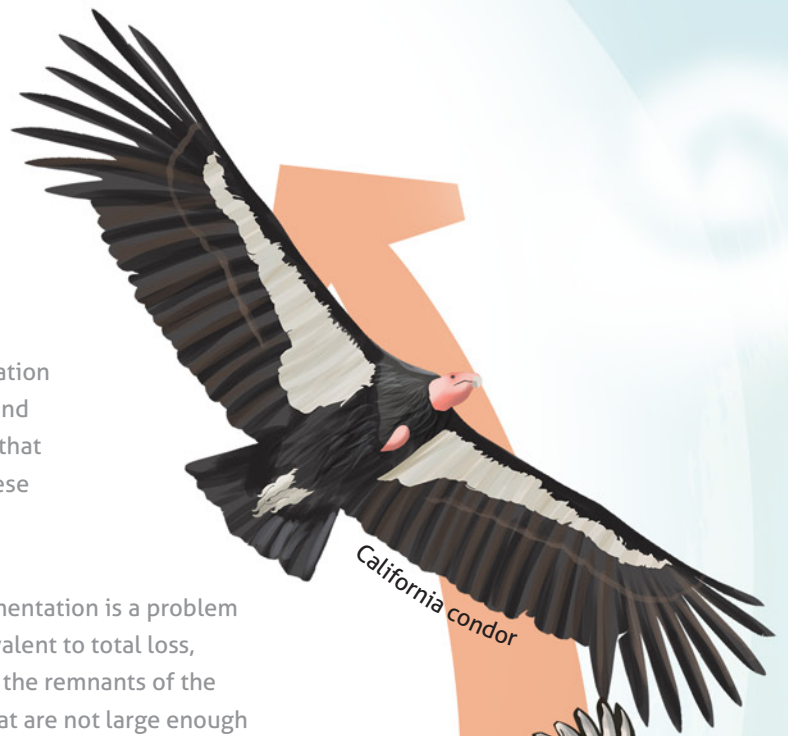
Climate change, the fragmentation of habitats, invasive species, and contamination exert pressure that affects the conservation of these native species.

Land habitats are destroyed by factors such as the conversion of natural habitats to agricultural or urban use (the use of pesticides or urbanization), changing the course of rivers, or extraction of water from waterways.

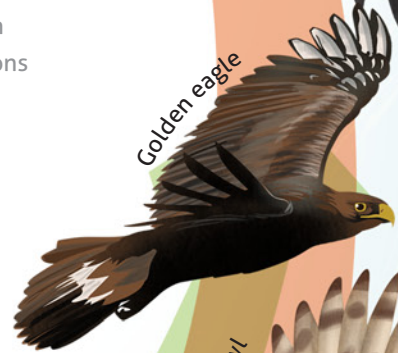
The introduction of invasive species is the biggest threat for biodiversity continuity, since they compete with native species for both space and food, propagate diseases, and upset ecosystems' natural processes.

Fragmentation is a problem equivalent to total loss, since the remnants of the habitat are not large enough to maintain viable populations of some species.

Climate change will intensify the danger. With time, species will respond to climate pressures by moving north and to higher elevations to more acceptable habitats, but they will not always be successful.



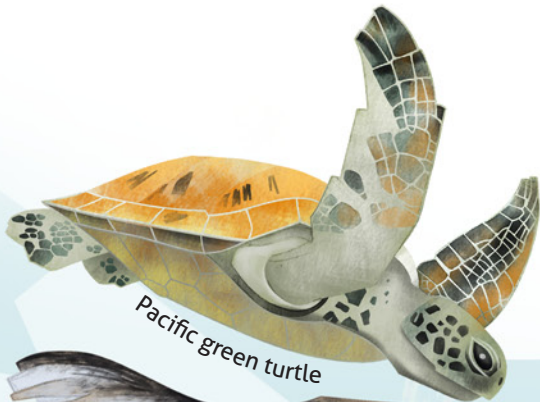
California condor



Golden eagle



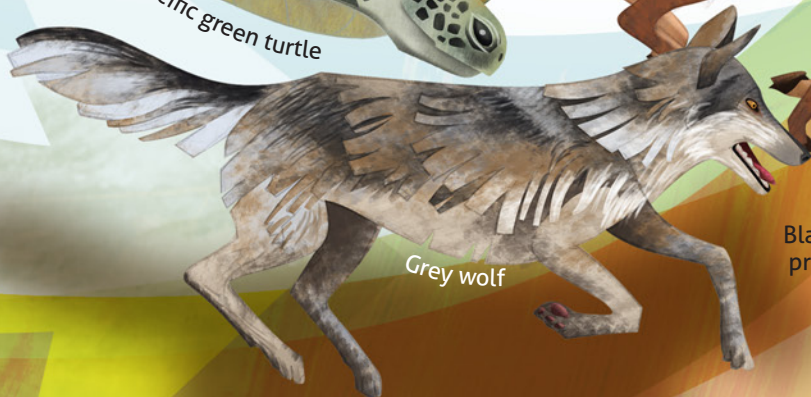
Burrowing owl



Pacific green turtle



Pronghorn antelope



Grey wolf



Black-tailed prairie dog

**Shared threatened land species** include both birds (the burrowing owl, the California condor, and the golden eagle) and mammals (the black-tailed prairie dog, the grey wolf, and the pronghorn antelope).

María Emilia Fernández\*

# SO FAR FROM GOD AND SO CLOSE TO EACH OTHER: THE UNITED STATES IN CONTEMPORARY MEXICAN ART

One of the most famous sayings about Mexico and the United States has been attributed to Porfirio Díaz, a dictator who ruled from 1877 until the 1910 Revolution. Enamored of European culture, he supposedly lamented his country's position on the globe, saying, "Poor Mexico. So far from God and so close to the United States." This statement from over a century ago was opportunely updated by Mexican novelist Carlos Fuentes, at the end of his book *La frontera de cristal* (The Crystal Frontier [1995]). "So far from God and so close to each other," is what we ought to remember in view of the political, economic, social, and cultural circumstances surrounding the current Mexico-U.S. relationship, a powerful rewording that serves as the title for this essay.

This article looks at how the United States has been represented by contemporary artists working from Mexico. To cover such a complex subject in detail would be nearly impossible, so, instead, this more modest proposal invites readers to review four recent works or artistic projects. Using the North American Free Trade Agreement (NAFTA) as a reference, this intentionally incomplete survey begins with a photograph taken in 1993 by Gabriel Orozco and ends with a project still underway today. The aim is none other than to allow readers to catch a glimpse of the contemporary art panorama in Mexico and to look at how artists have chosen to portray their relationship with our neighbor to the North.

## A Long Time Ago on an Island Not So Far Away...

Gabriel Orozco may be a household name in Mexican contemporary art today, but in the early 1990s, he was still working his way up. While preparing his first solo exhibition at New York's Museum of Modern Art, he took an iconic photograph titled *Island within an Island* (1993). The image shows a collection of wooden planks and debris piled up against a low fence, mimicking the New York City skyline seen in the background. The assembled refuse allows one to see the Big Apple anew, no longer with the dazzling allure of Times Square or the symbolic charge of the Empire State Building, but through a vacant parking lot south of the island, in decay due to demolitions and the bankruptcy of many companies in Lower Manhattan.

This work shows Orozco's play with different scales, with monumentality as well as with the record of his own experience. It also reflects the artist's nomadic lifestyle and how he would often draw from his immediate surroundings the materials to convey the social and political concerns of a given place. Since he was constantly traveling, the artist made a point of keeping a notebook, a kind of substitute studio or workshop contained on a page. Reading his entries in this part-diary/part-sketchbook can be very revealing. For example, in January 1993 he noted, "The game of consumption and circulation through manipulated desire is what justifies the political system of this society."<sup>1</sup> A few months later, still in New York, he transcribed a quote from Guy Debord's *Society of Spectacle*:

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Gabriel Orozco, *Island Within an Island*, 1993 (silver dye bleach print image).  
Courtesy of the artist and Kurimanzutto Mexico City/New York.

This society, which eliminates geographical distance, reproduces distance internally as spectacular separation... Tourism, human circulation, considered consumption, a by-product of the circulation of commodities, is fundamentally nothing more than the leisure of going to see what has become banal.<sup>2</sup>

These notes remain just as relevant today, especially when thinking about a globalized world and its implications for migration. Moreover, they help evoke the kind of reflections Orozco was engaging in when he chose to assemble refuse on that cloudy day and juxtapose it against a view of New York's financial district. And yet, despite this critical background, *Island within an Island* is not a harshly judgmental or condemnatory representation; it is as much an honest depiction of the city as it is an intimate portrait of the artist and his sculptural process. Perhaps that is why the image retains a kind of poetic critique. Especially after the events of September 11, it has acquired new meaning, one of remembrance, and unsuspecting testimony to an order that seemed immovable, but that today has evolved and unfolded in ways that we can only begin to fathom.

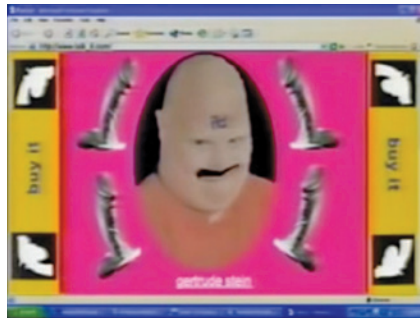
In this piece Orozco managed to encapsulate a view of the city reserved for locals, while also depicting it as an outsider—a duality that in many ways prefigured the work of later generations who continue to address this

*Island within an Island* is  
an honest depiction of the city as  
it is an intimate portrait of the artist  
and his sculptural process.

topic today—. In this sense, it as a photograph that serves as a starting point for looking at different strategies employed by contemporary artists from Mexico, who question and reflect on the cultural and economic relationship with the United States through their work, such as Heriberto Yépez, Minerva Cuevas, and the collective Biquini Wax.

### Translation Is Only a Click Away

In 2002, eight years after NAFTA came into force, Tijuana-based experimental writer and poet Heriberto Yépez created the video *Voice Exchange Rates*. This artificial intelligence software is “designed to help poetry return to the righteous path of the avant-garde” by automating the efforts of poets worldwide.<sup>3</sup> The program can read, write, and translate for you, in a variety of languages, as well as imitate different poetic personas through a wide range of registers and voices. The piece, just under nine minutes long, is narrated by a bot who introduces himself as “Talk-it” and speaks in the guise of a macabre skull with bright, lidless eyes that stare at the viewer. The com-



Heriberto Yépez, *Voice Exchange Rates* (video).

puter describes how it has helped Yépez, one of his best clients, by lending him “the voice of a white American, a voice that is better than God,” to read his poems aloud, helping him overcome the barriers of having a strong Mexican accent.<sup>4</sup>

In contrast to Gabriel Orozco’s more nuanced representation of the United States, this piece is a satirical and radical critique of the neoliberal economy. As worker precarization becomes the norm of cultural institutions and technology risks make the individual obsolete, *Voice Exchange Rates* can be seen less as a comment on the geographical aspect of the border and more on the ideological and linguistic walls that are often much harder to climb, even for Yépez, who lived in both Tijuana and Berkeley while he was a doctoral candidate at the University of California.<sup>5</sup>

The fake technology promoted in this artwork is marketed toward Third World countries, where the assumption is that people should strive to change their ways and blend into a global, English-speaking world view. “Globalization is solving all human problems, and translation is only a click away,” chants Talk-it merrily, suggesting that the distribution of culture could be streamlined if only artists avoided cultural specificities and references.<sup>6</sup> But homogenizing one’s production to suit a global audience could effectively be seen as selling out, compromising the author’s integrity. Yépez acknowledges this problem by having the software switch to Spanish at one point and suggest that, if caught in the act of using this program by a fellow Mexican, one should claim to be using

*Voice Exchange Rates* can be seen less as a comment on the geographical aspect of the border and more on the ideological and linguistic walls that are often much harder to climb.

the U.S. Americans’ own weapons against them, undermining the established order in their own language.

While a simplistic reading of this controversial work might see it as a blatant attack on U.S. culture, it is in fact an invitation to be suspicious of any nationalistic feeling, regardless of which country promotes it. Beyond the video’s contentious message is a thought-provoking tool for reflecting on the power relations at stake in the exchanges between Mexico and the United States. What emerges is a space where multiple cultures collide, with a complexity that escapes all binary attempts at reading the border.

### The Case of Scrooge McDuck

Scrooge McDuck, the wealthiest—and greediest—duck in the Walt Disney Donald Duck comic book universe, has become the capitalist emblem *par excellence*. His signature pose, diving head first and swimming in his vault of golden coins, is appropriated by the artist Minerva Cuevas, who references this character in her 2006 mural titled *America*. Here one can see a Donald Duck look-alike, wallowing in a pool of money, against a backdrop of tall trees and strange looking animals, including snakes and what appears to be a chimpanzee with an oddly human face. The background is in fact one of the earliest illustrations of flora and fauna in the American hemisphere, a colonial representation of a land with abundant natural resources, ready to be exploited by colonial powers.

By juxtaposing these two images, Cuevas presents an open critique of the economic interests that abuse the natural environment, a decolonizing turn in the way we think about our resources. The artist’s socially engaged practice often includes altering imagery such as corporate branding, political symbols and slogans, as well as cultural references in order to reflect on economic and social



systems. In *America*, she looks at the historical use of comics as ideological tools, fostering particular world views and values as vehicles of U.S. cultural imperialism.<sup>7</sup>

*America* references Mexico's post-revolutionary muralist tradition, notably the works of Diego Rivera, José Clemente Orozco, and David Alfaro Siqueiros. These artists undertook major projects and commissions in the United States, bringing some of their socialist and Marxist ideologies to a U.S. audience. Their reception was controversial and judged by many as politically dangerous, in some cases leading to their removal, as in the case of Rivera's 1933 fresco *Man at the Crossroads* in New York City's Rockefeller Center. Against this backdrop, Cuevas is rethinking what a political mural could look like, addressing contemporary viewers through popular references as well as historical material.

The mural is also an indirect allusion to the study made by authors Ariel Dorfman and Armand Mattelart,

who wrote *Para leer al Pato Donald* (published in English as *How to Read Donald Duck: Imperialist Ideology in the Disney Comic*). The book was first published in 1971 during the Chilean revolution, and although it was banned and burned by the authorities under the regime of Augusto Pinochet, it still became a bestseller throughout Latin America.<sup>8</sup>

## NAFTAlgias

Within the framework of the renegotiation of the North American Free Trade Agreement in 2017, the multidisciplinary group Arte y Trabajo BWEPS wrote a collaborative text, aptly titled *NAFTAlgia*, a combination of NAFTA and nostalgia.<sup>9</sup> An almost delirious account, the essay reflected on the shared cultural references and values between the Mexican narrator and his U.S. American ex-boyfriend. This genuine melting pot included mentions of cartoons such as *Rocko's Modern Life*, the Mexican-American singer Selena, Mexican history and politics, Carlos Slim's Internet provider company, and movies like *Inception* and *Home Alone II*, among many others.

Cuevas presents an open critique of the economic interests that abuse the natural environment.



Minerva Cuevas, *America*, 2006 (acrylic paint on wall).  
Image courtesy of the artist and Kurimanzutto Mexico City / New York.

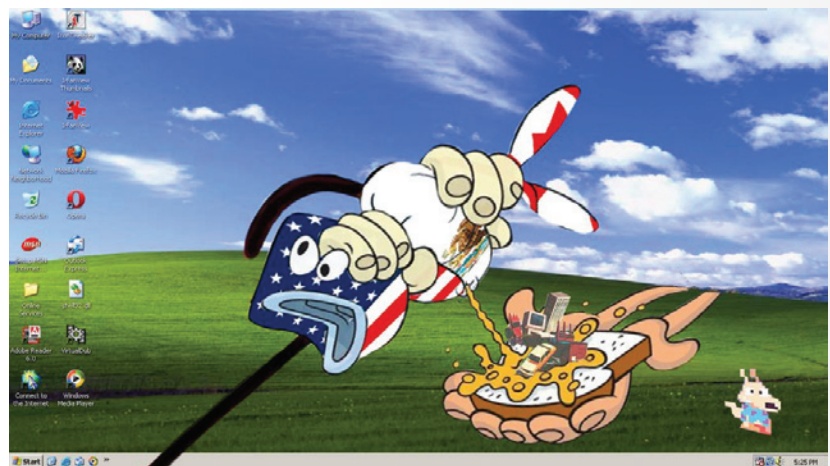
The eclectic imagery employed by Bi-quini Wax EPS uses the tactics advanced by artists such as Minerva Cuevas and takes them to a different level. Their works should not be read as cryptically encoded metaphors, but rather as a fluid stream of loosely symbolic references, sparking associations in the viewer's mind. Their methodologies combine the “local” and the “global,” echoing what art critic and curator Gerardo Mosquera described “as the ‘re-signification’ of internationalized artistic languages through local values and symbolic systems, which reflect historical, economic, and political realities.”<sup>10</sup> There is a poignantly sharp, humorous analysis of how the opening of Mexico's economy did not translate into a leveling of material wealth between both countries —far from it.<sup>11</sup> However, since NAFTA implied a cultural opening powered by marketing strategies and the arts, it did succeed at an esthetic-affective level.

What began as a concept, or rather, a “structure of feeling,” has developed into exhibitions, installations, and performances, such as the one held at Deslave, a project space in Tijuana.<sup>12</sup> Here they organized, among other things, a marathon of *Stranger Things* on Netflix, where an ideological reading of the two parallel worlds in the television show served to reflect on the relationship between the United States and Mexico and the liminal space of the border. In 2018, they were invited to show their work at Human Resources, a non-profit exhibition space in Los Angeles. This time, they envisioned a tunnel capable of connecting Mexico City and L.A., a hole-border that could

**Each of these artists in his/her own way speaks to the interdependence of both countries.**



Arte y Trabajo BWEPS, *NAFTALGIA, Modern Life*, 2017 (digital collage of the text *NAFTALGIA in a Field of Lightning*). Courtesy of Arte y Trabajo BWEPS.



Arte y Trabajo BWEPS, *FreeFlavor.com*, 2017 (digital collage of the text *NAFTALGIA in a Field of Lightning*). Courtesy of Arte y Trabajo BWEPS.

export and import art, images, moves, ideas, feelings, thoughts, and words.

Arte y Trabajo BWEPS continues to define what *NAFTALGIA* might be: “a type of specific sensibility under neoliberalism, conditioned and motivated by the illusion of a better Mexico/USA, which has been and continues to be culturally consumed as comprised of a general lacking; an ideological deficit of the promise of capitalist plenitude now absent, on hold, or disappeared forever.”<sup>13</sup> In this revised definition, it is safe to say that *NAFTALGIA* has been experienced by citizens of both countries. As the project



evolves, this term will no doubt continue to expand, but it is to this day one of the most pertinent art projects looking at what it means to be so far from God, and so close to each other.

## Run Forrest Run! (Across the Border and Back Again)

Looking back, one might ask, “What did we win or lose with the economic opening of our borders?” Arte y Trabajo BWEPS would argue that a more accurate way of phrasing that same question would be to ask what stories, memories, aspirations, tragedies, and nostalgias we imported. Theirs is a post-NAFTA generation that grew up watching countless hours of Nickelodeon, Cartoon Network, and MTV, as well as Spanish-dubbed Hollywood classics from the 1990s, like *Forrest Gump*. Their “first taste of the New

First World” included jokes, dramas, and even Forrest’s memories: “All of a sudden, everything that Tom Hanks had gone through and was never actually experienced in Mexico became ours.”<sup>14</sup>

From Gabriel Orozco’s emblematic photograph of New York City to Biquini Wax’s ongoing NAFTAlgias, it is artworks such as these that help shape the way we understand one another across the border of cultural and national identities. What Heriberto Yépez’s incendiary software and Minerva Cuevas’s rethinking of muralism have in common is that they make visible the challenges that arise when attempting to understand and grapple with our cultural affinities and differences and to accept the limitations that emerge when we try. Each of these artists in his/her own way speaks to the interdependence of both countries, pointing at how the crisis in justice and security, the degraded environment, and the financial sphere affect us all, regardless of North-South divides. **MM**

## Notes

1 Gabriel Orozco, *Materia escrita* (Mexico City: ERA, 2014), p. 82.

2 Guy Debord, “Proposition 167,” *Society of Spectacle*, 1967, cited in Gabriel Orozco, op. cit., p. 118.

3 Heriberto Yépez, *Voice Exchange Rates*, 2002. Video available at <https://www.youtube.com/watch?v=hBw8YyIpHPM>.

4 Ibid.

5 This becomes evident as the sinister bot goes on to showcase its most popular voice, that of the poet Gertrude Stein, who tries to explain to us “why Americans rule the world.” But instead of developing an argument, she gets caught in her own cyclical poetic style, repeating variations of that same phrase without actually giving an answer. This nod to those who might know her poems can also be read as a suspiciously broken record, an example of technology embedded with a subliminal message.

6 Yépez, op. cit.

7 For example, the source for this piece comes from a comic book titled “The Stone Money Mystery,” in which Scrooge, a devoted coin collector, becomes fascinated with antique stone currency exhibited in a museum. The greedy magnate sets out to try to find it, enlisting Donald and his nephews to join an adventure that leads them to a hidden indigenous community, from whom they attempt to steal one of their coins.

8 In 1975, when the exiled authors published the English edition, they prefaced it as follows: “Mr. Disney, we are returning your Duck. Feathers plucked and well-roasted. Look inside, you can see the handwriting on the wall, our hands still writing on the wall: Donald, Go Home!” Ariel Dorfman, Armand Mattelart, *How to Read Donald Duck*, 1975, <https://fadingtheaesthetic.files.wordpress.com/2012/03/33788991-how-to-read-donald.pdf>, accessed April 6, 2019.

9 Arte y Trabajo BWEPS (Art & Labor Biquini Wax EPS) is the multidisciplinary study group of Biquini Wax EPS, a Mexican contempo-

rary art space and collective that aims “to analyze contemporary art under the capitalist mode of production.” The group includes Alejandro Gómez Arias, Bernardo Núñez Magdaleno, Gustavo Cruz, Roselin Espinosa, Neil Mauricio Andrade, Daniel Aguilar Ruvalcaba, and Israel Urmeer. Arte y Trabajo BWEPS, *NAFTAlgia*, 2017, <http://cam.poderelampagos.org/critica-y-reviews/20/7/2017?rq=estados%20unidos>, accessed April 1, 2019.

10 “The active, diversified construction and re-invention of contemporary art and its international language by a multitude of subjects who operate from their different contexts, cultures, experiences, subjectivities, and agendas, as pointed out above, supposes not only an appropriation of that language, but its transformation from divergences in the convergence. Hence, art language pluralizes within itself, although it has been broadly instituted by mainstream orientations. This is crucial, because to control language and representation also entails the power to control meaning.” Gerardo Mosquera, “Against Latin American Art,” *Contemporary Art in Latin America* (London: Black Dog Publishing, 2010), pp. 12-23.

11 As art critic and writer Jean Fisher noted, “Globalization has been a technocratic sophistication of the economic and political relations of power developed under empire: the draining of resources, information, and intellectual capital from peripheries to hegemonic centers, with the difference that the ‘center’ is less the nation-state than the impenetrable sites of supranational corporatism.” Jean Fisher, *Neither North nor South*, SITAC, 2010, <http://www.pac.org.mx/uploads/sitac/pdf/2.-Fischer-Ing.pdf>, accessed April 3, 2019.

12 For more information, see <https://deslave.art/NAFTALGIAS>.

13 <http://humanresourcesla.com/event/biquini-wax-a-dangerous-obsession/>, accessed April 1, 2019.

14 Arte y Trabajo BWEPS, *NAFTAlgia*, 2017.



Zazil Collins\*  
Illustrated by Juan Palomino\*\*

# HONDURAN WOMAN ON LA ISLA BONITA MIGRATES TO MEXICO TO CROSS INTO THE UNITED STATES

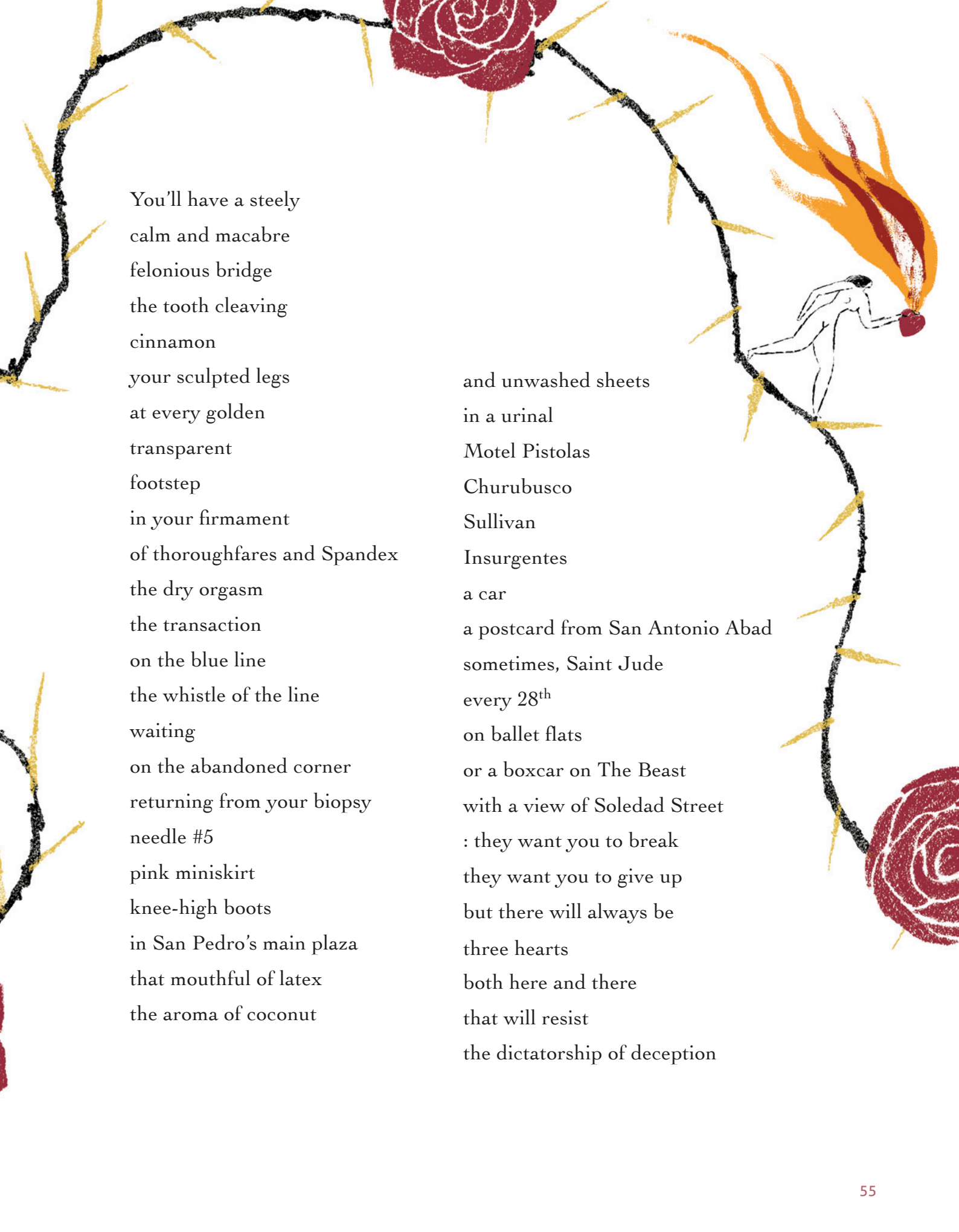
Even though there are acts of solidarity among  
Central American migrants, the world of migration is  
every person for him/herself.  
The road is hard, and moments for tenderness  
few and far between.

*Los migrantes que no importan*  
(The Migrants Who Don't Matter),  
ÓSCAR MARTÍNEZ

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\* Mexican poet and musical curator. Musical programmer at Mexico City  
Ministry of Culture Código Ciudad de México; momalina@gmail.com.  
\*\* Visual artist; unjuanpalomino@gmail.com





You'll have a steely  
calm and macabre  
felonious bridge  
the tooth cleaving  
cinnamon  
your sculpted legs  
at every golden  
transparent  
footstep  
in your firmament  
of thoroughfares and Spandex  
the dry orgasm  
the transaction  
on the blue line  
the whistle of the line  
waiting  
on the abandoned corner  
returning from your biopsy  
needle #5  
pink miniskirt  
knee-high boots  
in San Pedro's main plaza  
that mouthful of latex  
the aroma of coconut

and unwashed sheets  
in a urinal  
Motel Pistolas  
Churubusco  
Sullivan  
Insurgentes  
a car  
a postcard from San Antonio Abad  
sometimes, Saint Jude  
every 28<sup>th</sup>  
on ballet flats  
or a boxcar on The Beast  
with a view of Soledad Street  
: they want you to break  
they want you to give up  
but there will always be  
three hearts  
both here and there  
that will resist  
the dictatorship of deception



Julio-Agosto:  
LENGUAJES

Septiembre:  
MIEDO

Octubre:  
INFANCIA

Noviembre:  
FEMINISMOS

Diciembre-Enero:  
FASCISMO



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## Toward Comprehensive Groundwater Management in Mexico

Since the twentieth century, groundwater has been a fundamental input for all economic activities. According to the United Nations, almost half of humanity uses it directly for domestic purposes (22 percent), irrigation (67 percent), and industry (11 percent). The United States and Mexico are among the world's ten top consumers. There is, however, a significant difference between them, since U.S. consumption is 386 percent of that of Mexico. In countries like Malta and Saudi Arabia, the only water supply comes from groundwater; and Tunisia, Belgium, Morocco, and Germany depend on groundwater for more than 75 percent of their supply. In the United States, 75 percent of counties source groundwater directly for human consumption, meaning that more than half the U.S. population depends on it.

In August 2017, the UNAM Center for Research on North America hosted the international forum “Asymmetries in Groundwater Management and Regulation in North America: Toward a Comprehensive System in Mexico.” The aim was to bring together specialists to dialogue about different management systems and current knowledge about groundwater in the region, taking into consideration that Mexico was about to pass a water regulation framework legal reform. This special section, therefore, is the result of the reflection and debate by some of the

specialists who presented their approaches to the issue of groundwater. The contributions analyze the importance and strategic value of this resource as an element that has made possible sustained demographic and economic growth for 300 years. Despite its importance, however, it has been under-appreciated, contributing to the fact that current regulations and management do not adequately reflect its centrality for the subsoil and that distribution to the different sectors that need it has not been equitable either. These articles aim to contribute to the debate about the political implications of the processes of legal harmonization about water use across the globe.

GONZALO HATCH KURI  
Guest Editor





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Samuel Schmidt Nedvedovich\*

# Water, Power, and Society

## Introduction

People often say that water is scarce as an argument to privatize it, at the same time that they recognize its importance by classifying it as a human right. Mexico has taken this concern on board, which is why it simultaneously reformed the Constitution and began privatizing it. Since legislation usually has a symbolic use, in practice, the understanding of water and its uses has not been reformulated. As a result, the decisions made have not been sufficiently sweeping and complex. The General Water Law has not been touched, but, although the legal obligation exists to review it and prevent conflicts, in 2015 there was an attempt to privatize water that met with strong resistance. It was rumored in 2018 that a bill had been drafted eliminating government control over water nationwide, but no such bill was ever introduced.

Recognizing water's great value implies rethinking the principles of social, economic, and political justice, and, of course, rethinking the country itself.

The neoliberal paradigm took Mexico by storm, marginalizing the political-electoral debate. What we have is practically a *fait accompli*: a country with privatized resources benefitting an alliance of the oligarchy and corrupt politicians, who maintain an economic, social, and political model rooted religiously in the belief that everything should be privatized—and water is no exception—, thus deepening economic and social differences and reinforcing repression. Water privatization experiences in different countries have been ruinous for their societies and Mexico is one more example of that.

## The Political-economic Context

When the neoliberals came to power in 1982, a slow, systematic process of privatization and economic reform began that impoverished the majority of the population. The multi-million-peso programs against poverty not only did not resolve the problem, but prompted more corruption. Parallel to this, wealth became so much more concentrated that 33 families now dominate the national economy.<sup>1</sup>

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The neoliberals have maintained that the period of reforms would cause temporary instability, after which there would be progress. However, while society suffers, the bonanza has still not come. After signing NAFTA, a key piece in the process, the migration of 11 million people, migrated mostly to the United States, with the corresponding abandonment of the countryside. This prompted an important drop in agricultural production and a deficit in the agricultural trade balance. Therefore, today Mexico is the world's largest importer of grain, and 70 percent of the national diet is purchased abroad. In addition, agricultural products began to be sub-contracted out to benefit Mexico's trade partners, while exploitative conditions are maintained using the old formula of low-paying jobs.<sup>2</sup> The free trade agreements spurred the dismantling of light industry and reinforced the dependence of the domestic market on cheap foreign production, such as low-quality items imported from China, although many of them come into the country as contraband thanks to corruption.<sup>3</sup>

Donald Trump's election ended NAFTA, causing panic among Mexican neoliberals; they do not know what to do without the model they were following unquestioningly, nor do they have the capacity to repair the economy due to its dependence on the rules of origin for NAFTA products that attracted industry. It remains to be seen what kind of arrangement will actually be put into place with the new Mexico-U.S.-Canada agreement, which has not even been signed yet and seems to be influenced by the coming 2019 Canadian and 2020 U.S. elections

The country requires national reconstruction: 60 percent of the population lives outside the market, which is an economic problem and implies a profound humanitarian question involving educational and health issues due to the availability of sub-standard services and degraded individual options for people at the end of their lives. Authors like Yehezkel Dror point out that the future will include higher unemployment due to automation and a longer lifespan due to improvements in medicine.<sup>4</sup> The latter will benefit the richest strata of society, while the poorest will see a drop in their job opportunities and will die younger, a possible incentive for greater demographic growth in these social strata and therefore a potential source for increased social and political tensions. Added to this will be the pension crisis, because administrations have used these funds for running expenses. This means that retirees will have fewer resources—or

**Recognizing water's great value implies rethinking the principles of social, economic, and political justice, and, of course, rethinking the country itself.**

none at all in some cases—and there are no funds to alleviate the poverty of those who were once employed with a “decent” income. The poorest of the poor will have an impoverished old age.

One element that will be affected by these technological changes and their social impact is water, whether because companies move into areas where it is abundant or because they set up where it is scarce, pressuring communities. An example of this is the beer plant planned for Tecate, Baja California, which will impact water availability and spur conflicts among the population, conflicts that will usually be repressed.

This reminds us to the fact that neither the Mexican government nor society has thought seriously about how central water is to dealing with these challenges. The country's neoliberal model has led us to a form of unequal technological development; this is why policies will only benefit the well-to-do. It remains to be seen whether Mexico's new government will develop policies to stop benefitting the richer sectors of society who take away wealth from the poorer sectors, or if it will be able to change the decision-making framework to situate water at center stage.

## The Water Paradigm

When I re-wrote *Los grandes problemas nacionales* (The Great National Problems),<sup>5</sup> I found, as Andrés Molina Enríquez correctly recognized in 1909,<sup>6</sup> that water management was one of the great national problems because it was linked to grain production. By the twenty-first century, its importance has grown as we try to meet the needs of thirsty cities.

Despite this, society is not aware of water's strategic value, as described in a Delphi study carried out in border cities.<sup>7</sup> <sup>8</sup> The government does not have a water policy for food production as a factor for national security or for urban industrial use as part of socio-economic develop-

ment. Neither has it developed one for border areas, among which the North is one of the country's fastest growing. Society does not mobilize to satisfy its water needs because of a culture of paternalistic handouts and the patronage system: people know that the water will come, even if sometimes at a high price. It has been shown that the poor pay more for water than the rich, whether because they have to order tanker trucks to fill their containers or because they have to boil tap water to ensure its safety.

The law makes redefining public and private priorities regarding the use and re-use of water difficult; immobility fosters its being handled for partisan interests and control of consumers. Neoliberal ideology has brought about the neglect of broad national interests in favor of promoting private interests; the lack of attention to the problem has gotten to the point that transboundary waters are not even on the political map.

However, bad management has existed since the colonial period. I wrote in reference to what Molina Enríquez put forward,

Control of water, in contrast with land, did not generate income, and this resource was handled by the states with a tendency to centralize it. [Molina] makes a distinction between the kinds of water control: the commons, which cannot totally and definitively appropriate it; public control, dominated by public officials; and private appropriation, which civil law puts under the aegis of private citizens. Water ownership must also pass into private hands and be revocable; public water must be distributed between the federation and the states, and between the states and municipalities. He also warns about lakes drying up.<sup>9</sup>

This neglect means that we do not know how many wells exist in Mexico, the amount of water pumped, or its quality. The 1917 Constitution ceded control of water to the state, but it has been privatized through concessions for private use, and now it is being given to companies for generating drinking water and sanitation for entire cities. The neoliberals launched a trial balloon to see if they could completely privatize it using the cover of the focus on the 2018 election campaign, but they did not have enough time. Their overwhelming defeat in July 2018 took that proposal off the table for the time-being; what is needed

When the neoliberals came to power in 1982, a slow, systematic process of privatization and economic reform began that impoverished the majority of the population.

now is to address the matter of private use of water and a new law to guarantee the supply of good quality water for agricultural, industrial, and urban use, paying strict attention to environmental issues. In this effort, groundwater must be a central topic.

The scarce water discourse, mixed with ineffective governmental management, seeks to turn it into a commodity. Water is bottled and sold at outrageous prices: in the United States alone, this market comes to US\$4 billion a year and the profit rates are in the thousands of percent. Companies sell mineral-free water, which is bad for the body, creating environmental problems, particularly due to the disposal of plastic bottles. It is calculated that 18 liters of water are needed to produce a one-liter PET bottle. Many other companies bottle tap water, for the deal of a lifetime; and several firms have stolen native peoples' water supplies to bottle it.

Groundwater, the world's main source, is inefficiently managed. A plethora of examples exist of corrupt politicians appropriating it or concessions being granted for private projects. In Mexico, the governor of Sonora's private dam has been publically denounced, as has the Independencia Aqueduct that dispossessed the Yaqui people of their water to divert it to the state capital, Hermosillo, although it seems that part of it was also diverted to a ranch owned by a former governor. We also know of a housing development in Tecamac, State of Mexico, that affected an aquifer; a series of dams built in Chihuahua seemingly to irrigate the ranches of a former governor; and the list goes on and on. Dispossessing communities far away from Mexico City of their water has facilitated a building boom with terrible consequences, as demonstrated by the September 2017 earthquake. We don't know what the impact of drilling at 2 000 meters to pump water for Mexico City will be.

The big urban centers like Monterrey, Toluca, Mexico City, and Puebla have exerted enormous pressure on nearby and far-off water sources, producing serious environmental impacts, affecting nearby agricultural production,



and seriously questioning the viability of this kind of overcrowding. In addition, most of the country's 100 most important cities lack water treatment plants, and the country has no culture of saving, using, or re-using water.<sup>10</sup>

The future will demand more foodstuffs that will have to be produced on irrigated land, but farmers cannot compete with foreign producers due to the high cost of access to water: it costs too much to extract it, both because of the price of diesel and the electricity needed to operate wells and because of government refusal to subsidize this, in accordance with the neoliberal model, and ignoring that the agricultural trade balance could be improved as a matter of financial security and in the national interest. It also does not stimulate research on water production or incorporate water-saving technologies in high consumption activities. The broad issues like the use, re-use, and exploitation of reserves have been neglected; this, combined with deforestation, has worsened the droughts that have plagued agricultural production.

Legislation passed since the 1990s mandates that cities must build water treatment plants. The government had hoped that by 2005, at least 81 cities (48.1 percent of all of them) would achieve a municipal wastewater discharge quality goal. In 2016, Mexico had 2 289 water treatment plants distributed unequally throughout the country and with differences in water quality. An Inter-American Development Bank (IDB) study revealed that Aguascalientes, Baja California, and Nuevo León were the most effective in treating wastewater (covering 100 percent), followed by Guerrero (82 percent), Nayarit (79 percent), and Chihuahua and Sinaloa (about 74 percent). The lowest coverage was observed in Yucatán and Campeche (3 and 7 percent of wastewater, respectively), while in Central Mexico, Hidalgo and Mexico City only achieved about 15-percent coverage.<sup>11</sup> Only 11 more states have surpassed 60-percent coverage, although the government goal is to treat 100 percent of wastewater by 2020. In the current conditions of chronic economic difficulties, it is very possible that this goal will not be reached, and that no legal re-

percussions will result from that failure due to a fear of political tensions and conflicts that could be prompted by enforcing the law.

## Final Thoughts

We usually pay attention to surface water, and we are shocked to see lakes dry up and rivers and lakes become highly contaminated. The reality is that Mexico depends on groundwater, which is invisible, particularly for politicians. One-third of the world's population depends on groundwater. In Mexico, 70 percent of all the water that goes to cities comes from under ground, supplying approximately 75 million people. As a result, the number of over-exploited aquifers went from 36 in 1981 to 96 in 2000, with the resulting saline intrusion in 17 aquifers in Baja California, Baja California Sur, Sonora, Veracruz, and Colima.<sup>12</sup>

The National Water Commission (Conagua) uses an obsolete methodology that allows it to conclude that these overexploited aquifers exist and to issue protection orders for them, despite the fact that its management is so bad that no official in Mexico knows for sure how many wells exist in the country. Nevertheless, huge industrial projects are authorized and fostered in areas recognized as suffering from water scarcity (Hermosillo, Ciudad Juárez, Tijuana, and Tecate), and authorization is given for the construction of housing projects that affect the aquifers (Mexico City and Tecamac, among others), or water sources are irresponsibly used up.

Officials continue to use an obsolete methodology for political reasons, following the logic of controlling consumers. In that sense, the basin is a political concept and is dysfunctional if we aim to formulate good water policy, because it ignores geology and hydro-geology.

In contrast with what is said as part of the water scarcity discourse, the wars of the future will not be fought to control this resource. Common problems can be an incentive for innovative forms of collaboration, just as has existed between Israel and Jordan. That is why we need to be more creative in our relationship with the United States. The border, a desert area, is growing fast with important industrial zones, making transboundary groundwater even more important. However, this is complicated by the fact that transboundary aquifer management lacks a legal, political, and technical framework. A differ-

**Mexico is a country with privatized resources benefitting an alliance of the oligarchy and corrupt politicians.**

ent vision of water when planning how we build the future can provide a space for generating a new bi-national relationship, in which we protect both water and the environment. ■■■

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**Notes**

- 1 Samuel Schmidt and Rubí Rivera, “La doctrina del shock en México: los neopols en el poder/I,” *Forbes México*, September 14, 2015, <https://www.forbes.com.mx/la-doctrina-del-shock-en-mexico-los-neopols-en-el-poder-i/>.
- 2 One example is the San Quintín Valley, which produces celery, squash, chili peppers, beets, cucumber, tomatoes, strawberries, blueberries, and raspberries for California, producing an outbreak of labor conflicts. See Scott Campbell, “The San Quintín Rebellion,” *IGD*, 2016, <https://itsgoingdown.org/san-quintin-rebellion/>, accessed October 2, 2017.
- 3 Twenty-two treaties and agreements have been signed that hypothetically give Mexico access to a market representing 60 percent of world GDP, but the reality is that with almost all these countries, Mexico has a trade deficit.

- 4 Yehezkel Dror, *Avant-garde politician. Leaders for a new epoch* (Washington D.C.: Westphalia Press, 2014).
- 5 Samuel Schmidt, *Los grandes problemas nacionales* (Mexico City: Aguilar, 2003).
- 6 Andrés Molina Enríquez, *Los grandes problemas nacionales* (Mexico City: A. Carranza e Hijos, 1909), available at the Biblioteca Virtual Miguel de Cervantes Saavedra, Universidad de Alicante, <http://www.cervantesvirtual.com/obra/los-grandes-problemas-nacionales--0/>. [Editor’s Note.]
- 7 Broadly speaking, the Delphi method is a strategic planning method combining a qualitative selection of experts with a quantitative analysis of responses through repeated rounds of questions. [Editor’s Note.]
- 8 Samuel Schmidt, Jorge Gil, and Jorge Castro, “El desarrollo urbano en la frontera México-Estados Unidos: estudio Delphi en ocho ciudades fronterizas,” *Frontera norte* vol. 7, no. 13 (January-June 1995).
- 9 Schmidt, *Los grandes...op. cit.*
- 10 *Ibid.*
- 11 María Eugenia de la Peña, Jorge Ducci, and Viridiana Zamora Plascencia, “Tratamiento de aguas residuales en México,” Banco Interamericano de Desarrollo, 2013, [http://www.siagua.org/sites/default/files/documentos/documentos/tratamiento\\_de\\_aguas\\_residuales\\_en\\_mexico.pdf](http://www.siagua.org/sites/default/files/documentos/documentos/tratamiento_de_aguas_residuales_en_mexico.pdf), accessed October 20, 2017.
- 12 Schmidt, *Los grandes...op. cit.*



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Fernando J. González Villarreal\*  
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# Managing Groundwater in Mexico

## Introduction

Water is essential for human and ecosystem development. Both our present and our future depend on its conservation and efficient use. Sufficient quality water for everyone is indispensable for sustainable development. The planet has enough fresh water to achieve this; however, challenges continue to be posed that demand an immediate response with creative, innovative solutions involving everyone.

The international community has done great deal of work to contribute to water resource sustainability and ensure equitable access to drinking water and sanitation

without endangering ecosystem health. By 2015, 147 countries had reduced the number of people without access to potable water by half, and 95 more nations did the same for sanitation services. The Millennium Development Goals successes show that worldwide actions actually work and that the way forward for ensuring sustainable development involves international cooperation and different sectors joining forces.

Despite the big advances, however, important challenges persist. Water scarcity continues to affect more than 40 percent of the world's population, and this figure is expected to rise as a result of climate change. The degradation of our water resources affects marginalized populations more than the rest since they depend directly on nature for their subsistence and their settlements are concentrated in high-risk areas.

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Water scarcity continues to affect more than 40 percent of the world's population, and this figure is expected to rise as a result of climate change.

## The World's Groundwater

Changing the paradigm worldwide for water management in general and groundwater in particular is undoubtedly necessary. Improving the system creates better conditions for achieving sustainable development, and by contrast, maintaining the current rhythm of overexploitation threatens the security of the economy, the ecosystems, and people themselves.

The United Nations estimates the world's total volume of groundwater at 13.3 million to 60 million cubic kilometers. It is the main source of water for agriculture (67 percent), followed by its use for public urban consumption (22 percent), and finally, self-supply for industry (11 percent). Over the last 50 years, groundwater extraction has tripled and is increasing at a rate between 1 and 2 percent annually. This is due mainly to its consumption in countries like India, China, the United States, and Pakistan, which use about 50 percent of all the groundwater extracted.

## Groundwater in Mexico

Mexico is no exception. Its hydrological conditions are very diverse, contributing to enriching our natural and cultural heritage, but also increasing our vulnerability to the effects of extreme hydro-weather phenomena, such as droughts and flooding, and posing challenges for sustainable water management. Although the central and northern parts of the country produce 87 percent of the country's gross domestic product and concentrate about 77 percent of the population, they only enjoy 31 percent of the water resources. The South, on the other hand, with its abundant water supplies (69 percent of those available), has a smaller population and contributes less to overall national wealth. These spatial variations combine with seasonal changes, since 68 percent of annual precipitation falls between June and September.

Given this variability, groundwater has played a central role in Mexico's development. Our country's 653 aquifers irrigate more than 2 million hectares, and supply more than 70 percent of cities and 50 percent of industry. Having balanced aquifers is indispensable for achieving food security, ensuring the availability of water during droughts, stopping subsidence, increasing the amount of water, and maintaining a balance with surface water.

Groundwater is a common resource susceptible to over-exploitation. The lack of information about its characteristics and behavior, together with the dearth of effective management instruments, contribute to the deterioration of its quality. These factors also negatively impact ecosystems because natural springs and wetlands disappear, and, with them, the fauna and vegetation that depend on them. The reduction in groundwater levels makes extraction increasingly difficult, requiring new technologies and increasing investment. Together with this, we are facing problems of subsiding and cracking soil, which endangers the security of transportation and hydraulic infrastructure, among other kinds, and that of people themselves.

Considering the importance of groundwater for achieving the Sustainable Development Goals, the UNAM Water Network, in coordination with the National Water Commission and other institutions, called on the international community to exchange experiences for more efficient, sustainable management of aquifers at the 9<sup>th</sup> International Symposium on Managed Aquifer Recharge, held in Mexico. The outcome was the following six directives for sustainable groundwater management.

## Sustainable Groundwater Management Directives<sup>1</sup>

1. *Recognize aquifers and groundwater as critically important, finite, valuable, and vulnerable resources*

Aquifers are valuable geological, hydrologically interconnected systems through which groundwater circulates or is stored. They mitigate 50 percent of the world's water needs and make water supplies resilient during droughts. This underground water is a limited resource and, in many places is strongly connected to surface water bodies. Many aquifers contain very old groundwater deposited thousands of years ago and are nonrenewable unless purposefully recharged. Since groundwater is un-

The degradation of our water resources affects marginalized populations more than the rest since they depend directly on nature for their subsistence.

derground, it is not visible and generally not well understood.

*2. Halt the chronic depletion of groundwater in aquifers on a global basis*

Today, groundwater supplies in many of the world's aquifers are unsustainable, resulting from overexploitation and a lack of proactive management. Evidence of depletion includes chronically declining groundwater levels, loss of groundwater storage, water quality degradation, land surface subsidence, seawater intrusion, surface water depletion and loss of springs, base flow, and associated groundwater dependent ecosystems. Depletion can cause irreversible damage and deprive future generations of the resource. Actions need to be taken immediately to invest the required resources to regulate and actively manage groundwater quantity and quality as needed to halt chronic depletion, water quality degradation, and achieve sustainability in the next 25 years.

*3. Aquifer systems are unique, need to be well understood, and groundwater should be invisible no more*

All aquifer systems are unique and diverse in physical characteristics and other features. As such, aquifer systems can be complex, difficult, and expensive to evaluate, but must be well understood for effective management. Increasing the knowledge of aquifers is essential to developing a foundation for sustainable management of groundwater resources. The basic elements include, but are not limited to, the nature of the aquifer geometry and chemical and physical characteristics, local hydrologic cycle and interconnectedness of aquifers, confining layers (aquitards) and overlying local and regional surface water systems, groundwater flowpaths and gradients, water budget and availability, current and future demands on the system, and an assessment of how land uses and climate change may affect local hydrology and water quality.

This information is expensive to collect, and significant investments of resources are needed to increase independent data collection and dissemination in order to

improve understanding over time. Needed also are continued efforts to improve tools and innovative technologies for less costly and higher value information. The government and private industry can help provide the resources to support academia to train the future workforce, managers and scientists, and researchers to develop improved tools and technologies. Finally, the knowledge and data on aquifer systems should be shared widely so that groundwater is invisible no more.

*4. Groundwater must be sustainably managed and protected, within an integrated water resource framework*

Sustainable management of groundwater includes increasing and sustained investment in groundwater, appropriate policies and regulations, legal framework, institutions with sufficient authority and accountability, and development and implementation of comprehensive and adaptable management plans. The legal framework should address the process and actions for assigning, accounting, and allocating water rights, and the mechanism for resolving conflicts and disputes.

Groundwater management institutions should cover the entirety of each aquifer system, including recharge source areas and connected surface water systems, and should have the authority and accountability to sustainably manage groundwater. The groundwater management institutions should consider the interests of all beneficial uses and users of groundwater, and be integrated with surface water management institutions to manage connected systems. Institutions should have the authority to conduct studies, register and monitor wells, measure and regulate extraction, implement capital projects, freely share data and information, and assess fees to cover the cost of groundwater sustainability. Responsible management institutions should ensure that all share the cost of groundwater sustainability equitably. Federal or state governments should provide the backstop and intervention as necessary if groundwater management institutions are unsuccessful in sustainably managing groundwater in their jurisdictional areas.

Mexico's hydrological conditions are very diverse, contributing to enriching our natural and cultural heritage, but also increasing our vulnerability to the effects of extreme hydro-weather phenomena.

Management plans should include a sustainability goal, measurable objectives, an adequate understanding of the physical system and hydrology, monitoring program and protocols, a planning horizon of no less than 50 years, management component projects and actions to achieve sustainability, and integration of land use decisions. Management component projects and actions to be considered in management plans include conservation, water reuse, stormwater capture, managed aquifer recharge and demand reduction. Recycled water and stormwater should be put to beneficial use and developed as resources. Water markets and water trades and transfers should also be tools employed in sustainable groundwater management.

5. *Managed aquifer recharge should be greatly increased globally*

Managed aquifer recharge (MAR) is defined as the increase in groundwater recharge over natural infiltration processes as a result of interventions designed to enhance groundwater storage and quality. It is recognized as a key groundwater management component that is utilized widely for long-term sustainability. MAR . . . helps to increase the storage and availability of water from aquifers, may improve the quality of groundwater through natural subsurface treatment processes, and increases groundwater storage to supplement supplies during dry cycles or severe and prolonged droughts. This makes it important to promote MAR application in management plans, provide appropriate incentives for local users to implement MAR, and institute training of specialized personnel in this area. MAR needs to be employed much more widely in order to replenish depleted aquifer systems and sustain groundwater resources in the future. MAR should be implemented where economically viable in suitable aquifers that can accept a sufficient quantity and quality of water at an adequate recharge rate, within areas where groundwater use is being actively managed.

6. *Effective groundwater management requires collaboration, robust stakeholder participation and community engagement*

Groundwater is a shared, local resource, and collaboration and robust participation of community stakeholders and leadership overlying the aquifer system, including stewards of the environment, provide invaluable tools and a pathway toward the collective action needed to manage groundwater resources sustainably. Community engagement is an important social tool and can be a driving force for fostering trust, acceptance, and support for the management actions and costs, and ultimate compliance to adhere to the actions implemented. . . . Community engagement should include encouraging local leadership in key roles to nurture sound decisions and promote compliance with needed actions.

Management institutions will need to identify and engage these varied interests and determine how their involvement will be integrated into the decision-making, coordination, and implementation processes necessary to achieve groundwater sustainability. Further, the engagement of the local community is an ongoing and never ending process to achieve and maintain resource sustainability.<sup>2</sup>

## Conclusions

The coming years will be decisive for moving toward a new paradigm of sustainability for hydric resources that takes into account joint management of surface and groundwater and recognizes reuse and recharge as fundamental pillars of that. **MM**

## Notes

**1** The Sustainable Groundwater Management Directives were produced by a large group of contributors. The authors of this article wish to particularly thank Roberto Ramírez de la Parra, Timothy Kevin Parker, Adriana Palma Nava, and Fernando González Cárnez for their efforts in developing and promoting these principles nationally and internationally.

**2** <http://www.ismar9.org/Doc/sustainabledirectives.pdf>. [Translator's Note.]



Mónica Olvera Molina\*

# Beyond Basins The Political Delimitation Of Aquifers in Mexico<sup>1</sup>

Mexico is the world's sixth largest extractor of groundwater,<sup>2</sup> which it uses to supply 39 percent of national needs except for hydroelectricity uses.<sup>3</sup> Groundwater supplies 60.5 percent of the country's public water.<sup>4</sup> In addition, it is important to point out that from 2005 to 2014, the volume of water licensed for self-supplied industrial use increased 57.9 percent.<sup>5</sup> This is despite the fact that 146 groundwater protection orders are currently in effect covering almost 53 percent of national territory,<sup>6</sup> effective entirely in 12 states and partially in 20 more.<sup>7</sup> In addition, 105 of the 653 aquifers (16 percent) are recognized to be over-exploited.<sup>8</sup>

The lack of social awareness about the importance of groundwater is not pure happenstance; to a great extent, it is due to the naturalization of water's space through national management by basins, represented above all by surface bodies of waters, mainly rivers.<sup>9</sup>

This resource has been underestimated so much that some hydro-geologists, like UNAM Institute of Geography researcher Joel Carrillo, point out that Mexico's main authority in the matter, the National Water Commission (Conagua), forcibly defines aquifer boundaries according to the regionalization of basins in their administrative and institutional management of groundwater.<sup>10</sup>

Critical political geography is the framework for analyzing the supposedly natural delimitation of the space water occupies, whether a basin or an aquifer, as the ideological mechanism for naturalizing the social space; it is useful for hiding, justifying, and legitimizing the exercise of power and the accumulation of profits in capitalism.<sup>11</sup> Based on scientific evidence, then, we can confirm that institutions do have the political intention of making

the limits of basins and aquifers coincide, as well as of marginalizing hydro-geologists' positions and playing down the role of groundwater by managing basins.

## The Debate on the Delimitation of Aquifers

In the 1960s, both academic and government studies about this water source considered that "water balance" was the ideal basis for defining the availability of water, given that this calculation is related to the ingress and egress of the water system. Aquifers were represented as a kind of pot with defined limits whose content was used up as water was extracted through wells and were filled when water was infiltrated. This vertical model of water movement underestimated the tri-dimensionality and definition of water flows.

Although the aim of national water management by basins is the comprehensive management of water resources, Perevochtchikova, Carrillo, and Godoy point out that in the Mexican case, water balance does not fulfill this objective, since it only takes into account three aspects: the calculations of river flows, the extraction of water from wells, and rainfall. Thus the water balance model does not include the natural physical characteristics of the territory, the environmental impacts derived from anthropogenic activity, or physical, biological, or chemical water processes.<sup>12</sup> That is, water balance is a reductionist vision of the complexity of hydro-geological phenomena.

In the second half of the last century, J. Tóth developed a methodology that included an inter-disciplinary analysis of the chemistry of water,<sup>13</sup> kinds of soil, vegetation, and geological units. For Tóth, water is a dynamic system, a geological agent that changes over time, so much so that local and regional circulation is often unknown. In coun-

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Reuters

tries like Japan, Canada, the United States, Australia, Holland, and Great Britain, scholars have used the theory of flow systems for water planning and government management in the short, medium, and long terms.

The Mexican government's official position has been that it is impossible to incorporate the flow system into comprehensive basin-based water management because it is "difficult" to apply it due to its implications in on-going conflicts. This seems to be a response to local interests, as though good and bad practices in comprehensive water management were not important even in the international debate. However, this becomes unavoidable when we are dealing with intensive water extraction.

The government position was clearly laid out in the presentation made by the engineer Rubén Chávez Guillén, the head of groundwater for the Conagua, at the first national Groundwater in Mexico colloquium held in November 2013 at the Mexican Water Technology Institute (IMTA) in Jiutepec, Morelos.<sup>14</sup>

At that colloquium, UNAM Geosciences Center researcher Marcos Adrián Ortega Guerrero, a groundwater specialist, asked Chávez Guillén why flow systems were not included among Conagua's challenges and why aquifer delimitations seem to correspond to eminently administrative interests. At the November 9 session, Chávez Guillén responded,

Officials constantly state that the political division of basins and aquifers is due mainly to their knowledge of the natural logic of water and not political interests.

[The circulation system] is implicitly being managed. . . . I would say that it's well within the scope of the academic projects that may have specific budgets to go a little beyond what's implied by the daily pressure of [resolving] certain problems related to water management that are important to us.

And about delimitation: this is a much debated issue. Actually, it's not that we're defending administration delimitation as "the good kind"; it's simply a delimitation forced on us by administrative, legal, and practical circumstances. On the one hand there are thousands and thousands of permits assigned, and handling all those units would be very complicated if we wanted to cover the entire aquifer.

Mr. Chávez Guillén has been in his post for more than 17 years. As manager, he has a clear idea of the differences between flow aquifers and aquifers that result from an administrative delimitation arising out of a practical decision, useful to institutions for issuing concessions, establishing protection orders, or resolving political tensions

due to concessions for groundwater being assigned to the states. In this regard, he continued,

Consider the case of Guanajuato or the Lerma River Basin: if we started from the head of the flow in the State of Mexico and follow it to its end in [Lake] Chapala, there would be problems with the State of Mexico, the Federal District, Querétaro, and Guanajuato regarding the most over-exploited aquifers, and we could practically be talking about a single aquifer because [all of them or sections of them] are connected in one way or another, perhaps through the mountainous massifs. If you want to manage a unit of that size putting [the issue] on the table to distribute the resources, the people from the State of Mexico, Guanajuato, and Querétaro will never be able to do it. So, you have to divide the problem up; that's where conventional delimitations come into play. . . . You use your judgment; [that is to say] we cut the aquifer into parts, with finite differences or elements, but each part is managed with its respective balance in a model taking into consideration the exchange of water toward adjacent areas, which is a macro-level problem.

Chávez Guillén's response is up front: the institutions use political-administrative guidelines; academics should take responsibility for scientific purposes. Elsewhere, the Conagua constantly states that the political division of basins and aquifers corresponds mainly to its knowledge of the natural logic of water and not political interests, given that it is precisely the recognition of these spaces as "natural" (both the aquifer and the basin) that legitimizes them as sustainable management units.

Researcher Marcos Adrián Ortega has stated that it falls to the institutions to deal with the vulnerability of groundwater because it is the institutions that do the assessments and it is "their studies" that are ideal for legislating about this natural resource.<sup>15</sup> As decision-makers about groundwater, government institutions carry out

technical, legal, and economic studies, but the professional profile of those in charge is not precisely scientific, but rather that of technicians with political/management training.<sup>16</sup>

Now, as was argued in the justification of the regionalization of aquifers, this issue as explained by public officials seems rather colloquial. Nevertheless, when put at the center of the debate, as demanded by political geography, certain doubts and conflicts begin to arise. Among them are: Who is allowed to extract water based on water balance? Who is restricted from doing so? Who uses surface water and who uses groundwater? It then becomes clear that discretionary access to aquifers is far from being merely an inoperative matter in the paradigm of flow systems; and the current institutional design corresponds to neoliberal business interests, and not only local, but international interests, given that water is an input in all productive activities.

The following statement by the engineer from Conagua allows us to infer some of the answers to those questions, when he alludes to the challenge represented by water and energy as very ambitious:

Now that energy reform is fashionable, there's a very strong impetus that means a greater demand for water. . . . Today, there's a very ambitious program; the Ministry of Energy, the Federal Commission, *Petróleos Mexicanos* [Mexico's state oil company] are all part of this, and, regardless of the political aspects . . . the technical aspects have to be studied because it seems there's already a government decision to foster geothermal exploitation, in general for energy. [Shale gas] . . . is another [resource] that poses a new challenge. . . . There's a big polemic about the effects it might have. Some countries or sectors are against it because they think [it is] very dangerous and in some countries it's even banned, although in others it's moving ahead. There are a series of myths . . . but undoubtedly it has some risks, important risks: it requires

Institutions have the political intention of making the limits of basins and aquifers coincide, as well as of marginalizing hydro-geologists' positions and playing down the role of groundwater by managing basins.



## Discretionary access to aquifers, further not only local but international business interests.

large amounts of fresh water . . . ; there is a certain amount of residual water; there's a risk of contaminating aquifers due to accidents; there's contamination of the air, contamination of the soil. There is, or there could be; it all depends on how it's handled or how the deposit is exploited.

In this statement, several power relations come into question. The first involves institutional transformations carried out through neoliberal structural reforms. Another reveals the power differences among the institutions responsible for water and for energy. While in other countries fracking to extract shale gas is banned, in Mexico, the process is accepted, and even if technicians may know that multiple dangers are involved, they simply obey government—read, presidential—decisions, which prevail over the interests of society. That is, a clear relationship exists between the official position on water management and the practice of fracking in Mexico.

It could be said that making groundwater politically invisible serves institutions for settling tensions about the intensive use of water to favor big capital investments. Given the possibility of conflicts over the use of surface water between towns and companies, the latter simply extract groundwater as they please. The same can be seen in the case of mining, a central activity for foreign investments under the aegis of the North American Free Trade Agreement (NAFTA), mainly from Canada.

### Final Comments

The invisibility of the dynamics of water in capitalist production makes it possible to continually increase the extraction and hoarding of groundwater by certain national and international economically powerful groups.

The framework for water management by basins deliberately leaves reality out of the analysis, and, with that, the solution of current problems. The political geographic frame of reference is important for analyzing the use of power in this matter of underground sources be-

cause it also allows us to understand that the current design of institutional management is a source of conflicts rather than solutions. ■■■

### Notes

- 1 The opinions expressed in this article are the responsibility of the author and do not necessarily reflect the official position of her organization.
- 2 Michael N. Fienen and Muhammad Arshad, "The International Scale of the Groundwater Issue," in Anthony J. Jakeman, Olivier Barreteau, Randall J. Hunt, Jean-Daniel Rinaudo, and Andrew Ross, eds., *Integrated Groundwater Management* (Switzerland: Springer, 2016), pp. 21-48.
- 3 Conagua, *Numeragua* (Mexico City: Semarnat, 2016).
- 4 Public water is that transported through potable water networks to domestic consumers as well as industries and services.
- 5 Conagua, *Estadísticas del agua en México* (Mexico City: Semarnat, 2015).
- 6 A protection order is an administrative instrument that establishes conditions or restrictions on exploitation or use of water within national boundaries in the public interest; it can also be used for issuing new licenses. There are three kinds of protected areas: places where extraction can no longer be increased without running the risk of devastating or depleting aquifers; where extraction is only permitted for domestic use; and where limited extraction is permitted for domestic, industrial, irrigation, or other uses. See Conagua, "Vedas, reservas y reglamentos de aguas nacionales superficiales," May 31, 2014, <https://www.gob.mx/conagua/documentos/vedas-reservas-y-reglamentos-de-aguas-nacionales-superficiales>, accessed January 31, 2018; and Conagua, *Vedas de agua subterránea en México* (Mexico City: Semarnat, 2010).
- 7 Conagua, *Vedas de agua subterránea*... op. cit.
- 8 Conagua, *Estadísticas del agua*... op. cit.
- 9 Mónica Olvera Molina, "El espacio hidropolítico: desnaturalización de la cuenca. El caso mexicano, 1930-2010," doctoral thesis, UNAM, Mexico City, 2018.
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# The Science Needed to Understand and Protect Groundwater and Preserve The Environment

## Introduction

Two positions seem to predominate in the debate about water. One is based on what was discussed at the 1992 Dublin Conference, where some movements talked about a supposed water scarcity and proposed solving it through open participation of private enterprise in water management. Other groups considered water a common good and stated that, even though sufficient fresh water exists, socioeconomic and political conditions make access and distribution unequal. However, none of the positions contribute scientific arguments guaranteeing methodologies to allow people to fully realize their potential in all their activities. Both positions seem to sidestep the fact that most of the water in the hemisphere moves slowly and constantly underground in flows of different sizes and that, with the passage of time—sometimes thousands of years—, it can traverse hundreds of kilometers from one surface basin to another.

We know that to manage any natural resource (forests, fishing, minerals, hydrocarbons, etc.), it is fundamen-

tal to understand its dynamic and evaluate the reserves and its possible behavior in different scenarios of extraction. It is therefore incomprehensible that in Mexico and throughout the world people say that civil society, the state, and the market should support and guide the government in setting up rules for sustainable water management, when these very actors still do not know what they need to about the main source of water, groundwater, not to mention its links to the dynamics of the environment. This contributes to the lack of sustainability originating in the dearth of environmentally viable, socially accepted, and politically legitimate proposals that could include the participation of an informed, aware citizenry. What is needed is to promote equitable water management through scientifically-based decision-making, in which the economic framework would make it possible to viably execute water infrastructure and services that would protect the relationship between water and the other components of the environment.

Achieving scientifically regulated water management would require a very different education that the one we have now, an education that would not look at the issue in a fragmented way; until now, water continues to be seen as something separate from the environment. It would require an inter-disciplinary perspective with the participation

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of professionals from different fields (geologists, biologists, edaphologists, economists, geographers, civil engineers, and doctors, among others), as well as decision-makers (deputies, senators, plus other public servants). In addition to recognizing the conditions and meaning of the movement of water, particularly that of groundwater, they would have to be informed about the conceptual content of the different terms related to water and use that knowledge in their respective disciplines.

We should mention that looking at the issue in a fragmented, de-contextualized way is the same as remaining immersed in a kind of dis-information that usually ends up by not pointing out how environmental conditions are worsening. This is the result of deficient management, in which unfortunately not everything that happens is due to mere ignorance.

Taking into account that approximately 97 percent of the fresh water in Mexico is groundwater, the terms “scarcity” and “water crisis” are very subjective. However, water insecurity—that is, the lack of the ability to guarantee a reliable provision of quality water in acceptable quantities to sustain the means of subsistence, health, socio-economic development, and maintenance of ecosystems in a climate of peace and political stability—manifests itself every day nationwide. That is why the aim of this article is to question some of the concepts used in day-to-day parlance, showing how the lack of solid knowledge, despite research having been done on the issue since 1963 by Tóth, for example,<sup>1</sup> has meant that water management has not included how groundwater operates and dovetailing it with other environmental issues.



Steve Marcus / Reuters

It is noteworthy that in a context of water insecurity, the environment is clearly not being preserved; the consolidation of the soil is belittled; the presence of noxious elements in water is implicitly accepted; no controls exist for reducing the impact of groundwater on climate change; no incentives are given to methodologies with a systemic vision; nor is there interdisciplinary scientific participation in decision-making that includes transboundary groundwater in Mexico's North or South.

## Society and the Real Situation of Water

In the context of a fragmented vision of the systemic situation of water, society is unaware that approximately 97 percent of the hemisphere's water is found in the sub-soil, and that agriculture, industry, and urban activities involving water depend 75 percent on it as a source. That is why people will be surprised that ecosystems and wetlands depend on this kind of water. It is necessary, then, to highlight that the concepts used in discussing water foster an imprecise idea because they are part of a language designed and imposed exactly to misinform. This contributes to the generation of conflicts regarding water.<sup>2</sup>

So, we should ask ourselves, for example, if when talking about “availability,” we are referring to the existing water, left-over water, accessible water, or that which can be used directly. We must inquire if the concept “demand” alludes to what is required or if it institutionalizes losses and theft of water; if talking about “scarcity” involves the non-existence of water or covers up inefficient management. When we use the word “resource,” are we talking about a commodity for sale or a common good? Is an “aquifer” a reservoir that implies an indivisible “water+rock” or is it just underground water contained in rock? Is “over-exploitation” intensive extraction, its effects, a declaration of incompetence in attempted water management, or does using the term seek to give big users an advantage over small ones? When we defend the “human right to water,” is the term being used similarly to their mention in other human rights recognized in international conventions like those of children or women, or are people actually thinking that you should pay to enjoy that right?

As we can see, the use and scope of these concepts are unclear, inexact, and unfair in their application. Just the first five can be defined in several ways, while “over-



Taking into account that approximately 97 percent of the fresh water in Mexico is groundwater, the terms “scarcity” and “water crisis” are very subjective.

exploitation” continues to be ambiguous because it lacks a technical and legal definition. This makes it possible for it to have legal interpretations counter to human rights that would skip over small consumers’ rights to access to groundwater. The seventh term allows unscrupulous people to create false expectations among the populace about “their rights,” revealing the actions of different actors who clearly understand the implications of the lack of clear language that would make it possible to pose the question correctly and come up with a correct response.

## Science and Groundwater

Groundwater moves in flows between and through basins,<sup>3</sup> with different areas for recharging and discharging, and is of different physicochemical quality and age. This means that their flows’ trajectories are linked to specific environmental manifestations, which can be defined on the surface as the geomorphological reference point, and the presence or absence of surface water, soil, original vegetation, and basement rock. As mentioned above, from the middle of the last century, several authors, among them József Tóth, began to systematically define water and its correlation to certain elements. However, in Mexico, we lack government impetus on all levels for achieving the systemic, scientific vision about groundwater that we require.<sup>4</sup> Tóth’s flow systems have been proven solid and scientifically coherent, as well as functional, and are a scientific reference point applied in several countries to come up with solutions to environmental issues linked to groundwater and other components of the environment.

In North America, Canada has taken firm steps in instituting flow systems as a methodology for understanding its groundwater, showing that science is taken into account in government decision-making.<sup>5</sup> In Mexico’s case, it is incomprehensible that these actions are not recognized when this country, the world’s fifteenth larg-

est economy, aims to achieve the status of equals in NAFTA and has made a priority of modernizing conflict resolution mechanisms to make them more agile, transparent, and effective.<sup>6</sup> This becomes fundamental when we recognize that half the controversies presented at the World Bank court involving companies that have invested in Mexico under NAFTA are related to water,<sup>7</sup> and the National Water Commission (Conagua) states that 7 out of 10 of these involve groundwater.

In this context, Mexico faces the challenge of harmonizing its actions with those of other countries in North America, where scientific advisors are chosen based on an open, merit-based selection process. This requires recognizing that groundwater is a fundamental component of national policy. However, we are a long way in our country from having scientists involved in decision-making. Obviously, this would require substantially increasing support for updating hydro-geological scientific knowledge.

Instead of that, up until now, what we hear is, “Here, we solve practical problems.” In Mexico, at least with regard to groundwater, the participation of science is avoided and most of the time, politically tainted “solutions” are put forward. With this, the private sector comes out the winner, while the environmental and financial costs are transferred to society, which continues to lack a clear vision about what appropriate water management should be.

In this sense, we can no longer postpone the participation of an informed society, capable of understanding the problems involved, of negotiating, deliberating, and of making decisions and doing follow-up of processes and results. However, regional and national water-policy planning reveal the total absence of consensus linked to the environmental and social reality.

Thus, it has become imperative that we motivate different visions in which the responsibility for bad water management is attributed to the actions of those who, by law, must manage it. This implies remediating the impacts of ignorance about the dynamics of groundwater and their implications in landslides, soil subsidence, environmental changes due to hydraulic works, the impacts of mining, the effects of water containing agro-chemicals filtering into irrigation, scenarios which have left groundwater out of the equation.

Plans that do not take into consideration how groundwater functions and foster the irresponsible—and even criminal— use of land where aquatic habitats affected

are not even part of the discussion not only dismiss the health of ecosystems, but also affect human health and the possibility of any kind of sustainable development, causing severe conflicts.

Not understanding the origin of groundwater and its functioning in the environment has had a series of impacts on the latter; but, due to the fact that these flows move slowly, it is possible to predict, control, and avoid them, which is not the case with surface water and the conflicts associated with its management and preservation.

## Conclusions

The dispute over water seems to be fed by the lack of knowledge about its main source: groundwater. The concepts “water scarcity” and “common good” subtly distract from this debate. That is why it is necessary to know more about the existence and functioning of the object of the discussion. It is clear that systemic knowledge can help avoid its being invisible to the public. It has become invisible because of the lack of an interdisciplinary education that deals with and disseminates the issue, as well as a common language that is precise and corresponds to reality. However, what exists is a clear tendency to keep

knowledge about groundwater at the level it was at in the middle of the twentieth century, by not incorporating or applying systemic knowledge. **NM**

## Notes

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Marcos Adrián Ortega Guerrero\*

# Groundwater Flow Systems and Climate Change Adaptation in Mexico

## Introduction

Water management requires a precise understanding of how the hydrological cycle works. Explained simply, it begins with the evaporation of the largest expanse of water (seas and oceans); the wind blows this vapor in the

form of clouds to all the continents, where it falls. After falling, part of the rainwater and snow drains off in the form of streams and rivers, while the rest seeps into the subsoil or evaporates.

The water is reincorporated into the atmosphere through evapo-transpiration. The part that seeps into the subsoil is the largest volume of freshwater, since, of all

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the water on the planet, 94 percent is in the seas and oceans; only 4 percent is groundwater; and 2 percent makes up the polar ice caps and glaciers; while rivers, lakes, lagoons, reservoirs, and the water contained in living things represent less than 0.01 percent of the total.

This resource fulfills different functions in the world's ecosystems. Groundwater is of particular interest because it is the main source of fresh water for many land ecosystems and for humanity, despite the fact that we cannot see it. All its movement and storage takes place in the subsoil, where it is studied through geological, geophysical, hydraulic, chemical, and isotopic techniques, and with the support of numerical flow and transport models.<sup>1</sup>

Groundwater moves and is stored in the porous spaces of gravel and sand, in sedimentary granular deposits, and between the cracks in rocks, which can measure thousands of square kilometers and be hundreds of meters thick. Groundwater is not stagnant; it moves due to its interaction with the other components of the cycle and to the properties of the geological formation. This allows it to move distances ranging from 1 centimeter to 8 meters a day, and in karst regions like Yucatán and Florida, even further.

## Times in the Water Cycle

The time that water remains in each stage of the cycle varies, making it difficult to quantify exactly. However, the average time that it remains in seas and oceans is 4 000 years; groundwater can remain in that stage from weeks to more than 10 000 years; in the form of ice and glaciers, from weeks to more than 1 000 years; and in the atmosphere, rivers, lakes, and living beings, it can remain from a few weeks to ten years.<sup>2</sup>

## Groundwater Flow Systems

The concept of groundwater flow systems (GFS) has evolved in international scientific production from the 1940s to today.<sup>3</sup> Given its importance in the integration and quantification of all the elements in the water cycle, it has been gradually incorporated into strategies for surface and groundwater management and regulation throughout the world. Countries like Canada, the United States, and

Japan, among others, are adopting GFS in water management and conservation. In Mexico, efforts have been made since the 1980s to understand these systems, since 97 percent of the country's water is under the ground.

GFS were conceived to be able to understand the interaction of the stages of the water cycle, in particular what happens to the groundwater that circulates and is stored in huge geological containers, staying there different lengths of time, as mentioned above. This characteristic of the GFS has very important implications in water management and adaptation to climate change.

GFS are gravity-based: they begin their journey in high, mountainous, forest areas and travel through the subsoil toward lower areas. The movement of groundwater in aquifers makes up three main zones: local, intermediate, and regional.<sup>4</sup> These flow systems are connected to river, lake, wetland, and mainly natural spring ecosystems, where their journey ends. In the local flow system, the journeys are short and the groundwater stays there for anywhere from weeks to a few years; it is cold, close to the average environment temperature, and contains few chemical elements absorbed from the rocks it encountered on its way. In the intermediate case, the journey through the subsoil is longer and can take hundreds of years. Finally, in the regional case, the residence time is thousands of years; the water is thermal and contains a higher number of dissolved chemical elements, although this depends on the types of rock it has gone through on its way and the order in which it encounters them.<sup>5</sup> Under natural conditions, the geological containers are full and all the elements of the water cycle interact as the result of up to thousands of years of equilibrium, just like the associated ecosystems that developed over similar periods of time.

Understanding and quantifying all these interactions is fundamental for comprehensive water management, and, in addition, the natural limits imposed by geology must be respected, unlike territorial or administrative limits. That is why the criteria for this kind of study must be standardized.

## The Importance of Groundwater in Mexico

Approximately 75 percent of Mexico's central and northern regions are desert and semi-desert, where annual

Groundwater moves and is stored in the porous spaces  
of gravel and sand, in sedimentary granular deposits,  
and between the cracks in rocks.

rainfall does not exceed 500 liters per square meter, while in the Southeast, estimates put it at 5 000 liters per square meter. This is why in northern and central Mexico groundwater is practically the sole source of water available for human consumption and domestic, agricultural, and industrial use. It has also been estimated that nearly 75 million Mexicans depend almost exclusively on groundwater for our different needs. Approximately 80 to 85 percent of the water extracted from Mexico's aquifers is used for agricultural production, and, in general, its management is inappropriate, causing different environmental impacts, foremost among them the depletion and contamination of groundwater.

Unfortunately, water management in Mexico has been very deficient. The institution responsible for it in Mexico is the National Water Commission (Conagua), which has based its decision-making regarding groundwater-related matters on what they call the annual balance, which takes into account renewal or annual recharge of groundwater, and on administrative —not geological— divisions of what they call aquifers. These principles are incorrect and have created a huge crisis.<sup>6</sup> By ignoring the interaction of all the components of the cycle and particularly that of groundwater with surface water and ecosystems, this has given rise to irreversible human regional environmental damage involving regional contamination of groundwater with huge effects on the population. This is the case of Northern Mexico's Lagunera Region.<sup>7</sup>

### **Aquifer Exploitation And Groundwater Renewal**

Taking the foregoing into account, we can understand that when wells are drilled in a granular or fractured medium (called an aquifer) and groundwater is extracted, the water obtained is of different ages. When more water is extracted than the amount that enters naturally (known as recharging), the aquifer will begin to empty, above all

if what is extracted is the oldest water and its renovation is not immediate and it cannot be recovered in a short period. That is why it is important to have knowledge of the areas where extraction is the most appropriate, so the negative impacts can be reduced.

One example of this is a regional system covering eight municipalities in the state of Guanajuato. It includes a 7 000-square-kilometer basin where almost 2 500 wells have been dug; of these, 2 000 are used for agriculture, with almost 70 percent waste. In this case, among other things, the age of the groundwater was measured, and the finding was that the young water (formed in the last 60 or 70 years) had already been utilized, and that that what was being extracted is mainly water 10 000 to 35 000 years old. That is, it comes from the last ice age. The concentration of arsenic and fluoride dissolved in it is 10 times the maximum suggested by international and national norms for human consumption, giving rise to thousands of cases of patients ill from fluorosis and renal insufficiency.<sup>8</sup> Based on this, scientists estimated that 1 500 wells should never have been dug, since the demand surpasses the amount of water stored and the capacity for renewing the aquifer. This demonstrates the importance of understanding the dynamic of groundwater and its interaction with the other components of the hydrological cycle; if we do not take this into account, we can cause an imbalance to such a degree that the renewal of this valuable element of the subsoil will not occur fast enough to fulfill human requirements. Something similar happens with other aquifers in Mexico's Central Highlands and North.

Part of the solution is to use appropriate agricultural techniques. One of the central issues in the groundwater flow systems (GFS) study, for example, is the interaction of the water cycle and the dynamic of water in the non-saturated area, or vadose zone, through the top layer of the soil. This interaction is determined in part by climate conditions, surface water, and the characteristics of the surface granular material. The analysis and prediction of the behavior of this interaction is controlled mainly by

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the characteristics of the soil, such as its texture, stratigraphy, hydraulic properties, humidity content, and organic material, including different aspects of the migration of solutes.

Recently, the study of water cycle behavior in the non-saturated zone has focused on predicting the effects of climate change and its impact on groundwater, the production of food, and the permanence of ecosystems. Understanding and applying a series of conservation techniques in the top 50 centimeters of soil would allow for a rapid increase in the humidity content throughout the soil profile, since it makes possible the immediate penetration and storage of rainwater with minimum evaporation and zero runoff. This shows that it is feasible to favor the infiltration of enough rainwater to produce basic crops and seasonal fodder and reduce the negative impacts of climate change. This can be applied to irrigated crops, which would make it possible to gradually decrease the extraction of groundwater by more than 50 percent, something fundamental in aquifer management.

Carbon capture using these techniques is another factor associated with adaptation to climate change. It reduces the damage caused by drought due to the amount of water stored in the subsoil, which would allow for the production of perennial, seasonal crops and fodder for animals. These results suggest changing policies for supporting Mexico's countryside to promote management through appropriate conservation techniques and stimulating the increase of organic material in the soil structure, as well as the incorporation of rainwater.<sup>9</sup>

## Conclusions

Mexico needs to include in its water management and climate change adaptation tasks an appropriate quantification of the water cycle and an understanding of how it works, particularly with regard to groundwater, which represents 97 percent of the country's water. Groundwa-

ter is part of the water cycle and optimum knowledge of it would make more tailor-made planning for national development possible, as well as the implementation of appropriate solutions to current problems. The inclusion of groundwater flow systems (as put forward by Tóth and other scholars) is urgently needed for understanding and managing water in order to establish legislation and national regulations. Also, understanding and applying a series of conservation techniques in the top centimeters of the soil would make possible the immediate incorporation and storage of rainwater, with minimal evaporation and zero runoff, benefitting the production of basic crops and fodder and decreasing damage due to climate change. **MM**

## Notes

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Jessica Rinaldi / Reuters

Irasema Coronado\*

## Resilient Families amidst Adversity in Colonias

A lot of attention has been paid to the plight of colonia residents in the state of Texas; researchers have written numerous articles and published reports, laws have been passed in the legislature, and the federal government has also allocated funding to deal with the fact that people in the state live without the benefit of water and sewer infrastructure. In the 1970s, the Lyndon Baines Johnson (LBJ) School of Public Policy at the University of Texas-Austin published a report depicting the quality of life of people residing in colonias in Texas border counties.

In Spanish, the word “colonia” means neighborhood, but in this particular context, in the state of Texas, a “colonia” is defined as an unplanned, informal housing de-

velopment that lacks one or all of the following: water and sewer infrastructure, paved streets, street lights, sidewalks, electricity, or safe and sanitary housing. The LBJ report focused on the impacts that lack of water and sewer infrastructure had on the predominately Mexican-American population residing under those conditions. Researchers noted that higher levels of certain communicable diseases were prevalent in colonias: viral hepatitis, bacillary and amoebic dysentery, and typhoid rates were higher than in any other part of the United States. Additionally, they concluded that this threat to the well-being of colonia residents could be largely eliminated by providing safe drinking water and sanitary waste water disposal systems to the colonias.<sup>1</sup>

In 1996, the Federal Bank of Dallas published a report titled “Texas Colonias: A Thumbnail Sketch of the Conditions, Issues, Challenges and Opportunities” further doc-

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umenting and highlighting the conditions in colonias. In the concluding comments, this report issued a call to action, stating, “Through this report, we seek to illustrate the conditions, issues, challenges, and opportunities in colonias. We encourage any individual, institution, organization, or governmental entity that recognizes an opportunity to improve conditions in the colonias to act on it.”<sup>2</sup> In 2015, The Federal Reserve Bank of Dallas published yet another report, “Las Colonias in the 21<sup>st</sup> Century: Progress along the Texas-Mexico Border,” providing an updated assessment on living conditions there. The report indicated that an estimated 500,000 people live in 2,294 colonias in Texas, 337 of which lacked basic water and sewer infrastructure.<sup>3</sup>

About 96 percent of colonia residents are Mexican-American and 35 percent are foreign born; 94 percent of young people living in colonias are U.S. citizens.<sup>4</sup> Though the majority of them are citizens, the same family might have members who are legal permanent residents and others who are undocumented.

## Emergence of Colonias

Texas is a large state with vast areas of rural territory. Additionally, when it was founded as a state, the prevailing ideology was that government should be kept small. Rural ranchers wanted to live on their land, dig their own wells, and provide their own septic tanks and to have minimal government intervention in their lives. Farm workers originally lived in close proximity to the agricultural fields and also started to build dwellings so that they would be close to work, though they lacked basic services. These original homes built by farmworkers and their families were the original colonias.<sup>5</sup>

In some instances agricultural land was no longer productive and growers often subdivided it and sold lots to families in need of a place to live. Another contributing factor to the emergence of colonias were the forces of globalization in the mid-1960s that led many U.S.-based businesses to move their labor-intensive operations to other countries, giving rise to precarious jobs with low wages, lack of health care benefits, part-time employment, and increasing poverty. Loss of jobs in urban areas led to greater poverty, and, in some instances, people who were purchasing their home in a city were unable to make mortgage payments, or, if they were renting, could not afford

**Higher levels of certain communicable diseases were prevalent in colonias: this threat could be largely eliminated by providing them with safe drinking water and sanitary waste water disposal systems.**

to pay the rent. This lack of affordable housing resulted in families moving to a colonia where property was cheap to set up house in areas without water, sewer infrastructure, and other basic accoutrements.

To this day, Texas is the only state in the U.S. that restricts large areas within its boundaries from being zoned or effectively planned.<sup>6</sup> Therefore, counties do not have the legal authority to implement zoning laws, effectively allowing people to purchase land and to live on the property without the benefit of water, sewers, electricity, and paved streets. This is the crux of the issue, since it allows people to sell land without services to others to live in conditions lacking appropriate infrastructure because, unfortunately, not everyone can afford to dig a well and provide their own services. Moreover, because counties are not empowered to regulate the use of land, it is common to see houses next to junk yards and in close proximity to automotive repair shops.

## The Expansion of Colonias

Poverty has also led to the growth of colonias along the Texas border. Coupled with a lack of affordable housing in urban areas, low income, and lack of credit, many families find that moving to a colonia is a better option than being homeless, because at least they are investing in property. Once a family enters into a contract for deed to purchase property in the county, they usually move a mobile home onto the land, install a septic tank, and purchase a large container to store water and a gas tank. For people with limited income, it takes time to save the money to purchase these accoutrements and some families make do with what they have and what they can afford; hence, some rely on well-intentioned family and friends without the necessary expertise, who provide assistance with installing septic tanks that can leak. Fam-

ilies also resort to building outhouses until they can afford to install a septic tank, which can lead to health problems.

## Environmental Health Problems

Access to water is a major challenge for colonia residents. Lack of water and sewage infrastructure contributes to many environmental health problems. Colonia residents are susceptible to water-borne diseases such as hepatitis A and shigella dysentery. Those who can afford a large cistern still have to pay a water delivery truck; other families resort to purchasing water by the gallon at local retail stores, which of course is a big expense. In the case of a fire in a dwelling in colonias, the lack of water has had devastating effects, leading to major losses. Another challenge they face is trash disposal, since the county government does not provide this service. Residents find a variety of ways to deal with their trash: one option is to bury it on their property; another is to burn it, causing air pollution; and a third is to dispose of their trash in bins at local business located within the city limits, which is illegal.

## County, State, and Federal Government Involvement in Colonias

County government officials have lobbied the state legislature to make changes in the laws that would allow for counties to pass zoning and planning statutes. Additionally, they have made the case that providing water and sewer infrastructure is more difficult and costly once people have established their homes. Fortunately, some colonias have received these services, though this has led to higher property taxes, which can be a financial hardship for families with limited income. However, having access to water also allows them to share this resource with their less fortunate neighbors.

Since 1987 several bills have been introduced into the Texas legislature to address the problems of colonias. Despite numerous bills having been passed, the bad living conditions in some colonias persist because poverty and the lack of affordable housing, coupled with pride in property ownership, lead people to move there. Despite the legislature having passed several bills to ameliorate and address the lack of water and sewer infrastructure

and other issues, however, in 2018, the problem persists, though people in colonias find ways to address and solve their own difficulties.

Senate Bill 585 was the first piece of legislation introduced in 1987, authorizing the Texas Water Development Board (TWDB) to provide grants and loans for water and wastewater services for colonias. In 1989, Senate Bill 2 established the Economically Distressed Areas Program (EDAP) to provide water and wastewater services to colonia residents who could not afford them and also to ensure that new rural residential subdivisions would have water and water services installed. Senate Bill 818, passed in 1991, set water quality standards and established the Colonia Plumbing Loan Program to offer low-interest loans to colonia residents for individual home water and wastewater installations and for indoor plumbing improvements. In 1993, House Bill 2079 authorized counties to solicit help from the Office of the Attorney General (OAG) to enforce state health and safety laws related to nuisance violations and on-site sewage facilities and allowed the OAG to request injunctions against violations of county subdivision rules in established developments and to sue for damages when violations occur. This bill targeted people whose septic tanks overflowed into others' property.

In the 1995 legislative session, SB 1509 created a colonia self-help center to provide home financing assistance, counseling, a tool library, and instruction and technical assistance on installation and financing for septic systems. House Bill 2252, passed in 1997, provided funding to a variety of colonia-related social service programs administered through the Centers for Housing and Urban Development. SB 1421 established provisions regarding the regulation of the subdivision or development of land in certain economically distressed areas, including colonias. This bill, passed in 1999, also provided penalties for violations.

SB 198 was passed by the legislature in response to colonia residents who did not speak English being taken advantage of by people selling land and providing contracts in English. SB 198 required that a seller provide a buyer with certain written information and disclosures when using a contract for deed and that, if the contract was negotiated in a language other than English, the seller must provide copies of all documents in that language.

In 2003, HB 1875 allowed for rural-targeted funds to be used to provide low-interest loans to rural political sub-



divisions for water or water-related projects and for water quality enhancement projects. SB 827, passed in 2005, required the Office of the Secretary of State to establish and maintain a statewide classification system to track state-funded projects related to water/wastewater, road paving, and other assistance to colonias. It required the colonias ombudspersons, the Office of Rural Community Affairs, the Water Development Board, the Transportation Commission, the Department of Housing and Community Affairs, the Department of State Health Services, and/or any other appropriate agency as determined by the Secretary of State to report information to the Secretary of State for the classification system. The Secretary of State was then to compile and report this information to the legislature by December 1 of each even-numbered year. The classification system includes only counties within 62 miles of an international border.

Legislation regarding colonias has been passed in every session from 2007 to 2017. SB 781 related to remedies available if a sub-divider fails to provide water or sewer services in certain subdivisions near an international border; passed in 2009, HB 1579 allowed counties to remove flood waters caused by a natural disaster in order to protect the health and safety of a colonia. In 2011, SB 1377 authorized general obligation bonds to be issued to provide financial assistance for colonia-access roadway projects to serve border colonias. In 2013, HB 3933 sought to transfer water and wastewater infrastructure and responsibilities to the Cuadrilla Improvement Corporation (CIC) to the Lower Valley Water District and allow for a million-dollar water improvement project to be executed by the Border Environmental Corporation Commission.

## A Federal and Binational Issue

In the 1990s when the North American Free Trade Agreement (NAFTA) was being negotiated, environmental and health problems in colonias were elevated to a national and international level. The United States Environmental Protection Agency (EPA) held public hearings in border communities and was apprised of the realities of colonia residents. National environmental non-governmental organizations called for a parallel side agreement to address the negative externalities that increased trade would bring to the region. The EPA responded with a Border En-

vironmental Plan that stated that, in the United States, wastewater treatment facilities and clean drinking water would be given the highest priority. The total U.S. commitment in the FY 1993 budget to address environmental problems along the border was US\$241 million, including US\$199 million in water-related constructions grants. Of this sum, US\$50 million would be earmarked for EPA wastewater grants to colonias in border regions and an additional US\$25 million in grants was proposed for drinking water hook-ups.<sup>7</sup>

As an academic researcher, I have been visiting colonia residents in the state of Texas for over 25 years. My interactions with them have allowed me to see 1) colonia residents' resiliency and their ability to solve their housing problems; 2) their creativity and resourcefulness in dealing with the lack of infrastructure; 3) their willingness to help family and friends in need; 4) how hard they work at their jobs, commuting long distances, and then, after getting home, working on building and improving their homes; and 5) that they handle their financial transactions in cash and do not rely on credit.<sup>8</sup>

My recent visit to colonias in El Paso County in fall 2017 indicated that many people are still living without the benefit of services. I noted many indications that the informal economy is rampant in colonias. I saw signs reading, "Land for sale," "I clean lots," and, in Spanish, reading, "Postes de luz para mobile home" (Electricity poles for mobile homes), and "Se limpian fosas" (We clean septic tanks).

Colonia residents shared with me that they deal mostly in a cash-only economy; that everyone wants payment in cash; and that it was difficult to maximize their resources when water and gas vendors charge a delivery fee regardless of the amount of water or gas that you purchase. People complained that lack of public transportation made life difficult especially if the family had only one car. Colonias are isolated and in remote areas, making it

**Senate Bill 585 was the first piece of legislation introduced in 1987, authorizing the Texas Water Development Board to provide grants and loans for water and wastewater services for colonias.**

difficult and costly for governments to deliver services and for residents to access services and stores because of the distances involved.

When I was learning about living arrangements, one matriarch shared with me that 12 people were living in her small house. She showed me how the sofa in the living room was her daughter and son-in-law's bed at night, how bunk beds allowed for more space for sleeping, and how two small cots were placed next to the dining room in order to have more sleeping space. She also showed me how an old camper in the driveway was where her son and his wife lived.

Recently, I met a family comprised of one sister (Julissa, a pseudonym), two brothers, and one nephew; together they purchased an acre of land and subdivided it into four plots, and they are very proud property owners. On the property there are four dwellings: a trailer and three houses, though they were all built around trailers. Julissa stated that it has taken her 10 years to build her home, with a lot of self-help and with the assistance of family and friends. She noted that sometimes she had money to purchase materials to continue building her home but not enough time to work on it, and other times, when she had time, she did not have money. Hence, building her home had become a long-term project. She went on to describe how first they purchased septic tanks, 25,000-gallon cisterns, and propane gas containers to be able to live on the property. She also said that all these purchases and the construction were paid for in cash, because credit is difficult to come by when you have a low-income job, and banks are reluctant to lend money for mortgages in colonias. Julissa stated that it cost her US\$75 to fill her cistern with water, and added that she was very frugal and used it wisely; she lamented that some families pay up to US\$250 a month for water and that some families cross the border to Ciudad Juárez, Chihuahua, to buy water jugs.

## Conclusions

Despite legislation and resources provided to colonias over time, families are still living without access to water and sewer infrastructure, though some colonia residents attempt to solve their own problems and certainly do not rely on the government for help. Due to poverty and so-

cial alienation, some residents are just not able to fend for themselves. Colonia residents have great pride in home ownership and in their resourcefulness in solving their own problems.

Government officials are still trying to address the lack of water in colonias. In 2016, authorities in El Paso County submitted a grant application to the United States Department of Agriculture/Rural Development to provide water services to residents of Hillcrest Estates and Hillcrest Center Colonias. Guadalupe Díaz, a 27-year resident of the Hillcrest area, thanked the county officials for submitting this application. "I guess this morning all of you took a shower and it was relaxing; it was pleasant. For us in this area, every time we take a shower we have to think if we're going to finish our shower because we don't know if water from our tank is running out or not," she said.<sup>9</sup>

Referencing the LBJ report published back in the 1970s, if governments and policy makers had heeded the warning back then that the "threat to the well-being of colonia residents could be largely eliminated by providing safe drinking water and sanitary wastewater disposal systems to the colonias," and if they had responded to the Federal Reserve Board of Dallas call to action that any "individual, institution, organization, or governmental entity that recognizes an opportunity to improve conditions in the colonias [should] act on it," life for families in colonias would not have to be so challenging and all colonia residents would live in healthier environments today. ■■■

## Notes

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Gonzalo Hatch Kuri\*

# Challenges for Mexico-U.S. Transboundary Aquifer Management

One constant in the debate about water is the existence of two practically irreconcilable political positions. One, influenced by the principles laid out at the 1992 Dublin Conference, defends the intervention of the market in water management; the other defends water as a common good. Both positions suffer from complete inattention to the formulation of concrete policies for transboundary aquifer management. Thus, approaching and studying transborder groundwater require an analysis that weaves together three dimensions: the scientific, the technical, and the political. The specialized literature examines these three in a fragmented way.

The study, identification, and assessment of these aquifers are recent. Specialists like Alfonso Rivera point out that 60 percent of surface and underground fresh water deposits cross some international boundary, and that only 40 percent of international basins come under the aegis of some kind of accord about the political distribution of shared water.<sup>1</sup> Transboundary aquifer management is becoming a priority on the international agenda. This can be seen in many documents, like “The 2030 Agenda for Sustainable Development” and the “17 Sustainable Development Goals.” Goal number 6 states that “availability and sustainable management of water and sanitation for all” must be ensured, while Section 6.5 stipulates that by the year 2030, integrated water resources management must be implemented on all levels, including transboundary cooperation. In accordance with this, the UNESCO International Hydrological Program’s eighth phase, “Water

Security, Addressing Local, Regional, and Global Challenges (2014-2021),” fosters scientific research on six key themes, the second of which makes comprehensive management of transboundary aquifers a priority.

In procedural terms, in 2015, the International Groundwater Resource Assessment Centre (IGRAC) and the UNESCO identified 21 transboundary aquifers in North America. Of these, 10 were situated along the Canadian-U.S. border (Abbotsford-Sumas, Okanagan-Osoyoos, Grand Forks, Poplar, Estevan, Northern Great Plains, Châteauguay, Judith River, Milk River, and Richelieu/Lake Champlain), and 11 on the Mexico-U.S. border (San Diego-Tijuana, the Lower Colorado River Basin, Sonoyta-Pápagos, Nogales, Santa Cruz, San Pedro, Conejos Médanos/Bolsón de la Mesilla, Bolsón del Hueco, Edwards-Trinity-El Burro, Río Bravo/Grande Lower Basin, and Los Mimbres-Palmas). At least one-third of these shared aquifers have already been assessed, and, in some cases, protocols have been developed for their joint management.

In accordance with this, in 2016, the United States concluded the Transboundary Aquifer Assessment Program (TAAP) for four aquifers shared with Mexico (Santa Cruz, San Pedro, Conejos Médanos/Bolsón de la Mesilla, and Bolsón del Hueco). Even though both nations worked

*In this century, the political dimension of groundwater will be reassessed not only in North America, but the world over.*

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very hard on this and they share a mutual interest in a scientific understanding of these water reserves, the results of the study still display significant underlying legal, financial, and institutional asymmetries with regard to groundwater management in the two countries.

## Transboundary Water Treaties In North America

In the case of the Canadian-U.S. border, many bilateral agreements exist to manage shared water. It should even be pointed out that subnational border governments from the two countries have promoted, signed, and recognized *ad hoc* arrangements. Two of the most important are the 1909 Boundary Water Treaty U.S.-Canada and the 1978 Agreement between Canada and the United States of America on Great Lakes Water Quality, which came into effect in 2013. Both accords establish the mechanisms needed to surveil, preserve, and maintain optimum quality of the shared water bodies, such as the Great Lakes. The International Joint Commission merits special mention, arising out of the multiple treaties about transboundary water signed by these countries in 1909, 1950, 1961, 1964, and 1984.

The “Report on Interior, Border, and Transboundary Water Management in North America” (2001) recognizes the importance of aquifers as reservoirs. The International Joint Commission has had considerable influence on its management in Canada and the United States in three operational areas: supervision of apportionment, level management, and supervision of the quality of transboundary water. One example was the Milk River Aquifer Reclamation and Conservation program implemented by the Canadian government to protect and conserve the water in the Milk River Aquifer in order to mitigate the effects of fracking in the state of Montana.<sup>2</sup>

In the case of the Mexico-U.S. border, the 1944 Water Treaty is the only reference point for the political division of the three main shared bodies of water: the Río Bravo/Rio Grande, the Colorado River, and the Tijuana River Basins. Although it does not cover transboundary groundwater, this treaty has been the basis for the still-pending formulation of a general agreement in this field, according to Minute 242 (1973) of the International Boundary and Water Commission, dealing with a problem of contamination of groundwater in the area near where the Colorado River crosses into Mexico. Despite this, both governments have collaborated to jointly identify and assess some of the transboundary aquifers. An important part of those



Mohamed Azakir / Reuters

efforts includes the creation of both the Bolsón del Hueco Transboundary Binational Data Base in 1998 and the Binational Program to Monitor Groundwater in the Arroyo Los Nogales Alluvial Aquifer in 2001. The last program for carrying out a binational assessment was the TAAP.

Despite political, scientific, and technical-procedural efforts in managing transboundary aquifers in North America, political, legal, institutional, and financial asymmetries exist between Mexico and the United States in dealing fundamentally with the issue and achieving much more effective agreements than in the case of Canada and the United States.

### Asymmetries in Managing Mexico-U.S. Aquifers

One of the main asymmetries is linked to the kind of sovereignty that each country exercises over transboundary groundwater. First of all, it is necessary to recognize that this water is a shared international watercourse, as suggested by different specialists and some international guidelines developed for this purpose.<sup>34</sup> This means that both countries should exercise limited territorial sovereignty over the transboundary groundwater; however, the legal regulatory framework makes that impossible.

In the United States, groundwater management comes under the jurisdiction of that country's subnational entities, each of which exercises sovereignty over its natural resources differently. By contrast, in Mexico, it is the federal executive branch that has jurisdiction; in this sense, the U.S. federal government is in practice not able to generate an agreement about groundwater since it does not exercise unlimited sovereignty over it. Something similar happens in Mexico because, although the Constitution stipulates that groundwater is the property of the nation, in reality, since it can be freely extracted, it falls under the private domain.<sup>5</sup>

In the financial sphere, Mexico's weak economic capabilities for dealing with the issue—in 2017, its National Water Commission's budget was slashed 72 percent vis-à-vis the previous year, and this is expected to be repeated in 2018—make these asymmetries an even greater obstacle. It should be remembered that the TAAP was assigned US\$50 million, although at the end of the day, only 10 percent of that was used; and California's Sus-

**We must recognize that a transboundary aquifer is a shared international watercourse, as suggested by specialists and international guidelines.**

tainable Groundwater Management Act, approved in 2014, was assigned US\$100 million for operations. Other elements that should be underlined include the lack of qualified staff in Mexico and the small number of schools that teach subjects involving transboundary groundwater.

### Challenges for Correct Transboundary Aquifer Management

The TAAP had four specific objectives: developing and sharing data bases on the quality and quantity of groundwater; evaluating the accessibility and movement of the water and its interaction with surface water; developing and improving information on groundwater flow systems to facilitate an agreement and planning; and providing useful information to institutional decision-makers.<sup>6</sup>

The results of this program have already been published and are open access. Particularly important among them is the most recent publication of the "San Pedro River Aquifer Binational Report,"<sup>7</sup> which includes its hydrogeological assessment and updated theoretical model. All together, these reports show substantial advances in the creation of data bases and critical indicators for groundwater. Therefore, in the light of these reports, we can consider the TAAP an important precedent in the matter, not only because of the quantity of financial, technical, institutional, and human resources utilized, but also because of the abundant information it produced. Nevertheless, the lack of specific public policies about aquifers is a matter for concern, since the General Accord on Binational Coordination signed by both governments tacitly agreed not to deal with issues of water rights or binational aquifer management.

While the TAAP created the foundations for a much more effective assessment of the aquifers studied, aspects like the different kinds of water rights (concessions, inheritance, private land with water rights, among others) and their management were left out. The matter practically centered on a technical, engineering logic, which,

without underestimating its results, disregarded the political dimension of the process of cooperation. In addition, the TAAP, characterized by having huge financial resources and numerous staff, put Mexico at the disadvantage in transboundary groundwater management. Undoubtedly, the underlying political meaning was to have a much more realistic understanding of the kind and amount of the main hydric reservoir located on both sides of the border. This undoubtedly will strengthen the U.S. construction of water security, understood as the capacity of a population or country to ensure sustainable access to quality water acceptable for socioeconomic development, guaranteeing protection against contamination and preserving ecosystems in a climate of peace and political stability, in accordance with the UN Water Program definition of 2013. Along these same lines, recent studies on the initial cartography of all the shared transboundary aquifers of both countries reiterate U.S. political interest in this issue.

## Conclusions

The treaties currently in force on the political distribution of transboundary water in North America are the product of huge cooperation efforts during the twentieth century, although they almost all involve surface water, that is, hydrological basins. In the history of the issues dealt with in the complex Mexico-U.S. bilateral relationship, the twentieth century is marked by the negotiation and entry into force of the 1944 Water Treaty, which establishes the political distribution of the three shared basins. The United States displayed greater interest in the issue given the importance of the use and supply of transboundary groundwater because Mexico's northern border is one of the geographic spaces with the highest levels of economic integration and where water plays a preponderant role. However, the bilateral Mexico-U.S. ne-

**Despite political, scientific, and technical-procedural efforts in managing transboundary aquifers in North America, political, legal, institutional, and financial asymmetries exist between Mexico and the United States.**

gotiation has by no means been free of polemics and outright differences in the interests underlying the way these international waters are managed.

Undoubtedly, in this century, the political dimension of groundwater will be reassessed not only in North America, but the world over due to the growing dependence on it. Therefore, transboundary groundwater will surely occupy an important place on international agendas. But it will probably not be the object of general treaties or accords since, as has been pointed out here, the kind of sovereignty that can be exercised over these waters is to regulate them, and even this is severely impeded for the moment in dealing with the issue.

Although the binding international instruments mentioned here call on their signatories to come to peaceful agreements with regard to their shared water, neither Mexico nor the United States have ratified them. In this area, Resolution 63/124, "The Law of Transboundary Aquifers," can be an excellent guide for the two countries to come to much more profound bilateral arrangements. The aim could even be to negotiate about the current 1944 Water Treaty to insert a plan for binational management of transboundary aquifers. ■■

## ▼ Notes

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### **Un panorama de las ciencias sociales en México**

(Overview of the Social Sciences in Mexico)

Cristina Puga

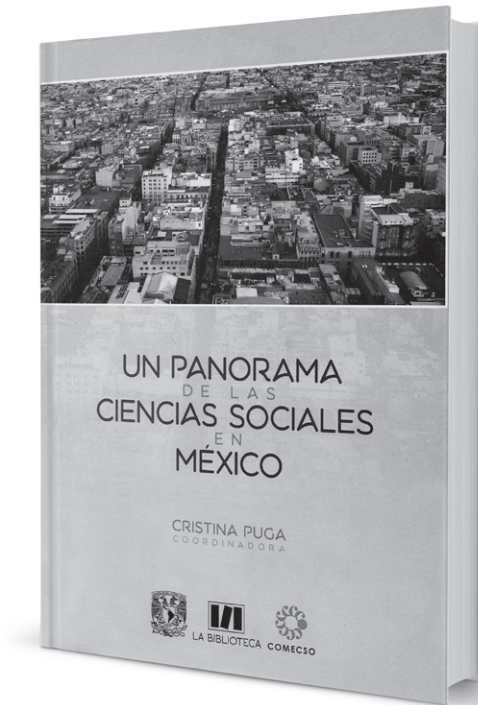
UNAM/Comesco

Mexico City, 2017, 203 pp.

In an attempt to reconcile their methodological, theoretical, and historical diversity, social scientists seek to cover a series of complex problems and constantly reflect on their own practice. The article “El manifiesto por las ciencias sociales” (Manifiesto for the Social Sciences), by Calhoun and Wieviorka, published by *Revista mexicana de ciencias políticas y sociales* (Mexican Journal of Political and Social Sciences) and mentioned by the author,<sup>1</sup> debates the possibility of improving conditions for society and individuals and their ability to have a positive impact on collective life. For that reason, the social sciences have the purpose of revealing trends, pinpointing absences or positive results, and demonstrating when none of this is possible.

This book’s eight chapters contribute to a general overview of the social sciences in Mexico. They are the result of collective work by the Mexican Council for Social Sciences (Comesco) and carried out by researchers from different universities financed by the National Council for Science and Technology (Conacyt). The objective was to gather up-to-date information about issues involving the social sciences as well as teaching and research, and accentuate the characteristics of the region where they occur.

The book brings together significant results about social science students, teachers, schools, and research centers over the last two decades, in addition to reflecting on the research, internationalization, links to public policies, theo-



retical production, and teaching in different institutions.

The disciplines have been constantly expanding, with an increase in the number of majors offered nationwide, in the number of graduate students in the field, of journals and books produced, and the recognition of authors and their works. Despite this, in the same period, we must recognize that some issues are still pending, since the fields have not expanded evenly. Several authors take up this point in their chapters.

The first chapter, “La expansión desigual de las ciencias sociales en México” (The Uneven Expansion of Social Sciences in Mexico), by Óscar Fernando Contreras Montellano and Cristina Puga, contributes important data about the strengthening of undergraduate majors and graduate studies and research. However, it also points out the heterogeneity of those advances, creating vacuums in analyses and in the solution of social and economic problems in different regions.

The authors also underline increased social science training in private institutions of higher learning, oriented mainly by demand, not by

the desire to acquire new knowledge. They underline the challenges presented in the attempt to foster positive, up-to-date science that will provide opportune data about the situation in the country.

To this aim, they present the results of a survey by students from several universities through a data base about the country's social science institutions and academic bodies. These results offer important information about the way the field is taught, researched, and how the results are disseminated. One outstanding feature is the existence of specialized publications, links with other institutions, and the diverse academic personnel, all of which are strong indicators of the consolidation of academic communities, institutional commitment, and the maturity of their academic bodies.

Alfredo Hualde Álvaro and Miguel Ángel Ramírez Sánchez's contribution is the article "Ciencias sociales y desarrollo económico: un ejercicio de interpretación en perspectiva regional" (The Social Sciences and Economic Development: An Exercise in Interpretation from a Regional Perspective). The authors analyze the factors that would produce a favorable outcome in the study of the social sciences. Presenting statistics, they look at how the quality of higher education and socio-economic inequality affects the entire production of knowledge.

The chapter shows how universities have an important function in growing the economy of areas where they are located, since they act as an example of competitiveness and social well-being. The idea is not that they should be financially focused, but rather that they should be concerned about their impact on society and improving its well-being.

The third chapter, "Ciencias sociales en México: producción de conocimiento, formas de organización y relación con la sociedad" (The Social Sciences in Mexico: Production of Knowledge, Organizational Forms, and Their Relationship with Society), is by Rosalba Casas Guerrero. The author describes how the production of knowledge is irregular due to inequal-

ity among the regions where it is produced, in addition to its relationship with society.

She mentions that among the causes of the slow advancement in research is the low investment in institutions as well as their lack of coordination with those in charge of disseminating scientific knowledge. She observes that it is necessary to analyze how knowledge is produced, disseminated, and utilized to be able to reflect on the development of the social sciences. She also deals with the changes that have occurred with regard to forms of production and organization of academic work and its relationship with society.

Casas Guerrero also explores two ways in which scientific knowledge is produced and evaluated: the first ranges from basic to applied research, touching on experimental development and innovation. The second involves contexts of application, where the problems are not defined in the framework of a discipline. She notes the negative results that can result from confining oneself too strictly to either of these roads. She also discusses different issues that influence results, for example, whether the forms of doing research favor the production of quality knowledge and its links to society, pointing out that all of this is reflected in economic growth.

In the following chapter, "Las ciencias sociales en el sureste mexicano: una aproximación panorámica" (A Panorama of the Social Sciences in Mexico's Southeast), Esteban Krotz describes academic life in that area. He hones in particularly on social science students and academics' difficulties, taking into account their socio-cultural traits and statistics about certain aspects of their activities that condition their education, academic production, and research.

**The social sciences are constantly being redefined, as several of the book's chapters mention, based on changes in society itself.**

Roberto Peña Guerrero's chapter, "La internacionalización de la educación superior: un proceso en construcción" (The Internationalization of Higher Education: A Process under Construction), aims to understand internationalization, which has sparked an important debate due to the need to include this dynamic in teaching and research. However, he warns that student exchange programs are not the most important aspect of this, and that, rather, what should be done is to increase curricular content to include international issues. He reflects on the confusion involved in the topic and attempts to understand it, relating it to public policies and situating it in the world context.

The sixth chapter is "Las ciencias sociales en la solución de problemas públicos: una mirada desde las políticas públicas" (The Role of the Social Sciences in Solving Public Problems: A Look from the Viewpoint of Public Policy). Author Gloria del Castillo Alemán puts forward proposals about how to link up the production of social sciences to public policies, since both activities involve society and issues that affect it like inequality, poverty, and insecurity. This is why the social scientists seek to rethink their proposals for solving these public problems. The author describes the challenges posed in these disciplines with regard to their links to politics, such as the contributions of both dimensions to public production processes from the point of view of a commitment to society.

In the following chapter, "¿Ciencias sociales para qué?" (Social Sciences, What For?), Sylvia Maribel Sosa Fuentes and Rodolfo René Suárez Molnar explore the sociology major in the UNAM School of Political and Social Sciences. They reflect on how the curricular content has evolved through the years in step with changes in the country, showing how the social sciences deal with the problem of incorporating themselves into the globalized world.

The last chapter is by Alfredo Andrade Carreño: "Planteamientos teóricos y metodológicos emergentes en la sociología mexicana contemporánea" (Emerging Theoretical and Methodo-

The book presents significant results about social science students, teachers, schools, and research centers over the last two decades.

logical Considerations in Contemporary Mexican Sociology). It presents a study about Mexican society today, since it is reflected in the ways knowledge develops to achieve better social conditions. The author also studies certain social practices linked to experiences of social change in resolving learning problems and how they link up to contemporary society.

To conclude, it should be emphasized that the social sciences are constantly being redefined, as several of the book's chapters mention, based on changes in society itself. That is why the explanations of different social phenomena rapidly become outdated and require significant updating and enrichment with new proposals that take into account technological changes, variations in public perceptions, and new connections and influences among new actors.

The importance of this publication resides in the constant debate about the deepening of social sciences in Mexico. Its articles deal with the issue broadly, including the analysis of all the specificities of the topic, not only underlining the problems but also emphasizing their achievements. They propose hypotheses about the ways our disciplines can be linked to a society that demands explanations, answers, and concrete actions for improving the country's social science. ■■■

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**Notes**

1 Craig Calhoun and Michel Wieviorka, "Manifiesto por las ciencias sociales," *Revista Mexicana de Ciencias Políticas y Sociales* vol. 58, no. 217 (January-April, 2013), pp. 29-59.