

The logo for San Diego State University, consisting of the letters 'SDSU' in a bold, red, sans-serif font.

**SAN DIEGO
STATE UNIVERSITY**

**Institute for
Regional Studies
of the Californias**

The Maquiladora Program
in Trinational Perspective:
Mexico, Japan,
and the United States

edited by

Paul Ganster

The background of the cover features a grid of small grey squares. A large, thin red circle is drawn across the page, partially overlapping the map of California. The map of California is a thick black outline. A small red star is placed on the map, near the border with Mexico. The text is positioned in the upper right and lower left areas of the cover.

BORDER ISSUES SERIES, 2

The Maquiladora Program
In Tri-National Perspective:
Mexico, Japan, and the United States

Border Issues Series, 2
Paul Ganster, General Editor

PUBLICATIONS AVAILABLE FROM THE
INSTITUTE FOR REGIONAL STUDIES
OF THE CALIFORNIAS

Maquiladora Resource Guide: Exploring the Mexican In-Bond/Maquiladora Option in Baja California, Mexico. Norris C. Clement, Stephen R. Jenner, Paul Ganster, and Andrea Setran. (Overview of the industry, step-by-step guides to starting a maquiladora, directory of over 600 maquiladoras in Baja California.) 1989. Pp. 169. \$30.00.

Literatura de Frontera México/Estados Unidos. Mexican/American Border Writing. Edited by José Manuel Di-Bella, Sergio Gómez Montero, and Harry Polkinhorn. (Proceedings of the First Conference of Writers from the Californias, Mexicali.) 1987. Pp. 212. \$10.00.

Literatura de las Fronteras. Border Literature. Edited by José Manuel Di-Bella, Paul Ganster, Sergio Gómez Montero, Harry Polkinhorn, and Gabriel Trujillo Muñoz. (Proceedings of the Second Border Literature Conference, Tijuana, June-July 1988.) 1989. Pp. 503. \$10.00.

Otay Mesa: Its Potential for Industrial Development. (A summary of a conference held October 24, 1985, cosponsored by the Institute for Regional Studies of the Californias and the County of San Diego Department of Planning and Land Use.) 1985. Pp. 49. \$10.00.

U.S.-Mexico Border Governors Finance Summit. Final Report. (The Second Summit, held in San Diego in November 1989, was held to develop a common framework in terms of financing mechanisms and specific border infrastructure projects.) 1989. Pp. 101. \$30.00.

Tourism Investment in Mexico. (Final report on the October 1990 Seminar in Mazatlán. Includes case studies, financing techniques, taxation, new foreign investment regulations.) 1990. Pp. 155. \$45.00.

BORDER STUDIES SERIES

1. *Border Literature/Literatura Fronteriza.* Edited by Harry Polkinhorn. (Seminar proceedings with prose, narrative, and criticism of border literature.) 1987. Pp. 80. \$5.00.

2. *Doomed to Fail. Gaspar de Portolá's First California Appointees.* Harry W. Crosby. (Based on documentary research, analysis of men appointed to administer Baja California missions after expulsion of Jesuits in 1767.) 1989. Pp. 36. \$7.50.

3. *El Norte: The U.S.-Mexican Border in Contemporary Cinema.* David R. Maciel. (Analysis of how the U.S.-Mexican border has been portrayed in Hollywood and Mexican cinema.) 1990. Pp. 95. \$9.50.

BORDER ISSUE SERIES

1. *Impacts and Undocumented Persons: The Quest for Usable Data in San Diego County* 1974-1986. Joseph Nalven. (Discussion of problems of enumerating undocumented persons and their impacts in San Diego County.) 1986. Pp. 91. \$10.00.
2. *The Maquiladora Program in Trinational Perspective: Mexico, Japan, and the United States*. Edited by Paul Ganster. (Historical overview, global context, and experiences by investors in the maquiladora industry.) 1987. Pp. 129. \$10.00.
3. *Location Decisions Regarding Maquiladora/In-Bond Plant Operating in Baja California, Mexico*. Norris C. Clement and Stephen R. Jenner. (Study based on surveys and in-depth interviews regarding location decisions for maquiladoras in Baja California.) 1987. Pp. 127. \$20.00.
4. *Water Quality Issues of the California-Baja California Border Region*. Edited by Clifton G. Metzner, Jr. (Analysis by Mexican and U.S. government officials and researchers of regional transboundary water quality issues.) 1989. Pp. 83. \$10.00.
5. *Water Quality Issues of the San Diego-Tijuana Border Region*. Clifton G. Metzner, Jr. (Report and summary of the Second Water Quality Workshop held in San Diego in May 1989 to examine water quality issues in the San Diego-Tijuana region). 1989. Pp. 17. \$3.00.

TO ORDER:

Make check payable to SDSU Foundation (California residents include 8.25% sales tax), add \$2.00 for shipping and handling per order, and send to:

INSTITUTE FOR REGIONAL STUDIES OF THE CALIFORNIAS
SAN DIEGO STATE UNIVERSITY
SAN DIEGO, CA 92182-0435 (619) 594-5423

INQUIRE ABOUT OUR MULTIPLE COPY DISCOUNT.

The Maquiladora Program
In Tri-National Perspective:
Mexico, Japan, and the United States

Edited by

Paul Ganster

Institute for Regional Studies of the Californias
San Diego State University
San Diego, CA 92182
(619) 265-5423

1987

TABLE OF CONTENTS

PREFACE1

AN OVERVIEW OF THE MAQUILADORA INDUSTRY
Norris C. Clement..... 9

WELCOME AND INTRODUCTIONS.....19
Lee Grissom, President, Greater San Diego Chamber of
Commerce

Richard Davis, Community Advisory Board, Japan Studies
Institute

Bobbi Quick, Community Advisory Board, Institute for
Regional Studies of the Californias

THE MAQUILADORA PROGRAM IN WORLD PERSPECTIVE
Joseph Grunwald, President, Institute of the Americas,
La Jolla, California.....27

THE MAQUILADORA PROGRAM IN HISTORICAL PERSPECTIVE
Paul Ganster, Director, Institute for Regional Studies of
the Californias.....47

THE MAQUILADORA PROGRAM FROM THE MEXICAN PERSPECTIVE.....71
Enrique Mier y Terán, President, Plamex, Tijuana, Baja
California

Sergio Noriega, Escuela de Arquitectura, Universidad
Autónoma de Baja California

THE MAQUILADORA PROGRAM FROM THE UNITED STATES AND JAPANESE
PERSPECTIVE.....89
Howard Boysen, President, IMEC

Yasuo Sasaki, Sanyo Corporation

Mollie Shields, Assistant Commercial Attaché, United States
Embassy, Mexico City

Joseph Nalven, Associate Director, Institute for Regional
Studies of the Californias

THE MAQUILADORA PROGRAM IN TRI-NATIONAL PERSPECTIVE: A SUMMARY
Richard Louv, Columnist, San Diego Union.....119

SEMINAR PARTICIPANTS.....123

PREFACE

This publication constitutes the edited proceedings from the symposium entitled "The Maquiladora Program in Tri-National Perspective: Japan, Mexico, and the United States." This event was held on February 6, 1986, at the University Club in San Diego. The seminar was created to bring together members of the private sector in the binational region with scholars and officials to discuss important aspects of the government of the maquiladora industry which increasingly has become a key in Mexico's economic picture and is also important to San Diego and to the United States. Intentionally, the discussions were not designed to concentrate on the specifics of establishing or operating maquiladora plants but instead were to explore broader perspectives on the industry.

The symposium was organized by the Institute for Regional Studies of the Californias and the Japan Studies Institute, two academic units at San Diego State University that are concerned with the border, with Mexico, and Japan. The two institutes not only carry out the traditional academic functions of -research and curriculum support, but regularly address issues that are of importance in the local, national and international communities. They also serve to link the University and its resources to the private and public sectors. Interaction with policy makers and the business community is a continuing process for both JSI and IRSC.

The presentation by Joseph Grunwald, President of the Institute of the Americas in La Jolla, discussed the maquiladora program in world perspective. He pointed out how the Mexican maquila program is one variant of a restructuring process that has been going on in the world's economy for some time. Japan, Taiwan., Singapore, Hong Kong, and other areas in Southeast Asia early became actively involved in production sharing which contributed significantly to the growth of their economies. Grunwald, in his talk, effectively raised both positive and negative aspects of the industry as far as the host country is concerned. He concluded that this type of industry has a strong future in Mexico, particularly if better integrated into the Mexican economy and if it tends to concentrate in the high-technology industries.

The talk by historian Paul Ganster, Director of the Institute for Regional Studies of the Californias, discussed the Mexican maquila program within the historical context of Mexico's attitudes and involvement with foreign capital and also the geographical context of Mexico's northern border region where almost 90 percent of the maquila program is physically located. He observed that Mexico has had mixed feelings both about foreign capital and about its own northern border region. In addition, Ganster discussed criticisms of the industry that have been -raised both by Mexican and U.S. observers. These include such topics as predominance of women in the labor force, insufficient linkages with the Mexican economy, and potential long-term environmental impacts.

The various panels were moderated by Richard Louv, a nationally syndicated columnist from The San Diego Union and author of America II, a penetrating book on the future of the United States. Louv also provided summary remarks to the symposium.

The first panel dealt with the industry from the Mexican perspective and featured presentations by Enrique Mier y Terán, president of PLAMEX in Tijuana, and Sergio Noriega, an economist from the Autonomous University of Baja California. Mier y Terán, a pioneer in the development of maquiladoras in Tijuana, said that Mexico has much to learn from Japan and the United States, but it also has many advantages. Perhaps foremost is its geographical location adjacent to the greatest market in the world--the United States--which is a great advantage over exporters such as Japan.

Sergio Noriega sketched the characteristics of the maquiladora industry in Baja California, which has grown to 316 assembly plants and no less than 40,000 workers. He observed that the industry is a key economic force in the state. By Mexican standards, working conditions are good and wages are high. The industry has also been responsible for bringing unprecedented numbers of women into the labor force.

The second panel provided U.S. and Japanese perspectives of the industry. Panelist Yasuo Sasaki, born in Brazil and educated in Japan, is manager of the Sanyo plant in Tijuana and lives in San Diego. Sasaki noted that in some ways, Japan might be considered to be a giant maquiladora. In reflecting on his

three-and-one-half years' experience in running a business in Tijuana, he stressed the importance of being sensitive to cultural characteristics and learning the "rules of the game," which are different in Mexico, Japan, and the United States. Sasaki concluded by saying that although Mexico has many things going for it in terms of the maquiladora industry, its greatest advantage is proximity to the United States.

The maquiladora industry has been frequently criticized in the United States. Most often it has been charged with encouraging factories in the U.S. to move abroad, thereby eliminating jobs. This and other criticisms were addressed by panelists Mollie Shields, assistant commercial attaché at the U.S. Embassy in Mexico City; Howard Boysen, president of IMEC Corporation in San Diego; and Joseph Nalven, an anthropologist and associate director of IRSC. Shields explained how the maquiladora industry has enabled many U.S. firms to remain competitive, both internationally and in the domestic market. In fact, there are indications that the in-bond industry creates jobs across the border in the United States. In 1984 there were 165,000 direct jobs in the U.S. as a result of the then 200,000 jobs on the Mexican side of the border.

Shields also said that much direct foreign investment in Mexico--perhaps 40 percent of the total--is going into the maquiladora industry. About two billion of the eight billion dollars of direct foreign investment in Mexico is concentrated in the in-bond industry, which makes this sector tremendously important. Shields attributed much of the success of the

industry to the fact that the Mexican government set up the framework and then backed off to let the industry flourish. She predicted a promising future for the in-bond sector, which she characterized as the success story of the U.S. relationship with Mexico.

Howard Boysen, a veteran of more than 20 years in the maquiladora industry, debunked various myths about the industry. The great advantage of Mexico, he noted, is not the cheap labor, but the quality of people, who with proper training and quality management are capable of carrying out manufacturing processes as sophisticated and as complex as in Asia.

Joe Nalven remarked that anthropologists are known for studying exotic places, and without a doubt, San Diego-Tijuana Is an exotic place. He stressed that we live together in an international community divided by an international boundary, but things occurring on one side of the line affect people on the other side. Thus, questions raised about the maquiladora industry--including environmental and social impacts--should be of concern to San Diegans. These issues need to be addressed now so they do not come back to haunt us in the future.

In retrospect, writing this preface approximately a year after the symposium, it is clear that the content of the discussions and debates are as timely now as they were when originally presented. Over the past year, the industry has grown significantly and increasingly has become an important part of Mexico's strategy to expand its imports and restructure its economy. Both of these trends were predicted by panelists

in the symposium. Other panelists had noted how the industry was very dependent upon items 806 and 807 in the U.S. Tariff Code and hence upon the good will of the U.S. Congress. They suggested that a protectionist reaction or pro-labor sentiments could at any time constitute a threat to the maquiladora industry. Although these warnings were dismissed as highly unlikely by the assembled symposium participants in February 1986, the mood of Congress changed significantly in late 1986 and Congressional supporters of organized labor have launched a serious attack against the maquiladora program. Although industry supporters have rallied their forces through the formation of a border trade alliance and through various lobbying efforts, the outcome of this vigorous debate is still uncertain.

The contents of this publication are derived from an edited transcript of the symposium. In addition, Norris Clement, an economist at San Diego State University, was prevailed upon to write a short overview of the maquiladora industry to serve as an introduction to this volume.

The very successful symposium and subsequent publication of this volume were made possible by the generous assistance of a number of individuals and organizations. Michael Lewis, Assistant Vice President for University Relations at SDSU, was instrumental in putting the conference together; Leslie Yerger, Vice President of University Relations, generously allocated staff time for the organization of the event. Al Coox, chair of the Japan Studies Institute at SDSU, cosponsored the event and

secured the participation of a number of the program's panelists. The advisory board of the Japan Studies Institute was also key in designing the program and in generating some financial support. In particular, the services of Dick Davis and Enrique von Borstel should be recognized. Bobbi Quick, of IRSC's Advisory Board, kindly agreed to participate and assist with the program. Deborah Fridell, IRSC's administrative coordinator, was instrumental in not only the arrangements for the symposium, but also in the work of publishing this volume.

A special thanks is due to the California Council on the Humanities which provided major funding for this event. The Council's innovative program to encourage humanists to interact with individuals from other sectors and disciplines provided a motivating force in conceptualizing and carrying out a very successful symposium. Finally, the firm of Deloitte Haskins & Sells, via its partner Robert Weaver, and California First Bank, through the efforts of Mr. Sado, provided important support for the program.

AN OVERVIEW OF THE MAQUILADORA INDUSTRY
Norris C. Clement

Offshore export processing zones (EPZ's) are now an integral part of the international economy and are each day playing a larger part in the manufacture and assembly of a growing array of goods and services. Goods displaying labels with "Made in the U.S.A." or "Made in Japan" are less common now than even ten years ago and are being replaced with "Made in Taiwan" or "Assembled in Mexico." These labels are indicative of much more than a geographical shift in the production of a few consumer goods. They represent, for a growing number of large and small nations scattered throughout the world, a deliberate thrust towards a new development strategy which is more "outward looking" than previously.

For the U.S., the use of "offshore sourcing" is a post-World War II phenomenon that began more as a side effect of establishing manufacturing facilities in Europe behind tariff walls in order to increase sales to the giant European Economic Community. But for Japan, which has been called "a nation of maquiladoras," because of its elaborate subcontracting system, the decision to utilize offshore EPZ's apparently was a part of a deliberate strategy to gain market shares in a world dominated by the United States. For Mexico, creating the maquiladora industry as an EPZ was based partly on the demonstrated success of other EPZ's in the Far East, such as Taiwan and Singapore,

and partly on the need to solve pressing social and economic problems.

The Border Industrialization Program, which gave birth to the industry in the mid-1960s, was designed to reduce unemployment in Mexico's northern border region by attracting foreign manufacturing firms to establish assembly operations there. Since then--especially since the devaluations of 1982--the industry has grown rapidly.

Currently, in 1986 there are more than 800 plants in the industry nationwide, employing approximately 250,000 people and generating some \$U.S. 1.3 billion in foreign exchange. About 90 percent of these in-bond plants are located in the north of Mexico bordering the States of California, Arizona, New Mexico, and Texas. Most of these plants are owned by, or have contracted relationships with, United States firms. Currently, Mexico accounts for about 40 percent of the goods processed in EPZ's located in less developed countries, as shown in Table I.

Given its relative size and rate of growth, the maquiladora is the newest "glamour industry" along the U.S.-Mexican border. It is often suggested that eventually the maquiladora industry will provide the same economic stimulation to depressed U.S. border economies that Mexican shoppers did during the boom period of 1977-1981. This maquiladora "boom" can be attributed to several types of potential advantages to U.S. or other

Table 1. Dutiable value of imports under 806/807 from less developed countries, 1985.

Country	U.S. \$ (millions)	Percent	
Mexico		2,265	40
Singapore		938	17
Taiwan		586	10
Hong Kong		431	8
Malaysia		618	11
Philippines	375	7	
Korea		349	6
Haiti		61	1
TOTALS	\$5,642	100%	

Source: Journal of the Flagstaff Institute 1986, as reported in The Industrial Development Commission of Mexicali, Manufacturing in Mexicali: The In-Bond or Maquiladora Industry Handbook, 8th ed., Mexicali, 1986.

foreign firms which produce a relatively mature product and have significant labor cost:

- 1) Significant cost savings, especially with respect to labor.
- 2) 100 percent ownership by foreign firms, not usually possible in Mexico.
- 3) Proximity to the U.S., which brings:
 - a) lower transportation and communications costs,
 - b) possibility of management and technical personnel living in the U.S.,
 - c) shorter down time for repairs and new product lines, and
 - d) greater control over day-to-day operations.

The available literature, although very sparse, indicates that there are significant benefits to the U.S. border cities in terms of increased incomes, jobs, and tax revenues associated with the growth of the Industry in Mexico (William L. Mitchell, "Economic Impact of Maquila Industry in Juarez, Mexico in El Paso, Texas and other sections of the United States for 1985," Ciudad Juárez, Grupo Bermúdez Industrial Parks, 1986; and Norris C. Clement and Stephen R. Jenner, Location Decisions Regarding Maquiladora/In-Bond Plants Operating in Baja California, Mexico, San Diego, California, Institute for Regional Studies of the Californias, San Diego State University, 1987). Given these potential advantages, many governmental and private agencies of U.S. border states and have implemented effective promotional campaigns designed to attract U.S. and other foreign firms to establish in-bond plants in adjacent Mexican locations.

The term "maquiladora" comes from the Spanish word maquila, which in colonial Mexico was the charge that millers collected for processing grain. Today maquiladora is used as a generic term for those firms which "process" (assemble and/or transform in some way) components imported into Mexico which are then reexported, usually back into the U.S. Alternatively it can be said that maquiladora is an economic unit for the production of goods or services based on the temporary importation of raw materials and equipment for transformation in Mexico with subsequent sales abroad. The term "in-bond" industry comes from the fact that those components which are imported into Mexico are imported under a bonded status in order to insure that they

Table 2. The maquiladora industry in Mexico: Plants, employment, and value added.

Date Year	Total no. of Plants	Total Employment (Yearly average)	Value Added \$
1965			3,000
1966		57	4,257
1967		72	17,936
1968		79	17,000
1969		108	15,858
1970		120	20,327 81
1971		209	20,000 102
1972		339	48,060 165
1973		357	64,330 278
1974		455	75,974 444
1975		454	67,214 454
1976		448	74,496 536
1977		443	78,433 525
1978		547	90,704 714
1979		540	111,365 638
1980		620	119,546 773
1981		605	130,973 976
1982		585	127,048 851
1983		600	150,867 829
1984		672	199,684 1,200
1985		789	217,544 1,300
1986		858	246,617 N/A. **

* Through May 1986

** not available

Sources: Instituto Nacional de Estadística e Información (INEGI); various publications.

are not sold in Mexico markets, but are reexported for sale in foreign markets.

Another term frequently used is "twin plants," which refers to the existence of two factories, one on either side of the border. However, this does not accurately describe the arrangement for most companies, since most of the foreign parent plants are not located anywhere near the border. Originally, it was thought that labor-intensive maquiladora

operations in Mexico would assemble components produced in capital intensive plants in the U.S., presumably in the border region, and then distribute the final products from the U.S. border plants. Generally, however, this has not proved to be the case (see Clement and Jenner, 1987).

The growth of the maquiladora/in-bond industry has been quite extraordinary as can be seen from the data presented in Table 2. Starting in 1965, the number of plants, total employment, and

Table 3. In-bond manufacturing plants in Mexico. Number of plants and number of employees according to product categories (October 1985).

Plants	Number of Plants		Number of Plants	
1. Electronic and electrical materials and accessories		198	(25)	56,907(25)
2. Electronic and electrical machinery and appliances	86	(11)	45,816	(20)
3. Apparel	110	(14)	32,149	(14)
4. Transportation equipment and accessories	69	(9)	44,441	(19)
5. Services	44	(6)	14,075	(6)
6. Furniture	72	(9)	7,168	(3)
7. Toys and sporting goods	24	(3)	7,418	(3)
8. Shoes and leather	36	(5)	4,896	(2)
9. Food process	12	(2)	2,149	(1)
10. Tools	21	(3)	2,516	(1)
11. Chemical products	3		99	
12. Other industries	111	(14)	14,889	(6)
	TOTALS		786	(101**)
	(100)			232,523

* Less than 1%.

** Adds up to 101 due to rounding.

Source: "Estadística de la industria maquiladora de exportación, Octubre 1985." INEGI, Dirección General de Informática, México, D.F., 1985.

value added have grown almost every year during the industry's twenty-year lifespan.

Table 3 illustrates the relatively wide diversity of goods that are processed at various locations--mostly in Mexico's northern border region--as shown in Table 3. From these tables we can see that various types of electrical and electronic goods are clearly the most important group of products to pass through the maquiladora process with apparel being the next most important product group.

Table 4 shows us that despite Baja California's dominance in terms of number of plants (40 percent), the state of Chihuahua clearly has the most jobs and generates the most "value added." Larger "Fortune 500" firms from the mid-west and eastern U.S. tend to characterize that state's roster of U.S. firms while Baja California seems to attract smaller, less well known firms, mainly from Southern California.

Nevertheless, Baja California may just now be coming into its own in the sense that several large Japanese have located "twin plants" in the Southern California-Baja California region in the belief that it will, in the medium and long term, provide the best possible environment for capitalizing on some key developments including:

1. Increased sourcing from Far East EPZ's and the possibility of distributing to U.S. markets from west to east,
2. Favorable wage and utility rates in Baja California.
3. A growing California market.

Table 4. Maquiladora plants by principal cities and states.
January-August 1985

	Plants	Employment	Value* Added
NATIONAL TOTAL	747	207,817	190,248
BAJA CALIFORNIA	301(40)	38,691(19)	34,383(18)
Ensenada	9	481	478
Mexicali	75	10,863	10,572
Tecate	31	1,713	1,148
Tijuana	180	25,697	22,185
BAJA CALIFORNIA SUR			
La Paz	4	150	126
COAHUILA	50	13,140	8,154
Cd. Acuña	24	6,032	3,666
Piedras Negras	19	4,496	2,379
Others	7	2,612	23109
CHIHUAHUA	193(25)	87,951(42)	83,644
Cd. Juárez	167	76,664	75,071
Cd. Chihuahua and Ojinaga	26	11,287	8,573
JALISCO			
Guadalajara	14	5,064	7,587
ESTADO DE MEXICO AND MEXICO, D.F.	5	149	373
SONORA	82	22,088	16,233
Agua Prieta	24	5,699	3,676
Nogales	49	14,661	3,676
Others	9	1,728	964
TAMAULIPAS	75(10)	36,167(17)	35,135(18)
Matamoros	35	20,218	22,744
Nvo. Laredo	14	3,668	3,514
Cd. Reynosa y Rio Bravo	26	12,281	8,877
OTHER STATES	23	4,417	4,609

*Value added in millions of pesos. Percentages in parentheses.

Source: "Estadística de la industria maquiladora de exportación, Enero, 1986" INEGI, 1986.

4. A growing protectionist mood in the U.S. Congress.
5. The tendency for the U.S. dollar to be devalued with respect to the Japanese yen.

These and other factors are attracting other Asian countries to the opportunities that many industry observers believe are "fantastic."

But there are problems in the industry. High employee turnover rates, worker absenteeism, lack of physical infrastructure, and shortages of trained technical and supervisory personnel are most frequently mentioned as being potential bottlenecks over the next three to five years. Yet most estimates see the industry expanding at a 10 to 12 percent rate for some time.

The biggest problem, however, at least from the perspective of this conference, is ignorance; ignorance of what the industry is and does, and its effect on Mexico, the U.S., and increasingly, Japan. Nevertheless, such ignorance is certainly understandable. Not only has the industry been relatively invisible until the last three or four years, but also the industry's functionings are quite out of character with traditional, domestic business practices. Terms and acronyms such as "offshore sourcing," "export processing zones", "foreign trade zones", General System of Performance, articles 806/807, and Caribbean Basin Initiative are relatively new to most of us. But, of course, that is exactly why this conference was organized.

WELCOME AND INTRODUCTIONS

Lee Grissom President, Greater San Diego Chamber of Commerce.

I am Lee Grissom, part time I have the opportunity to serve as the President of the Greater San Diego Chamber of Commerce, a position that I have now had for about ten years. And full time, I have the opportunity to serve as a trustee in the California State University system, of which, as each and every one of you is aware, San Diego State is the flagship.

In the last 25 years I have had a very special perspective on San Diego State University. I have seen it grow from a fairly modest, quiet campus that was more parochial than global in its perspective. Interestingly enough, I have had the same opportunity with the city of San Diego. As recently as ten years ago the gross regional product--the value of all goods and services produced in this region--was 11.3 billion dollars and we estimate that in 1986 it will conservatively be 39.8 billion dollars. Ten years ago we had about 240 firms in San Diego that were involved with international trade, most of them importers, and now we have more than a thousand firms involved in international trade in San Diego. Ten years ago we had perhaps five or six hundred people manufacturing products in this county that were exported to global markets and now we have 25,000 people employed on an annual basis. Ten years ago we had something like five or six hundred million dollars in products exported and now, conservatively, we have over 3 billion dollars

manufactured in San Diego for international export. San Diego has changed dramatically.

An interesting element that has changed in the economic equation in the past decade has been the increasing interest by, and our -responsiveness to, the Japanese business community. We have developed between the Japanese working community and the local business community one of the finest collaborative relationships that can be found in any city in the United States.

One thing that has not changed over the past decade is the continuing proximity of Mexico and in particular what I truly believe is San Diego's only real sister city in the world--Tijuana. Many people on this side and the other side of the border fail to understand that the future of Tijuana and the future of San Diego--and to a greater extent the future of Mexico and the future of the United States--are in fact one. We may neglect each other from time to time and while we may not pay as much attention to each other as we should, our futures are definitely intertwined. We will be as profitable or as unsuccessful as we allow ourselves to be. It is very much in our best interest that we be mutually supportive.

Now, with the opportunity to take advantage of the insight and the investment of the Japanese business community, we have a trilogy which is very unique, and we are very lucky to be in this particular situation.

As a trustee I have been appointed by the Chancellor to serve as the liaison with a very special group called the 20

Pacific Rim Study Committee, which is made up not only of business people in California but presidents of a number of our nineteen campuses. While we certainly realize that Japan is a major partner In the Pacific Rim, we rarely appreciate the fact that Mexico also is a Pacific Rim nation. And so I am particularly excited today as we begin to focus on the opportunities that can be created in this region, in San Diego, and in Tijuana, and to an extent, in Japan, through tying together three very special entities.

Richard Davis, Community Advisory Board, Japan Studies Institute.

I want to give special thanks to Professor Alvin D. Coox, who heads up the Japan Studies Institute at San Diego State University. I would also like to welcome and give special thanks to a fellow JSI Board Member, Enrique Von Borstel, former Secretary of Economic Development for the State of Baja California. Also, we have presented two other Japan Studies Institute Board Members, Ambassador David Osborne and H. A. Motishiga from Sumitomo Bank.

In 1966 the Center for Asian Studies was established at San Diego State and then, several years ago it was decided that a Japan Studies Institute would be very appropriate for the University. It was created with four basic objectives:

The first is to contribute to the growing ties and understanding between the United States and Japan, through the development of a high quality interdisciplinary program of, Japanese studies.

Second, is to provide leadership and the nurturing of ties between SDSU and the growing U.S.-Japanese business interests in the San Diego and Baja California region, which is one of the key reasons we are here today.

Third, is to foster exchange programs between SDSU and Japanese institutions of higher learning in all fields of endeavor.

Fourth, is to sponsor cultural activities designed to increase community awareness of various aspects of Japanese culture.

Bobbi Quick, Community Advisory Board, Institute for Regional Studies of the Californias.

I would like to welcome you all here on behalf of the Institute and tell you a little bit about it. The Institute for the Regional Studies of the Californias was created in November of 1983 to facilitate and coordinate SDSU's Mexico relationships and is directed by Paul Ganster. Its mission is to act as a clearing-house for information that will allow people on campus and both sides of the border to make contacts necessary to deal with a wide range of questions affecting the two nations. The Institute is designed to be the University's interface, or contact point, with Mexico.

In addition to coordination and public relations functions, the Institute has developed a research agenda. The emphasis is on applied research in issues of regional importance. Current efforts include a study on location decisions of foreign

assembly plants operating in Baja California that is funded by the California State Department of Commerce. A related project has been the compilation of a guide of information and resources relating to the maquiladora industry in Baja California.

Outreach to the binational community is another priority of the Institute. Last October, IRSC co-sponsored with the County of San Diego Department of Planning and Land Use a conference entitled "Otay Mesa, Its Potential for Industrial Development." Of course, today's conference is indicative of the interest in interacting with the business community on issues of regional importance.

The Institute also serves as co-director of the San Diego-Tijuana National History Fair, an annual event that brings several thousand public school students from two cities together to foster mutual understanding through historical essays, historical skits, live presentations, and historical models.

It is my pleasure this afternoon to introduce the moderator for the program. Richard Louv is a national syndicated columnist with the San Diego Union and Copley News Service. He is the author of America II which John Nesbitt, author of Megatrends, called the best description thus far of what will be on America's social agenda for the balance of the 1980s. Mr. Louv has written a series for the San Diego Union called "Southwind." one of the first serious examinations by a major daily newspaper of the complexities of immigration. He continues to write about immigration in his column and may be writing a book on that in the future.

Richard Louv, Columnist, The San Diego Union, and symposium moderator.

I really want to start with a proviso that my job here is to introduce people. I am a case in point of the kind of ignorant American who just cannot seem to learn foreign languages but should, considering where we are located. My only defense is that I am in good company. Many of our major corporations really are nowhere near as sophisticated about all of this as you all are. According to Advertising Age, one cigarette company advertising low tar cigarettes used a phrase which translated "low asphalt." Slight mispronunciation in Spanish commercials for the Chevrolet Nova changed "Nova" to "no va" (it doesn't go).

My favorite example of this sort of ignorance is from Taiwan, where when Pepsi decided to market its product translated the slogan "Come alive with the Pepsi generation," but it came out roughly as "Pepsi brings your ancestors back from the dead."

I should explain that the conference will begin with two keynote addresses by people who can pronounce words in Spanish. Dr. Joseph Grunwald and Dr. Paul Ganster will speak for approximately twenty minutes, which will be followed by a short session for questions and answers.

I first met Dr. Grunwald at a breakfast for journalists that was hosted in his behalf so that we could get to know him. I was truly amazed at the breadth of his understanding and compassion in his view toward Latin America, which was certainly

tempered with realism.

Dr. Grunwald was a senior fellow at the Brookings Institute for many years before being elected President of the Institute of the Americas in 1984. In 1963 he organized, and then coordinated for more than a decade, a joint research program on Latin American economic development in which about 50 institutions from Latin America have participated. A Ph.D. from Columbia University, he has taught at several universities. Before joining Brookings, he was professor at Yale University and also at the University of Chile where he reorganized and directed its Institute of Economics. He has served as chairman of the Joint Committee on Latin American Studies of the Social Sciences Research Council, and was a member of the Executive Committee of the Council for the International Exchange of Scholars, President of the Latin American Studies Association, and served as Deputy Assistant Secretary of State for Inter-American Affairs from 1976-1977. Dr. Grunwald's writings have concentrated on Latin American economic development.

U.S.-MEXICAN PRODUCTION SHARING
IN WORLD PERSPECTIVE

Joseph Grunwald

I will try to give a bird's eye view of some of the problems -related to U.S. assembly operations in Mexico. In these operations, called maquila in Mexico, the factories (maquiladoras) usually assemble U.S. components for re-export to the United States.

It has now been almost three decades since the United States was the undisputed trade leader in the world. This country had no competition from anyone. Europe and Japan were in shambles after the Second World War, most of East Asia was in no better condition, and, for a couple of decades, the United States dominated the international economy.

As a result of Europe's extraordinary recovery in the 1950s and the rise of less developed Japan which achieved high productivity through the combination of low wages and advanced western technology, international competition reemerged. However, few countries in the world have been able to reproduce the Japanese model. Those that have succeeded are the "four musketeers" in the Far East: South Korea, Taiwan, Singapore, and Hong Kong. Their success is due to their ability to combine low wages with a disciplined labor force and an enormous capacity to adapt imported technology. Other countries in Asia and Latin

America could compete only on the basis of labor cost differentials and natural resources. With some exceptions, such as certain textiles and products with a high raw material content, wage differentials generally have not been enough for those countries to compete successfully with the industrial countries of Europe and the United States.

Thus, the "four musketeers" joined the international scene as strong competitors. It is important to stress that even though low wages have played a very important role in giving these countries an initial comparative advantage in international markets, their most notable characteristic has been their ability to import technology and often improve upon it and adapt it to new product lines for overseas markets. In the meantime, wage differentials between Japan and the United States and most European countries have disappeared as a significant factor in Japan's strength as an international competitor. Japan has shifted from being one of the world's most successful technological imitators to becoming a successful technological innovator.

The four East Asian "musketeers" got a good start through maquila type of operations. U.S. offshore assembly operations began in those countries when American companies began transferring their labor intensive production processes to the Far East, in many cases subcontracting with East Asian firms. The point is that firms in these countries rapidly adapted the technology from the assembly operations. They learned about quality control and efficient production methods and eventually

moved beyond the assembly process to produce the whole product indigenously. This was one avenue that led them to become effective competitors on the international scene.

The Maquiladora as a Foreign Enclave.

How different this situation is from the one found in Mexico! Assembly operations there are usually still a U.S. enclave with pathetically few linkages to the Mexican economy. The maquiladora operations in Mexico began in the mid 1960s when the brace.-o program was discontinued by the United States, leaving stranded the Mexican workers who used to come across the United States every season to work in U.S. agriculture. With the primary aim of absorbing these unemployed male workers., the Mexican government started a border industrialization program giving exemption from import duties and other privileges to assembly industries that export their output. On the U.S. side, tariff regulations have facilitated the shift of assembly operations to Mexico by exempting from duties the re-import of T.J.S. components assembled abroad.

Even though the maquiladora system has generated employment, it has not resolved the unemployment problem which prompted its initiation. As opposed to what occurred in the Far East, little Mexican capital has been involved in the maquiladora operations. Outside of labor, Mexican inputs have been insignificant. Less than three percent of all the materials used in the assembly industries have come from Mexico. Most of them are janitorial supplies or packing materials. On the other

hand, nearly all of the output of the maquiladoras has gone to the United States. Almost nothing has been sold in Mexico. Therefore, the transfer of technology through assembly operations has been small -relative to what it could be were there more Mexican capital involved in the ownership and supply of the maquiladoras and greater access of Mexican industries to the sophisticated products of these plants. As a result of these characteristics, the image that most Mexicans have of the maquiladora is that of a foreign enclave. It is run by foreigners, often with foreign managers who live on the United States side of the border.

The fact that there is so little linkage with the Mexican economy also reinforces the perception that these industries are "footloose" and have no particular commitment to the local economy. It is generally thought that the U.S. companies search around the globe for the lowest cost labor force and that this is their sole guiding principle in determining where they set up shop. When Mexican wages rise significantly above averages elsewhere, the U.S. plants will pull out of Mexico. When Mexican wages in dollar terms fall relative to other wages--as is the case now--then maquiladoras will be transferred from other places to Mexico. This simplistic view is strengthened by the other belief that U.S. investments in maquiladoras are kept relatively small in order to make it easier for companies to pack up and go home or go elsewhere if anything goes wrong.

If one looks at the record of "footlooseness," however, one finds that there has been a surprising stability in the steady

growth of maquiladora operations. During U.S. economic recessions, the maquiladoras were not as deeply affected as other activities in Mexico. Of course, some very small firms have gone under when recessions hit the United States and so have a few unstable firms. By and large, however, the maquiladora operations have shown enormous resilience, even when Mexican wages have rise relative to wages in other developing countries.

The only major loss of production opportunities in Mexican assembly operations over the long run has been in semiconductor products. These items have a very high value-to-weight ratio so that transportation costs become negligible in relation to the value of the product. When Mexican real wages in dollar terms rose during the 1970s, the Mexican share of semiconductor assembly operations declined in favor of East Asian countries. When transportation costs are negligible, considerations of local costs tend to become the determining factor in deciding where to assemble. Even though, in absolute terms, semiconductor assembly has increased in Mexico, East Asia now has the biggest share of that industry.

On the whole, however, Mexico has advantages compared to east Asia which go beyond concerns with the wage differentials. the country is not only close geographically, but also culturally. Mexico is much more accessible to the United States than Sri Lanka, Malaysia, Indonesia, and other Far Eastern countries which are both geographically and culturally more distant.

Foreign Exchange Earnings.

Despite the problems mentioned, the maquiladora has been of enormous benefit to Mexico. Since 1984 it has become the second most important source of foreign exchange after oil. It is more important than tourism. It has often been said that the foreign exchange earnings of the maquiladora tend to be exaggerated because a part leaks back to the United States. It is claimed that Mexicans prefer U.S. goods and those who work near the U.S. border will therefore cross the border to make their purchases in the United States. Thus, part of the wages paid to Mexican assembly workers will be spent in the United States, reducing Mexico's foreign exchange earnings from the maquiladora.

This argument is true to some extent. However, a closer look reveals that this leakage has also been exaggerated. Border trade has always been in favor of Mexico and not of the United States. Furthermore, Mexican labor's ability to buy in the United States is conditioned by the peso's relative value to the dollar. When the peso is overvalued, as it had been for many years prior to 1983, Mexicans find it "cheap" to buy in the United States. When the peso is more "normally" valued, as it has been since 1982, U.S. goods are relatively expensive for Mexicans and therefore, the leakage of maquila wages ceases to be an important problem.

The Female Labor Force.

Why has the maquiladora program not been able to absorb unemployment as it was expected to do? Because in assembly

operations in Mexico, as everywhere else in the world, the labor force tends to consist primarily of young women. This characteristic is perhaps more striking in Mexico than in other less developed nations because in that country the participation of women in the labor force has been relatively low.

The majority of young women who have been attracted to the maquiladora operations entered the labor force for the first time. The maquiladora, rather than absorbing existing male unemployment, has drawn previously inactive persons--the young women--into the labor force. Therefore the maquiladora has been better in creating employment than in reducing unemployment.

It is often argued that the reason for not employing more men in the assembly factories, which would, it is assumed, alleviate unemployment, is that U.S. managers prefer women because they are more docile. They are not organized into unions and are prepared to accept lower wages than men.

The managers of maquiladoras, however, claim that the reason for female employment is that women are more dexterous, they have better hand-eye coordination, and, because their hands are small, are better in handling small things, as for example in electronics assembly. This argument does not seem to jibe with reality. Males outnumber women by far in such dexterity intensive microactivities as surgery, watchmaking, and so forth.

The employment of women in assembly operations is, at least in part, a cultural phenomenon because in many cultures women have been brought up to do needlework with great patience and it is a small step from working with a needle to assembling

micro-chips in a factory. Experience has shown that men who can cross the cultural barrier are just as good as women in assembly operations. In some maquiladoras, the productivity of men exceeds that of women. Nevertheless, there is no question that, on the one side, men are culturally conditioned not to have the patience with and to look askance at repetitive, minor manual operations--the "female oriented" jobs--and, on the other side, women, particularly young ones who previously were not in the labor force, are more willing than men to accept the low wages usually offered for assembly jobs.

It is probably true that the maquiladora, by drawing women into the labor force, creates some social problems. These women who were previously passive and dependent members of families are suddenly thrust into the position of wage earners, giving them a certain degree of independence. In many families this means a reversal of roles if the woman becomes the sole or principal wage earner in the family, making the male members dependent on her. Such social problems are transitory and they are a usual concomitant of economic development. The maquiladora may contribute to accelerating the increase in female labor force participation but this process is a natural phenomenon as countries industrialize.

The Problem of Linkages with the Mexican Economy.

The problem of the absence of significant linkages with the Mexican economy has been reinforced by Mexican attitudes if not policies. Because Mexicans believe that the maquiladoras are a

foreign enclave, there is little encouragement for Mexican capital to go into assembly operations. Contrary to other countries, Mexican entrepreneurs are little involved either as owners and operators of maquiladoras or as suppliers of the maquiladoras.

Mexican industrial activities have been protected from outside competition through trade barriers and other policies. As a supplier or operator of the maquiladora, the Mexican firm would have to meet international prices, high standards of quality control, specifications, delivery schedules, and so forth. This requires a much greater effort than producing and selling in the protected Mexican market. It is not surprising, therefore, that the maquiladora assembles primarily United States and some Japanese and other Far Eastern components but only a trivial amount of inputs produced in Mexico.

The forward linkages of assembly operations in Mexico have also been insignificant. Almost all of the output of the maquiladoras is sold in the United States and elsewhere and little goes to the Mexican market. Part of the output of the maquiladoras consists of sophisticated high technology products which, if sold to Mexican firms, could provide them with significant transfer of technology. Although since 1983 the Mexican government, through a new decree, has permitted the domestic sale of 20 percent of maquiladora output, only a fraction of it has been sold in the country because of the fear that the maquila output might compete with Mexican production.

A sort of vicious circle is created. Mexico, by default, cedes assembly operations, both the production of inputs and output of maquiladoras, to the foreigner. The philosophy has been that the foreigner has done this best, so leave it to him; Mexican capital should be devoted to other sectors.

Although Mexico is not unique in Latin America regarding these features of assembly operations, other Latin American countries have established different modes of assembling for the U.S. market. For example, in Haiti, the poorest country in the Western hemisphere, the majority of maquiladoras have been owned by Haitian firms. Contrary to the case in Mexico, U.S. subsidiaries have constituted a minority of the assembly factories. In this manner, local firms can take advantage of whatever technology they learn through subcontracting in the maquiladora part of their operations for their non-maquila production, but for the home market and export. In Haiti this process has been hampered by the gross disinterest in economic development on the part of the Duvalier regime and the subsequent political turmoil. Nevertheless, whatever industrialization has gone on in Haiti, can, to a major extent, be linked directly to the maquila operation.

In Columbia, where approximately 90 percent of the assembly operations for foreign markets--mostly in the textile industry--is carried out by local capital, firms have learned to use subcontracting to smooth out the business cycle. Thus, when there is a downturn in the domestic and/or export demand for Colombian textiles, firms will subcontract with U.S. companies

to do assembly operations for them. In this manner, they can maintain high production levels, avoid costly layoffs, and continue to make money, although possibly at a lower rate than when producing for the home market.

Subcontracting by domestic firms rather than production by foreign subsidiaries has been the principal mode of assembly in South Korea, Taiwan, and other East Asian countries. Those countries, contrary to Mexico, appear to have taken full advantage of the learning possibilities. They now produce the entire product, not just the labor intensive portions.

Prospects For The Future.

Because of the long-lasting recession in most economic sectors in Mexico, the maquiladora has become a highly desirable economic activity. With a huge foreign debt, low oil prices, and low domestic and foreign investment, near stagnation has gripped the Mexican economy since 1982. Because of the massive devaluations of the peso, Mexican wages in terms of the U.S. dollar have dropped considerably and have provided a strong incentive for the expansion of the maquiladora industry. Foreign assembly operations constitute the most dynamic sector in the Mexican economy today. Under these circumstances, the maquiladora is accepted even by its former Mexican critics as an important economic activity that generates significant income and foreign exchange earnings and also creates new employment opportunities.

Nevertheless, there are few, if any, Mexican economists and policy makers who look to the maquiladora as the engine for the country's future economic development. It is still a foreign enclave and not an indigenous economic activity. Employment in assembly operations, about a quarter million persons during 1986, is still a small fraction of the total Mexican labor force. The maquiladora has really been important only as a foreign exchange earner. But unless the maquiladora can be more closely integrated into the Mexican economy, it will always be considered a marginal activity in Mexican economic development. If there is no strengthening of the linkages, any upsurge in general Mexican economic growth will again push the maquiladora down the priority scale as an activity that at best is to be tolerated but not encouraged.

Policy Implications.

Mexico's economic future will to a large extent depend on the manner and degree to which the country is willing and able to adopt high technology. There is a promising future for production sharing between Mexico and the United States in technologically advanced services, which would go beyond the traditional assembly type of operations. For example, Mexican firms can do programming in areas ranging from communications and Information technology to computer inputs for automobile production, complementing U.S. activities, such as design and development, in those industries.

The relatively low emphasis that Mexico has given to technology can be gleaned by comparing the numbers of South Korean and Mexican students receiving Ph.D. degrees in science and engineering. According to data from the National Science Foundation, between 1960 and 1982 the number of Mexicans who received a doctorate degree in science and engineering in United States universities was only one-third of the number of South Koreans, even though Mexico has almost twice the population of Korea. If only engineering doctorates are considered, the difference is even greater; the number of Mexican Ph.D.s was only one quarter of that of South Koreans (on a per capita basis, the proportion was only one-eighth). This is even more striking if one considers that, because of their proximity, Mexicans have easier access to U.S. universities than South Koreans.

The maquiladora industry, if modified, shows great promise. Its potential is much too great not to give more attention to it in public and private policies. It could become an important vehicle for the transfer of technology. It also has the possibility of generating much more income and employment than it does now. But in order to achieve these benefits, some basic restructuring of the industry needs to be undertaken. It needs to be more integrated into the Mexican economy and the foreign enclave mentality must be abandoned.

What kind of changes are needed? First, there must be a shift from assembling through U.S. subsidiaries to subcontracting by Mexican firms. This will require technical assistance by

the U.S. principals, showing Mexican managers, technicians, and workers how to meet the standards of production required for export assembly. It means training in quality control, production scheduling, inventory controls, technical standards, personnel management, etc. In this respect, it is interesting to note that contrary to what one might expect, Korea has put great emphasis on basic research. According to World Bank data, the proportion of total research and development (R&D) expenditure that Korea devoted to basic research in 1982 was double that of the respective share in the United States. And the share of R&D costs accounted for by university and nonprofit institutions in Korea was triple that of the respective U.S. proportion. Comparable data for Mexico are not available. All the indications are that Mexico does not come close to matching Korean R&D expenditures.

Mexican firms should also be involved as suppliers of the maquiladora. This, too, will require technical training and other incentives. Mexico's move toward opening up its economy allows more competition and provides a more amenable climate for Mexican capital to get involved with the maquiladora. In a liberalized economy, waste and inefficiencies in firms would no longer be protected and entrepreneurs would find it worthwhile to make an effort to improve their competitiveness in prices, quality, and delivery commitments.

Producing components for the assembly industry and operating maquiladoras may become profitable for Mexican entrepreneurs in a more competitive environment, particularly if they are

assured that managers and workers will receive adequate technical training. It would be a wise policy for the Mexican government to subsidize such training and promote activities to facilitate the adaptation of foreign technologies to local conditions.

One problem needs to be taken into consideration in promoting the greater use of Mexican produced components for maquiladoras. There is a rising opposition by labor and politicians in the United States against assembly operations abroad because of loss of U.S. jobs. Whether this position is correct or not is beside the point here. Aside from the argument that the use of low cost production locations helps consumers and eventually economic development everywhere, the fact is that the maquiladora has maintained at least those U.S. jobs that produce the components for assembly plants in Mexico. To reduce the use of U.S. components in favor of Mexican components will intensify the opposition in the United States and may produce a backlash of U.S. protectionism. Indeed, it can be claimed that the fear of adverse U.S. reaction has deterred Mexican firms from making greater efforts to supply the maquiladoras. If ensuing U.S. legislation makes assembly operations in Mexico difficult, a Mexican firm producing exclusively for the maquiladora might find itself without a customer. Nevertheless, even in the worst case scenario, the Mexican firm that formerly supplied the maquiladora would have acquired greater efficiency in producing for export or for the domestic market, In any case, if subcontracting rather than

U.S. subsidiaries were the mode of assembly production abroad, the grounds for U.S. opposition would be greatly weakened.

Another important change needed to Integrate assembly operations into Mexico is to put much more emphasis than has been given so far toward establishing maquiladoras in the interior of the country. Currently, about 90 percent of the maquiladoras are located at or near the border with the United States. The movement of new, if not already established maquiladoras, to the interior of Mexico may become a necessity as the shortage of appropriate labor increasingly develops at the border. Such a shift would have several beneficial effects for Mexico. Not only will it diminish the foreign enclave image, but more importantly, it can generate income and provide employment in areas where poverty and underdevelopment are much more serious than at the border. Another benefit of interior plants is that the use of Mexican components is higher than at the border. Thus, while the use of Mexican material input is seldom more than 3 percent in the border plants, the proportion is at least double and often more than five times as high in the interior maquiladora plants.

If the maquiladoras are not operated by Mexican firms, the question arises of why U.S. subsidiaries should move away from the border into the interior of Mexico when transportation costs would obviously be higher. One answer is that wages in the interior of Mexico are usually considerably lower than at the border, thus offsetting the transportation cost differential. It may be further offset by the use of cheaper Mexican inputs.

An additional major change needed to integrate the maquiladora into the Mexican economy is to permit the unrestricted sale of maquiladora output on the domestic market. The 20 percent of output now allowed to be sold on the Mexican market, even if completely realized, which at present it is not, is not sufficient to permit Mexican industry to fully benefit from the low cost subassemblies produced by the maquiladoras.

On the side of U.S. policy, it will be wise for the United States to foster technology transfer to Mexico. There are economic as well as political reasons for shifting the efforts to establish low cost manufacturing operations from East Asia to Mexico. Mexico's proximity gives it an enormous advantage over East Asian countries in transportation costs and general easy access. The immediate potential of the Mexican market is much larger than for most East Asian economies. It is important for the United States to have an economically strong neighbor to the south, particularly if that strength promotes political stability.

In short, the maquila system can be used by Mexico to obtain U.S. technology that can be transferred to non-assembly operations. Subcontracting by Mexican firms located throughout Mexico will help integrate maquiladora operations into the Mexican economy. Through proper incentives for technical training, Mexican firms will be able to transfer their know-how gained through their assembly operations to their production for the domestic market as well as for other kinds of exporting. A

decentralized maquiladora system will also help in raising income and employment in extreme poverty areas.

Maquiladora integration into the Mexican economy may signify the disappearance of the dichotomy between assembly operations and other economic activities. As the liberalization of the Mexican economy continues, it should become easier to eliminate the policy differences between the maquila and production for the domestic market or production for exports. Thus, the maquila would become just another sector of Mexican manufacturing. Eventually production sharing between Mexico and the United States may evolve into the kinds of coproduction arrangements that have existed between the United States and European countries and Japan.

Automation.

A word about robotization. There is no question that, if production with robots is becoming cheaper, and more and more firms in the industrial countries will be using automated machinery, assembly production abroad increasingly will return to the United States. Growing automation signifies a downward pressure on real wages for unskilled labor worldwide. There will not be much of a future for unskilled labor anywhere, particularly as nations resist the lowering of real wages. Education and training must, therefore, become an integral part of economic development. As robotization becomes more low-cost and profitable, wage differentials will become less important in making investment decisions around the world. Political

considerations and transportation costs will become more important in locating foreign investments. If political risks in going abroad are considered to be significant, wage differentials alone will not be able to attract investments abroad.

If Mexico can maintain relative political stability, It will have an advantage over other locations and maquiladora operations may not disappear. More important, however, will be the extent to which automation will be introduced. South Korea, for example, has already made considerable headway in robotization. There is some question if Mexico, given the pockets of large unemployment and underemployment in the country, will wish to move rapidly towards automated production.

Nevertheless, in electronics and in apparel, the most important product groups in the maquila automation have been held back because of continuous obsolescence and changes in those industries. It still takes large fixed investments to build an automated plant. In order to be economical, therefore, large production runs are required. Rapid innovation and continuous technological change have been an obstacle to automation in electronics; frequent and unpredictable changes in fashions and styles have posed the principal barrier in apparel.

Conclusion.

Increase in technology is a key element in Mexican economic development. Low wages alone will not make the Mexican economy internationally competitive. Neither can a combination of low

wages and natural resources. The adoption of ever higher levels of technology is the essential ingredient that can make Mexico a powerful actor on the world economic scene. South Korea and Taiwan did not become major competitors of the United States and other industrial countries simply on the basis of low wages. Their wage levels are not much lower than those of Mexico, but their transportation costs to the United States and European markets are certainly higher. These factors would put them at a decided disadvantage vis-à-vis Mexico were it not for the rapid adoption of technology from Japan and the United States.

The distinguishing economic feature between Mexico and the newly industrializing countries of East Asia is the latter's capacity to absorb new technology and adapt it to their own production processes. Once Mexico gives more emphasis to education and training and develops the ability to take full advantage of foreign technology for adaptation in its production system, it will become an important international competitor. Even if Mexican real wages rise relative to wage levels elsewhere, the use of increasing levels of technology can protect the competitiveness of the Mexican economy. Provided that the technology gap can be overcome, the geographic and cultural proximity to the United States gives the country an enormous absolute advantage over the distant other newly industrializing nations.

THE MAQUILADORA IN HISTORICAL PERSPECTIVE

Paul Ganster

Introduction.

As we have already heard today, the rapidly expanding maquiladora industry constitutes one of the most significant recent developments in the international reorganization of industry. The implications of this process are profound for the domestic and export economies of the United States, for Japan, and for Mexico. You may wonder what a historian might be able to say about these events that are centered so much in the present and without a long history. Present events are the result of past decisions, of past circumstances and events. An examination of that past can provide insights and perspectives for better understanding the present situation and charting a future course.

Moreover, these developments are taking place within a specific historical and geographical framework. Mexico has a long and sometimes difficult history of relations with foreign investors and with the United States. Most of the maquiladora investment is concentrated geographically in Mexico's northern border zone--about 88 percent of maquiladora investment is there, according to recent estimates. An examination of this historical and

geopolitical context will enable us to better understand the key events now taking place and will provide some clues as to potential problems. Developments in the maquiladora industry are very dependent upon external factors. In addition to the vagaries of a highly competitive industry, the maquiladora sector is vulnerable to political decisions made either in Washington or Mexico City, decisions that might or might not have anything to do with the basic business of the maquila. Cases in point are the recent trucking legislation and the border crossing delays related to the problem of drug trafficking.

What I would like to do today, then, is to provide a historical overview of the region where much of the maquiladora investment is centered--the border. Also, I will examine some historical roots of Mexican attitudes towards foreign investment and towards the source of much of that investment--the United States. Finally, I will mention a number of the most important questions that have been raised by critics of the maquiladora industry in both Mexico and the United States.

The Border Industrialization Program and the Maquiladora Industry.

The termination in 1964 of the bracero program which had brought thousands of Mexican temporary workers to the United States had a significant impact on the border. Not only were foreign exchange earnings reduced, but the

expiration of the program accounted for a significant expansion of unemployment, particularly in Mexico's border cities. From the 1930s, the Mexican government had attempted to promote the industrial and economic development of the north through various programs. A National Border Program (PRONAF) was launched in 1962 to make available to tourists the national and regional products and artifacts of Mexico. As part of this program, loans were made available to stimulate new industries to be developed in the northern region. But by 1964 its limited success, coupled with the cancellation of the bracero program, resulted in an urgent need to do something about the border economy, which had become more important in the national economic picture of Mexico.

Early in 1965, Mexico's Minister of Commerce toured the Far East to observe the assembly operations. In mid-1965, the Mexican government worked out an interministerial agreement permitting similar operations in Mexico. The result was a significant new program, the Border Industrialization Program, or BIP, which began in 1965 and permitted "free zones" along the northern border which would allow items to be made, assembled, and exchanged within these zones without having to conform to traditional regulations governing import-export duties. The program was designed to encourage border industrialization, even with foreign investment, to stimulate Mexican industrial plants. At the same time, the U.S. established under

tariff items 806.3 and 807 regulations permitting the duty-free entry of U.S. components sent abroad for processing or assembly. Soon electronic firms assembled television sets, radios, and other items while furniture and clothing manufacturers located their plants across the border in Mexican cities.

The Border Industrialization Program was extended in a piecemeal fashion and has continued to evolve to the present. The maquiladora program was only one part of the BIP. By 1971 the BIP expanded to include importation of U.S.-made goods (articulos ganchos) for retailing by Mexicans in order to compete with U.S. sellers across the border. In 1972 this concept was expanded with government loans to build shopping centers to attract U.S. shoppers and in 1974 President Echeverría organized a program of federal financial support to small and medium-sized businesses which were wholly Mexican owned and utilized a certain percentage of Mexican inputs. Also, in 1973, Mexico carried out a reorganization and codification of foreign investment laws.

While other aspects of the BIP were being pushed, the Mexican government's stance regarding the maquiladora Industry continued to evolve. Since 1965, the BIP code and regulations for maquiladoras have continued to be revised. Mexican regulations governing the BIP were finally included in article 321 of the Mexican customs code in 1977. Major revisions were promulgated in 1972, 1975, and 1983. After

1972, the maquiladora program was no longer limited to the border. The 1975 reform permitted more flexibility for maquiladora managers in hiring and firing and instituted more efficient customs processing and other administrative improvements. The 1975 update also anticipated the stipulation in the 1983 mandate permitting the BIP companies to sell in the Mexican market under specific conditions. Finally,, in the spring of 1985, President De la Madrid declared the maquiladora industry to be a "national priority." The years 1965-1985, then, saw a significant shift in the government's attitude with respect to the industry. The clear tendency towards a cooperation and endorsement is evident, and the president's official blessing of the program has been reflected in all levels of the bureaucracy and even, to some extent, in academic circles.

Over a period of two decades the maquiladora industry has evolved from a means to provide Mexico with some needed jobs and hard currency to a cornerstone of development plans and a crucial support for the battered economy. In 1965 there were twelve maquiladoras; by 1970 the number had increased tenfold. By 1980 the program had more than 600 maquiladoras and by 1986 there were approximately 720 plants and a workforce of some 220,000. The 1985 foreign exchange earnings of the program were approximately 1.5 billion dollars, surpassing net revenues from tourism as the number two source of foreign exchange behind sales of

petroleum products. One report predicts that 500,000 people will be employed in the industry by 1990; optimists in the industry and the Mexican government speak of a million jobs by the year 2000.

Historical and Political Background.

This remarkable development has taken place despite strong reservations about foreign capital in Mexico and long-held goals of Mexicanization of the economy and ideological efforts to become politically and economically independent. The roots of distrust of foreign capital, particularly that of the United States, are complex and are intimately related to Mexico's historical development over the past century or so. At the same time, the bulk of the maquiladora development has taken place in a region traditionally viewed with suspicion by policy makers and politicians in Mexico City--the northern border region.

A key event in the history of modern Mexico is the war with the United States, from 1846-1848. With the signing of the treaty of Guadalupe Hidalgo and the later Gadsden Purchase (1854) Mexico lost half of her territory. Mexico has never forgotten these events, and succeeding generations of Mexican schoolchildren are inculcated with the story of the treachery the neighbor to the north. Although these events occurred long ago, they nonetheless have always influenced the attitudes and intellectual outlook displayed by many Mexicans in the academic world, in government, and in the private sector.

The long reign of Porfirio Diaz, who ruled Mexico for the last two decades of the nineteenth century and the first decade of the twentieth century, threw Mexico open to foreign investors. Railroad concessions, land acquisitions, and petroleum development by British, French, and U.S. investors led many Mexicans to conclude that their patrimony had been signed over to foreigners. Recapture of these lost rights became one of the important elements of the 1910 Mexican Revolution and a strong nationalistic, almost xenophobic vein emerged in the Constitution of 1917 and ever since it has been a constant of the official political ideology of the country. These feelings were manifested strongly with the expropriation of foreign petroleum interests in 1938 and has been apparent in proscriptions against foreigners owning real property and majority shares of most businesses.

The post-World War II period brought the Mexican economic miracle--an unprecedented era of sustained high rates of economic growth. However, this phase of Mexican economic history was also beset by problems of exploding population, urbanization, peasant unrest, and unemployment-social problems that were not always easy to reconcile with the hard data of economic growth. The student unrest of 1968, although related to world-wide events, was a result of these factors.

Part of the ferment of the 1960s was an emerging questioning of the world economic and political order by

academics in developed countries and by Latin American intellectuals and government officials. Theories of dependency and the movement of "non-aligned" nations on the international political scene were key manifestations of this and both found a ready audience in Mexico.

Also of some importance in understanding the intellectual background of Mexico is the combination of older theories of Imperialism and dependency theories which hold that the world economic system favors the developed, industrialized nations to the detriment of developing nations. These theories are popular with many Mexican government officials and academics for they provide in the form of international capitalism a convenient explanation for the state of underdevelopment that plagues a large part of the globe. There is, thus, a tendency to blame external factors, not decisions made within the country, for domestic economic and social problems.

Elements of these intellectual, ideological, and theoretical currents dovetailed with Mexico's foreign policy during the past several decades when the formulation and implementation of Mexico's foreign policy was relegated to the political left. Mexico's foreign policy, to some extent became very much divorced from domestic policy. Mexico could in theory support leftist guerilla movements in El Salvador while simultaneously extirpating similar movements within Mexico.

These currents were reinforced by petro dollars and Mexico during the 1970S moved to become a key player on the stage of international politics. With a foreign policy that was calculated to be independent of the United States, Mexico attempted to, and indeed did, become a leading spokesman for the Third World. Aggressive stances in international forums and a foreign aid package designed to increase Mexico's influence in Central America were part of this effort. The Contadora Process brought Mexico a certain amount of positive recognition. The "Zionism is racism" vote by Mexico in the United Nations in the mid-1970S was a disaster, and the resultant boycott of Mexico by Jewish groups revealed the political dangers of having a major industry (tourism) so vulnerable to pressure from one foreign nation. This example is not lost on Mexican critics of rapid growth and increasing -reliance on the maquiladora industry.

This discussion of the economic and political ideologies is germane to the topic of maquiladoras for a number of reasons. It provides a framework for better understanding the intellectual formation of many Mexican leaders and a better basis for evaluating the reasons behind many policy decisions. Such perspectives are useful for political risk analysis in formulating investment strategies for an industry that is increasingly important in the complex relationship between Mexico and the United States. Just as it is necessary to know how the legal

rules of the game are different in Mexico, it is imperative to understand how the intellectual, social, ideological, cultural, and political rules of the game are different.

A related topic of importance is the connection in Mexico between the world of university academics and that of government officials in administrative and policy making capacities. In Mexico, the worlds of academics and politicians are not always separate, but are intertwined in many ways. The U.S. stereotype of the ivory-tower intellectual, critical of society yet divorced from it, does not hold up for Mexican academics. Instead, Mexican academics tend to have a more applied focus, they tend to be more involved in areas defined as national priorities. They take a more active role in politics and more actively serve as government consultants than their U.S. counterparts; they regularly join the government in a range of capacities. The large turnover of government officials every six years in Mexico sees large numbers of academics joining the new government in administrative capacities and large numbers of former administrators returning to the universities to teach and engage in research, biding their time for another entrance into government service.

The cycling of academics in and out of the government has enhanced the credibility of academics in government circles; prevailing ideas in universities have in one way or another an important impact on Mexican politicians and policy makers. And, the most important institutions of

higher education in Mexico with respect to producing government leaders are institutions such as the National University (Universidad Nacional Aut6noma de M6xico) which tend to favor the political and economic views outlined above. What Mexican academics are saying today may very well be reflected in government policies tomorrow; to some extent., the flow is the other way as well.

The Border Context.

Another part of the reality within which the maquiladora industry operates in Mexico is the border context. Mexico City has tended to see its border region more as a problem than as an opportunity. Traditional Mexican regionalism along with proximity to the United States has made the border seem foreign, as suspect. In the first place, Mexicans from the north, or nortefios, have a distinctive culture that emerged in the colonial period and are viewed as different by Mexicans from the center. Proximity to the United States is a complicating factor and what are merely Mexican regional traits in the north are often interpreted by the center to be the result of influence from the U.S., as the result of a process of "agringamiento.¹¹ Even the use of English words in the Spanish of the north is thought to compromise the patriotism of nortefios.

Historically, Mexico City has tended to ignore the border and has made decisions that impacted the region

based on reasons that best suited the interests of the center of the country. The highly centralized nature of Mexican politics has the border highly vulnerable to whims of Mexico City bureaucrats and politicians. For example, the border has clearly been neglected in the allocation of resources for infrastructure development.

Occasionally, Mexico City has become concerned about increasing links of the north of the country with the United States and has implemented programs designed to reintegrate the region into the mainstream of the nation. After a short while, the region would then be neglected, and the cycle would be repeated. Some commentators have linked the strength of northern political opposition to the PRI, the "official" political party, to the continued neglect of the border by Mexico City. Economics is probably not an adequate explanation for the north being a hotbed of political opposition since the northern border is relatively prosperous.

The border also has been associated with tensions with the United States and has been the area where conflict between the two nations was manifested. After the conclusion of the war between Mexico and the United States, the border was the scene of sporadic violence that at times led to the two nations to the brink of hostilities. Inability of the two countries to control the border meant that bandits and marauding Indians raided across the border and then dashed back to avoid pursuing authorities. On

numerous occasions, the U.S. forces followed bandits and Indians into Mexico, causing crises in the bilateral relationship.

Perhaps even more serious as a threat to peace and more negative for the long term relationships were a number of filibustering expeditions and other plans mounted in the United States that had as goals annexation of Mexican territory. Examples include the William Walker expedition that captured La Paz and Ensenada in 1853 and schemes in 1888 to take parts of Baja California. Eventually, in 1915, The Los Angeles Times owner Otis Chandler was indicted for violation of U.S. neutrality laws in relation to an incident tied in with Baja California politics, the Mexican Revolution, and his family's land holdings in Mexicali.

Not until the 1920s did the threat of violence between the two countries on the border disappear and not until the

late 1930s and early 1940s when the entire northern frontier became more effectively integrated into the Mexican republic did the fear of loss of the border began to disappear in Mexico. Even so, the memory of these events in the not-so-distant past is not lost to many Mexicans.

Key Issues for the Maquiladora Industry.

This background of the history of Mexican attitudes towards foreign capital and towards the border region will

serve to set the stage for a discussion of some of the issues associated with the maquiladora industry. An early and consistent source of criticism, both north and south of the border, of the maquiladora industry has come from devotees to theories of anti-imperialism and dependency. Generally opposed to capitalism in all its manifestations, these critics often view maquilas as yet another ploy of international capitalism calculated to further enrich the wealthy while exploiting poorer peoples in Mexico and elsewhere. Some of these advocate what Ed Williams of the University of Arizona refers to as the 'Albanian solution' wherein the government of Mexico should simply expel the maquilas. Needless to say, there is not wide support for this position.

Throughout the twenty years of the program, more specific critiques have centered broadly on the two major issues of labor and the enclave nature of the industry. It should be noted that many of the early studies lacked a good data and informational base and often tended to reflect more than anything else political and ideological orientations. Some of the recent studies are more solidly based on field research and their conclusions are beginning to modify stereotypes of the industry. Many researchers and critics have failed to recognize the diversity that exists within the industry, which ranges from tiny operations set up in cramped quarters constructed for some other use to large new state-of-the-art facilities. Studies

carried out in the former were sometimes are held up to characterize the entire industry.

Some three issues pertain to the labor force. These include charges of bad working conditions and negative health impacts, the predominance of females, and complaints about inadequate upgrading and training of the workforce.

A number of studies carried out around 1980 by Mexican researchers and widely reported in the Mexican press spoke of poor working conditions and numerous health-related problems among the maquiladora workers. These studies were apparently undertaken in Tijuana where smaller and less stable maquiladoras prevail and the health data were based on self-diagnosis by the workers themselves. A recent health survey carried out in a Tijuana colonia by San Diego State University-researchers suggests that maquiladora workers are healthier than the general population. Clearly, the question of the short and long term health impacts of work in the industry is not clear cut.

With respect to charges of poor working conditions, recent studies in Matamoros, Ciudad Juárez, and elsewhere along the border tend to show very high rates of job satisfaction among workers surveyed. One implication here is that as the industry has evolved, working conditions have improved, particularly in the large plants operated by large multinational corporations. Work by Stoddard of the University of Texas at El Paso, indicates that employees

prefer as work sites the maquilas owned by multinationals. Next in order of desirability were those that were small-business owned or those functioning under short term contract work. At the bottom of the list came Mexican-owned maquilas. Although demonstrating that job satisfaction is generally high among maquiladora workers, these studies leave some unanswered questions. Specifically, they do not adequately explain the chronic problem of high turnover rates of employees.

Critics of the Border Industrial Program have argued that the predominance of females in the workforce (75 percent, most between the ages of 17 and 24) has negative consequences. It is argued that this does not help unemployment since women traditionally were not part of the labor force. However, Mexican women do have a long history of work outside of the home. Women were employed in the royal tobacco factory and in textile mills during the colonial period and widely in domestic service in the twentieth century. Moreover, for many years young women have worked in industrial occupations in the border, including agricultural products, processing plants and canneries, long before the advent of maquiladoras.

Arguments that work by women in maquilas has negative impacts on the family seem to be linked to the belief that the place of women is in the home. Undoubtedly the problem of male unemployment is serious in the border region, as elsewhere in Mexico, so critics do have a valid point when

they talk about priorities in job creation. It should be noted, in relation to this issue, that over the years male employment in the maquiladoras has increased, particularly in the Ciudad Juarez area. Apparently this trend is the result of the combination of sensitivity on the part of maquiladora owners of criticism about employment practices and a much reduced pool of female workers in the 17-24 age group.

The criticism about the industry not upgrading workers is a bit elusive as reliable data over time are not available. There does seem to be a clear development in the industry towards more sophisticated and complicated manufacturing processes which has been accompanied by increased training for workers involved in these more high tech parts of the maquiladoras. The Mexican government and private industry have made considerable investments in technological education over the last decade, which seems to be paying off with a larger number of Mexicans moving up into technical and management positions. However, it should be remembered that the basic nature of the maquiladora system in Mexico depends heavily upon simple technology and labor intensity.

The cost of labor in Mexico is the result of many factors., but is heavily influenced by the government which establishes the minimum wage, controls most labor unions, and to some extent determines the value of the peso in relation to U.S. currency. Thus, political decisions are

paramount in determining the cost of labor for the maquiladora industry. Minimum wage levels not set by foreign investors.

Joe Grunwald has already commented on the enclave nature of the maquiladora industry and has discussed various aspects of the question. Let me add to his remarks that the industry has evolved over the past twenty years and is now different in significant ways. Earlier characterizations of the industry as being hypersensitive to economic fluctuations in the United States and as being plagued with "fly-by-night" operators and "runaway" shops were probably not too inaccurate. However, by 1986 the industry has achieved a certain maturity and enhanced stability. Some commentators have noted that the industry is now better supervised in large industrial parks and which has helped eliminate some of the earlier abuses. More important, plant size and capital investment have continued to grow and more maquiladoras are backed by large multinationals and significant resources. All of these factors tend to enhance stability. As maquiladoras move to sell the permissible 20 percent of their output in the Mexican market, or utilize Mexico as an export platform to non-U.S. markets, this will provide an additional buffer against fluctuations in the U.S. economy.

Also criticized has been the predominantly border location of the industry and the low level of Mexican inputs. The Mexican government, through the 1983

presidential decree which ordered the commerce minister "to propitiate a greater integration of domestic components in the in-bond industry" and through current efforts of the government to encourage firms to locate in the interior, has indicated the direction of its policies on these matters. However, forcing firms to unwillingly expand the domestic content or accept an interior location could negatively affect decisions by foreign investors regarding a Mexico location.

Another issue that has been raised by researchers on both sides of the border is that of environmental impact of the maquiladora industry. Numerous charges have appeared in research reports and in the Mexican and U.S. press regarding supposed cases of polluting plants relocating to Mexico to avoid stringent environmental regulations in the United States. Also frequently mentioned is the improper disposal of hazardous wastes by maquiladoras. To date, there is little reliable information to confirm or deny these reports, although recently, monitoring of sewage flows from Mexico into the United States is revealing increasing amounts of industrially generated pollutants.

Mexico now has a fairly active environmental movement, consisting of networks of organizations and concerned individuals that are linked with the international movements in these areas. Within Mexico, the environmental movement received a significant boost with the presidential campaign of Miguel de la Madrid when the PRI determined

that the "Green Movement" of Europe might spill over to Mexico and decided to take up the banner in order to remove it as an issue for the political opposition. The campaign and the early years of his presidency saw considerable emphasis on environmental matters, but increasingly, particularly since 1984, the government came to feel that a strong environmental program would hinder the effort at job creation. The environment is currently low on the government's priorities, but there is growing awareness of actual and potential problems among the public in Mexico. Environmental issues will continue to be of concern for industrial developments in Mexico, and the maquiladora industry should be aware of the potential economic and political significance of this topic.

Conclusion.

In sum, as a historian examining the maquiladora industry, I would make the following points:

1. The maquiladora is a complex aspect of a complex series of elements that comprise the U.S.-Mexican relationship. Development of the industry is best understood if viewed within the context of its geographical location and historical development. From the Mexican perspective, border location and predominance of foreign capital in the industry are negative factors. Both of these factors, because of long historical antecedents, raise significant concerns in many Mexican academics and

officials. The fact that Mexican officials currently embrace the industry does not mean there has been a revolution in attitude, but is perhaps more indicative of the seriousness of Mexico's economic crisis.

2. From its inception, the industry has been subjected to strong attacks from a number of perspectives. Over the two decades of its existence, the industry appears to have been sensitive to this criticism and has taken steps to correct a number of the problems. The industry also appears to be moving in the direction of more linkages with the Mexican economy, and thus better serving the goal of national development rather than just economic growth. Interestingly enough, changing attitudes towards the industry among Mexican academics are evident. Whereas in the past many of these scholars emphasized the negative aspects of the maquiladoras, now the emphasis is on positive factors and potential benefits to the process of national development.

3. Despite evolution and progress of the industry, significant issues still remain. Concerns about the environment will be important in coming years. Integration with the Mexican economy will be a continuing dilemma for Mexican policy makers as will the political costs in the international arena of such heavy dependence on foreign capital in one sector. Labor issues are so complex and subject to so many uncertainties that they too will be causes for continuing preoccupation.

In my remarks, I have dealt mainly with the Mexican side of the equation. I have sketched the broader historical context within which this impressive industry is unfolding. However, I suppose that I have muddied the waters by raising a large number of variables that in one way or another might impact on the industry. Unfortunately, realities cannot always be distilled to clear, simple statements.

In closing, permit me to muddy the waters even more. In light of the complexities that influence the U.S.-Mexican relationship and the maquiladora industry, it is possible to posit various events that could have significant consequences. These include:

--Strong reactions in the U.S. to border problems, undocumented immigration, disagreements with Mexico over Central America, or effects on U.S. employment of a recession could result in negative policies for the in-bond industry. Current demands for protectionism in the U.S. may be seen in this light.

--Further decline in petroleum prices and default on the foreign debt by Mexico and other countries could lead to reprisals.

--A major disturbance in the Middle East could decrease world oil supply and enormously increase Mexico's oil revenues, prompting Mexico to revert to the Mexicanization of industry policy and withdraw concessions granted to the maquiladora industry, generally reversing the process of liberalization.

--Political unrest in the Mexican north might lead Mexican government to take actions that would negatively impact the maquiladora industry. Increasing wages and permitting effective unionization are the types of political actions that could be taken.

These then, are the sorts of observations that can be made concerning the broader historical context of the maquiladora industry. These also are the types of questions that a humanist can raise when looking at a significant aspect of industrial development.

THE MAQUILADORA PROGRAM FROM THE MEXICAN PERSPECTIVE

Richard Louv: Sergio Noriega is with the School of Architecture at the Autonomous University of Baja California, Mexicali. He is an economist with a Master's degree from SDSU, a member of the Board of Directors of the Mexicali Industrial Commission, and noted expert in his field.

Enrique Mier y Terán lists himself as a consultant and entrepreneur. That word, "entrepreneur," is becoming about as popular as "turbo" in this country and in Mexico. He has been living in Tijuana since 1954, where in 1959 he helped establish one of the first in-bond companies in Tijuana, and most probably in all of Mexico. Later, he set up the first semiconductor-in-bond plant for Fairchild Semiconductors, and since then he has founded several plants and acted as a consultant for others. He has been the president and board member in various years of the National Council of Maquiladoras and the Maquiladora Association of Tijuana. He is president of Plamex in Tijuana.

Enrique Mier y Terán, President, Plamex, Tijuana, Baja California.

As Richard Louv explained, there are some differences of language that Americans feel when they go to Mexico. But don't think that this is only one sided, for we Mexicans also have our problems. Your language is very illogical. I have never

understood why ojos is eyes, but eyes (ice) means hielo, the thing that you put in the drinks to make them cold, But yellow (amarillo) is a city, Amarillo, in Texas. And Texas (taxes) are what you pay to the government. The language is very illogical, especially in business. One of the things that in manufacturing we have to learn is reliability. That sounds, if you translate it, like the repeated ability to lie. So, it is difficult to conquer your language.

We have been asked to share some ideas on the Japan-United States-Mexico triangle, which to me is a very interesting proposition. Each of these three parts of the world has different and complementary talents, capacities, and experiences. As the world is becoming smaller due to communications, we need to begin to share more and enrich ourselves from these various experiences. We have on the one hand Japan, which is now becoming very interesting for everyone involved in manufacturing, not only in the United States but in the whole world. We want to learn from the Japanese, we want to know how they have been able to obtain their quality standards, how they have been able to motivate their people. Also of importance is the fact that the workers do not work for the company, but feel that they really belong to that company.

While we want to learn from outside of the United States, we also want to learn from within the United States. We want to learn how to penetrate that tremendous market which is probably the biggest in the world in a single country. It has marketing capabilities and inventiveness that defy the imagination. The

United States has the fabricating capacity to produce many items that we could not produce in the developing world, in countries such as Mexico. It has the advanced technology and material products that are the result of research and development that we may utilize as well.

Mexico's close geographical proximity with the United States is the envy of every other developing country in the world. They would like to rent from us just a little bit of the border for that geographical advantage. But in addition to that, we have the very eager hardworking Mexican, who, as the maquiladora has proven, is one of the best raw materials in regards to labor. If this human resource is well administered,, well directed, and well kept, it will be extremely effective and productive.

Here, in this room, are some individuals who have been involved in the maquiladora business one way or another for the last twenty-five years or so. Some of them are part of the marriage that has existed between the tremendous capacity of administration, control, and direction of industry from the United States--that very special practical education that you have in the United States--with the capacity of the Mexicans to do it. Some of these people have been responsible for establishing systems of administration and control that provided direction and training to enable Mexican labor to become 25 to 30 percent higher in efficiency than their counterparts were in the United States.

In addition to this very special situation involving the United States and Mexico, we now have the added element of Japan. There are characteristics that exist in Japan that are different from what we find in the United States. Japanese industry has baffled the world. It has surprised everyone because it has been able to conquer the problems of quality and reliability which have translated into very good products that capture a significant portion of the world market.

If we can put these three elements together, we have a strong competitor for the rest of the world. If we take components and ideas of industrial administration from Japan, if we take the practical education, application, and development, as well as heavy fabrication, from the United States, and if we take the ability, talent, and price of Mexican manufacturing labor, we really have a very good combination that will be able to compete in any product in any country.

Mexico represents a very particular opportunity at this time, which means for the last ten or so years, and particularly so for the last three or four years. If you examine the cost sheets of any maquiladora in Mexico in which raw labor costs are translated into dollars, from a high of about \$2.10 per hour back in the summer of 1976, we have been coming down, down, down, to about \$.68 per hour right now in the border areas. Of course, you will hear small variations on that number depending on the exchange rate used.

This is not the wage that is paid to workers because, as can be imagined, for someone who lives in the vicinity of San

Diego, even if it is-on the other side of the border, there is no way that they are going to be able to live on \$.68 per hour. So, the wages are now a matter of free supply and demand.

Mexico defines a minimum wage for workers, but it is precisely that--a minimum wage. It is the minimum that is paid to an untrained worker. Once a person has a minimum of training, higher pay will be given. This, however, will still not only be competitive, but it will be some 15 to 20 percent less than for the four Asian countries that Dr. Grunwald referred to.

So, with Mexico we have an extremely competitive country, and that competitiveness is here to stay. Mexico does not have, unfortunately, any possibilities of turning the current economic situation around. We are not going to have a tremendous upswing in the price of oil. We are not going to have significant concessions on the part of the international bankers. We in Mexico think that our external debt will change just a little bit--just one letter. The "X" in external will be eliminated to give us the "eternal" debt. We are not going to see a drastic change in Mexico's economy for the next five or six years.

Fortunately for Mexico, the maquiladora industry is now being recognized by the present administration as one of the key elements in the future economic development of the country. What is surprising to me, even with the wisdom that is shown in all of the symposiums and seminars held in the United States on Mexico, very few people recognize that Mexico is now a different country. And it is, believe me, very different. We have had in

Mexico a structural change that started In 1983 and has converted Mexico into a different country. Obviously, all structural changes are very painful and very slow, and it is going require many years for this change to take total effect. But the fact is that it exists and it is not going to turn back.

The practical problem that this structural change presents is related to the political pyramid. The top of the pyramid--the president, the ministers, the undersecretaries, even the directors general--all are convinced and are very well versed on this structural change. From an import substitution model country, Mexico was changed into an export promotion country. Within this scheme, the maquiladora industry has been transformed from the necessary evil as it was viewed during previous administrations to one of the key elements in the development of the economy and export training for the country. But, with the base of the pyramid--all the millions of bureaucrats that have to implement policy--the situation is different. These people have not yet had time to talk about the new model.

It is going to take a generation to make this change, because people cannot be reeducated over night. It is going to be a very painful change that will take a lot of effort and a lot of participation from all of us, including everyone interested in the maquiladora industry. We have to push and shove because Mexico's politics work on the principle of the squeaky wheel. And according to this principle, wherever there is a lot of noise, that is where the attention is going to be

directed. We have to make a lot of noise from the Mexican side of the industry, from the worker's side of the industry, and from the U.S. side of the industry, so we will call to the attention of the government the things that we need.

Today in Tijuana there is an intersecretarial meeting in which the future of the maquiladora industry is being discussed by the undersecretary of SECOFI, the Ministry of Industry and Economic Development, and all of the participants in the intersecretarial group. This is very important for this is where the industrial policy of Mexico is being shaped, and we do not participate in those decisions. We have to, because it is going to be the only way that we have to make it easy for business to grow in a tested and established way.

The Japan-Mexico-U.S. triangle is a natural alliance. Some practical aspects of this relationship should be considered. One is the import-export situation. Since transportation and duty cost are concerns, of obvious importance is whether or not the dutiable value of the material going back to the United States is based on the fact that those materials were transformed, or the fact that they are non-U.S. I do not have to go into the details of 807 because all of you here should be familiar with it. However, when items under 807 change identification or are foreign to the United States, they pay duty every time they go back to the United States. This means that a component from Japan or from any other Asian country that would have to be incorporated together with United States material and Mexican material into a product to be assembled in

Mexico and then sent into the United States should be sent from Southeast Asia directly to Tijuana. Or, it could be sent through the United States in-bond so as not to pay U.S. duty while in transit. Thus, when it returns to the United States it will pay duty only once and not twice. Every time a product is taken out of the United States and returned, duty is again paid.

Transportation is another consideration. There are tremendous advantages of container shipping from Southeast Asia to the Pacific shore of the United States. These should be taken advantage of.

The question of vertical integration is important. We often say that Mexican suppliers are not interested in selling to the maquiladora industry because they do not want to get into an internationally competitive environment, which is partially true. They are used to a protective environment that Mexico has had for some forty-six years, but we no longer have this. Right now in Mexico, every director general of a company, every chairman of the board, and every president or chief executive officer is convinced and is saying to their people, "we have to export." But how? They do not know how. They have not been trained how. The maquiladora industry represents for them that step to acquire within their country expertise in exporting that is within their language capabilities, and within their technical knowledge. They do not have to change anything; they do not have to have an export department as we know it in any company that exports to the world and salesmen that speak German., French, and English. These Mexican manufacturers are

going to sell to their own countrymen. But they are going to sell to the maquiladora industry, which in turn is going to be the exporter of their product.

What Mexican manufacturers have to conquer now is the competitiveness. For them it is survival because right now most manufacturing businesses in Mexico have been suffering compressions or contractions of UP to 50 to 60 percent. They are changing and they are knocking on our doors and saying, what can I sell you? Please teach me, what can I sell you? And on our side--the Mexican or the U.S. maquiladora owner--we are very interested or we should be because greater Mexican content is going to bring significant advantages.

The product with Mexican content will have the chance of utilizing GSP (General System of Preferences). If it has more than 35 percent Mexican content, and is on the GSP list³ it will not pay duty on that Mexican component, nor will it pay duty on any component, whether Japanese, Taiwanese, or whatever. It will not pay duty on any transformation that has been made. The advantage is such that the maquiladora could even afford to pay a small premium on that particular component which will be more than offset by GSP.

Let me very briefly go into one more important item --administrative idiosyncrasy. I would not dare to go to Japan to establish a manufacturing company with a Mexican manager. However, we have a whole bunch of companies which go from the United States into Mexico with U.S. managers, and those poor guys do not know anything about the Mexican idiosyncrasies.

They do not understand the reactions of Mexicans, which is difficult because of cultural differences.

We have to train capable Mexicans as managers. Currently, we have a problem that I call the Hussong Bar syndrome. I have asked some maquiladora owners, where do you locate your managers? "Well., I was having a beer at Hussong's, and he was sitting next to me, and the guy looked like he knew a lot," is the response. Is that the way that you contract managers in the United States, I ask you? And they say, no. We need to be very professional in acquiring that Mexican talent to managing our companies.

Sergio Noriega, Escuela de Arquitectura, Universidad Aut6noma de Baja California, Mexicali, Baja California.

In an essay I wrote in 1968 on Baja California, I described the maquiladora industry in the following terms: The most impressive change that has taken place in the last few years within the manufacturing industry, and perhaps within the state's economy as a whole, has been the appearance of the maquiladora industry. Despite its small scale, it has grown faster than any other industrial group. And there is no other industry presently that shows greater potential for growth in the immediate future.

I believe this statement to be true even today, although much has happened since. For one thing, it has grown considerably, though not steadily nor even consistently. In 1968 there were about 55 assembly plants in Baja California with

approximately 5,000 employees. Now there are over 316 plants and no less than 40,000 employees.

From the standpoint of Baja California's economy, and perhaps of other Mexican states, the maquiladora industry's greatest impact has been felt in the labor market. Because of rapid population growth, the state's labor force has increased considerably, particularly since the Second World War. People have migrated from all parts of Mexico to Baja California. Internal migration along with high birth rates account for the state's present population of approximately 1.75 million inhabitants. The labor force, employed and unemployed workers, equals roughly one-third of the total population; that is to say more than half a million persons.

When the maquiladora industry got underway in the mid-1960s, there was speculation that the Industry would help absorb the workers from the then recently extinct bracero program and that it would also help diminish the state's unemployment. Actually neither happened. From its inception the maquiladora industry provided jobs mainly for women. Approximately 80 percent of the assembly workers were of the female gender. Few, if any, farm workers applied for and obtained jobs in the assembly plants.

Another misconception was that the maquiladora industry would help solve Baja California's unemployment problem. I believe that most of the labor recruits did not come from the unemployed, at least not from the structurally unemployed. In the beginning, most of the workers that got jobs in the

maquiladoras were young women, perhaps between 16 and 20 years of age, with no previous work experience. Therefore, most of the maquiladora labor recruits had not previously belonged to the work force. Instead, most of the young girls were either working for their families in their homes or temporarily helping out as house maids. So there was no great opportunity cost involved either.

The maquiladora industry has provided some skills for the workers and that is plain to see. However, it is not clear how significant these skills are. We have no statistical information regarding whether the people with newly gained skills are actually better paid.

Real wages for the industry are almost certainly down with the recent economic problems. Ever since the peso devaluation began, nominal wages have gone up and real wages have come down for most wage earners in Mexico. Labor union demands, where there are any, have been moderate, following government wage increments. Until rather recently, the maquiladora industry has been known to pay the official minimum wage, which is currently 1,650 pesos per day or approximately \$3.67 in U.S. currency. Better opportunities in the service sector of the economy, including tourism, have apparently helped maquiladora employees to receive higher wages and fringe benefits.

Finally, the maquiladora industry has helped change labor mobility, particularly that of women. Thanks mainly to this industry, female participation in the labor force has increased considerably in the last 20 years. No less than 30 percent of

the work force in Baja California consists of women. While occupational or horizontal mobility has been enhanced, it does not seem that there is much of vertical labor mobility or better paying jobs.

Questions From the Audience.

Question from the Audience: What is being done with regard to male entry into the labor force?

Noriega: I think that the greatest effort on the part of the government in terms of the labor force has been to gear up education facilities to meet the demands in the marketplace of trained labor. The government, in the last few years, has provided much more support for technical schools, trade schools, and the like. However., it is too soon to tell how effective these measures have been. This is true partly because most of the information we have on labor comes from the census which takes place every 10 years. Unfortunately the last census does not seem to be very exact, at least insofar as we have looked into it.

Mier y Terán: The government should be involved in training. Tile government has also been successfully encouraging the establishment of light-heavy industry. In almost all cases, the workforce is made up of nearly 100 percent male workers.

Question from the Audience: Enrique Mier y Terán, is there any reason to suppose that there will be U.S. counterparts in terms of industry on Otay Mesa? Dr. Grunwald indicated that the twin plant concept is inaccurate. Is there any need for a U.S. counterpart in the existing industry in Mexico?

Mier y Terán: No, I agree with Dr. Grunwald. This term "twin plants" is not accurate. What we actually see is "production sharing," which is the correct term. With respect to counterparts being built on the U.S. side in places like Otay Mesa, I think that this is going to be a fantastic area. If I had some dollars I would buy land in that area because I think it is going to be a very good place to develop the counterparts to the maquiladoras in Mexico.

Question from the Audience: I would like to ask Mr. Mier y Terán a question. Given your unusually long historical perspective on this, what is going to happen in the future? We heard some scenarios: Ganster set out a few, as did Grunwald. Also there is the governmental meeting taking place today in Tijuana. Can you give us any hint of what you expect to develop over the next five years, particularly with respect to the Mexican government policy? Also, can you give us a Mexican perspective on what you would expect from the U.S. side?

Mier y Terán: I am going to disagree with Ganster because although I agree with him as a historian, I do not agree with

him as a forecaster of the future. I do not foresee a situation wherein the United States would take measures that would negatively affect the maquiladora industry because this would be like an individual shooting himself in the foot. To do something against the maquiladora industry in Mexico is to do something against yourselves. Both Ronald Reagan and Miguel de la Madrid recognize that in both parts of the world, on both sides of the border, It Is a very important and beneficial business.

Nor do I think that disagreements with the foreign policy of Mexico in Central America will result in negative policies from the United States towards the maquiladora. I am extremely optimistic about the outlook of the maquiladora industry. I do not know if you are aware of it, but I presented a proposal to the president of Mexico in the Consulta Popular of 1983 on how Mexico could obtain 1,000,000 jobs from the maquiladora industry within the six years of his term. Unfortunately, they did not believe me then, but they believe me now.

Three years later, we are building the infrastructure for those jobs. Since relocation of investment is very difficult, 85 percent of those industries are still going to be in the border in spite of the fact that Mexican government prefers interior locations. The border is best for the investor who is going to go to the place where it will be most cost effective. The investor will consider factors such as the ability of U.S. technicians to live on the U.S. side with their families and commute to work in Mexico.

However, there are good reasons why some companies should locate in the interior. There are many maquiladora companies with 800, 1,000, or 2,000 employees that have a border location because of the advantages that we already mentioned. But they forget that among these 800 or 1,000 people they have 300 who are doing a very simple job that does not require access to the technicians, machinery, or other advantages of border location. These simple jobs, could be located in Tepic, Nayarit, or in La Paz, Baja California Sur, or in any of the smaller cities of Mexico hungry for jobs. There, the investors will be treated like kings; they will command the labor movement.

Finally, it has been said that we have a shortage of labor in Tijuana. I disagree. There is, however, a larger surplus of available labor in smaller cities in Mexico.

Question from the Audience: What would be the economic impetus for an American company to locate in Mexico if the workers there are paid at a high scale? What would be the reason why the U.S. government today would continue its program to allow the importation of more and more of the products from Mexico?

Mier y Terán: Obviously, the advantage for the American company is to remain competitive in the world. For instance, who makes video cassette recorders in the United States? That market has been totally lost to the Orient. So it is a matter of maintaining competitiveness. The United States has realized that because of its high manufacturing costs, it cannot produce

everything. It has to share the production or it has to automate. But automation in many products is not justifiable, for example when the technology is still in infancy or the investment is extremely large.

What are the advantages of the maquiladora for the United States as a country? It will maintain control of its products through design and the fabrication that can be done automatically or semi-automatically in the United States. It is going to remain competitive by having a partnership with a lower cost country--Mexico. The stronger Mexico is, the better neighbor it will be, which will be a political advantage for the U.S.

But these things are not going to happen because they are convenient to our countries. They will happen because they are advantageous to businessmen, to the person who has to sign the check. And that person, when he secures the client in the United States, and that owner of the maquiladora, when he achieves more Mexican content, in addition to being a candidate for GSP treatment, is going to be able to obtain each year 20 percent unit authorization to sell in Mexico. Thus he will be able to have access to the Mexican market. He is going to be able to sell in Latin America, Canada, Japan, Australia, and in the economic community of Europe without the high duties that would be imposed on the same item from the United States. Exporting from Mexico with Mexican content and with a certificate of Mexican origin has an advantage. I will give you an example. In one of the companies that I have responsibility

for, an item that we export from the United States to Brazil pays 115 percent duty. The same item, when exported from Mexico, pays only 5 percent.

Grunwald: If you will permit me just a comment on the previous question regarding a possible negative scenario. In the future and with substantial increased unemployment in the United States, the labor unions that have been very strongly opposed to item 807 will become more aggressive. At any given moment there are many bills in the United States Congress advocating the repeal of 807. I do not think this will happen, but if the situation does become very bad here, labor unions will increase pressure to do away with 807. This will not eliminate the maquila operations, but it certainly will damage them significantly.

THE MAQUILADORA PROGRAM FROM THE UNITED STATES-JAPAN
PERSPECTIVE

Richard Louv: The subject of this panel is to me the most fascinating aspect of today's discussion because we hear so little about it. The first panelist to speak will be Howard Boysen. Over the years Mr. Boysen has become a recognized spokesman for the benefits of maquiladora operations in Mexico. He has traveled extensively in Asia, Latin America, and Europe. In the past he has addressed various meetings of the U.S. and Mexican Chamber of Commerce, and he has appeared on a special program "Border Business" broadcast by the McNeil-Lehre.- Report on PBS. Recently he was part of a U.S. delegation to Costa Rica to evaluate maquiladora operations in that country. Mr. Boysen is also an expert on the Asian aspects of production sharing.

Howard Boysen, President of IMEC Corporation.

It occurs to me that I may be a victim. I think that I have violated one of the principles of show biz. That rule would suggest that you never want to follow an articulate Ph.D. or people who might be smarter than you are. You certainly don't want to follow little children, dancing acts, or cute puppies doing tricks.

You can add to that, you probably don't want to follow Enrique Mier y Terán either.

I'd like to thank the Institute for inviting me, and since I have been in the maquiladora industry for almost 20 years, perhaps I will be able to enlighten you from my perspective, of what this industry is, how it fits in the U.S. scheme of things, and what potentials might exist for people with a vision to understand what is going on. I really like the trinational theme of this conference. As I enter my 26th year in the high-tech electronics industry, I am even more convinced that the world is in its most dynamic period of change.

As a one-time student of geology, I have always been fascinated with the dynamics of our mother earth. The earth as we know is both living and dying, all the time creating and destroying its own surface. It is a body in motion that is alive and it is vitally awesome. We in this room, whether Japanese, Americans, or Mexicans, all in one way or another, sit on the edge of a "-ring of fire" that surrounds the Pacific Ocean basin. We are on a free and exciting ride that is moving us, albeit slowly, inevitably closer and closer together. As a matter of fact, the land where we sit today, and the whole of Baja California, is moving in a general northwesterly direction. This means that Baja California will be cruising by San Francisco Bay in the predictable future. Don't you Mexicans, however, get

too excited about your trip to one of the most interesting cities in the world. This voyage is going to take some 20 million years.

On the other side of the ocean, crustal plate tectonics are slowly but surely driving our Hawaiian Islands in a general direction where they will ultimately dive into the Kurial Trench off the coast of Japan. Again, to our Japanese friends, don't cancel any current travel plans to the islands. This trip is only moving at 8-10 centimeters a year.

I am referring to these tidbits of mother nature's actions because like it or not, we are neighbors on the move. Our industries and enterprises are also on the move and it is up to us to create something worthwhile relative to the tectonics of industry. The fact of it all is that we are cohosting an economically driven party, and each of us has something of value to bring to it. Unlike mother nature, however, we do not have the luxury of time on our side. It is what is happening now that is important.

The maquiladora industry in Baja California is a good example of what is happening and my company is a participant. We currently operate seven plants in Baja California, service the needs of almost 30 clients and employ well over 1,100 Mexican nationals in our collective enterprises. Our client base ranges from Fortune 500 companies, to Japanese companies who want to

have a presence in our U.S. high-tech action, to European-based companies with U.S. affiliates, and to entrepreneurial start-up U.S. companies managed by energetic people who believe they have developed better mousetraps. Their collective range of interests spans this country and indeed has linkages to both the Far East and Europe. Caught in between, and still very much misunderstood in the United States, is Mexico.

The problem is that people do not know what the maquiladora has done or what it is doing. Most people think that the attraction of Mexico is cheap, exploitable labor. To this I say, "horse pucky"! The attraction of Mexico is the quality and the ability of her people.

Instead of trying to better understand Mexico, we as U.S. citizens in particular and as U.S. industry in general have some deep seated desire to believe in and ride both ways on the Orient Express that runs between these shores and various ports of call in Asia. I wonder, however, if this awe and love affair with Asia is as enduring as many people would have us believe.

Two years ago I made a personal fact-finding trip on the Express that went from Japan to Singapore and all points in between. I concluded that the romance might be getting strained. Political instability in certain countries, currency restrictions and controls, competition for labor and managers, national development

away from labor intensive operations, difficulties in protecting proprietary products and processes, spiraling freight costs, and the difficulties for the little guys from the U.S. in getting the attention or the priorities of the guys over there--these are all valid problems and concerns.

An alternative to this Orient Express could be a much simpler trip, a trip down Interstate 5 for an in-depth look at this maquiladora program. Before I get into details and specifics, however, let's expose some myths about Mexico held by many people in the United States.

Myth: Mexicans and Latin Americans in general are inferior and substandard workers in relation to quality and quantity output. To that I say, nonsense. People are as effective as the people who train, lead, or manage them. This is true in Singapore as well as it is in Tijuana. Enlightened and responsive management is more important than ethnic identity.

Myth: All Mexico is corrupt, and Tijuana in particular is little more than sin city, with a bunch of crooked officials who wish to hassle tourists and businessmen. Again I say, nonsense. While we all have our bad apples, Mexican pride and culture have produced loyal, proud, and God-fearing people who happen to have a neighbor to their immediate north who sometimes exports his weaknesses and failings and too often

imports his Illegal indulgences. As for Tijuana, go downtown and look around, visit the Rio Tijuana shopping center with its hotels and fine restaurants. Cross the new border crossing in Otay Mesa. I think you would be surprised.

Myth: Mexico may be okay for vacation, but it simply doesn't have the sophistication or infrastructure to build high-tech widgets. Again I say, nonsense. My company has been saving U.S. companies millions of dollars assembling high-tech widgets. Savings, I might add, that are extremely competitive to the Orient. As a matter of fact, I believe Mexico is the greatest bargain and opportunity in the world today for U.S. industry. The truth is that it may be one of the only viable alternatives the U.S. has to compete with pure import foreign competition.

Another myth: Mexico may be okay as far as I'm concerned, but my customers won't accept parts marked "Assembled in Mexico." While this was, or may be superficially true, the answer is still nonsense. Customers want quality products delivered on time at competitive costs.

If my myth exposure ideas are true, your next question might then be, how can I then get acquainted with this maquiladora program? Dealing with an established subcontractor can be the easiest, quickest and in many cases, the most economical way to establish

an operation in Mexico. In essence, the subcontractor already has the facilities and staff in place to handle diverse production requirements.

With variations, there are three basic methods of doing business with a subcontractor, whether U.S.-based or Mexican national.

The first is the fixed price method of doing business or build-to-print subcontracting. In this case, the contractor receives prints, drawing samples, along with volume quality and delivery requirements. After careful review, a quotation is submitted to the client, clearly stating how much the item will cost and what other terms and conditions of sale will apply. It can be as simple as that and "get started" lead times can be very short.

The second method is labor-hour subcontracting. This can be a starting method of doing business, or as frequently happens, it evolves from a lower volume fixed price beginning. What is done here is that autonomous dedicated areas within a subcontractor's facilities, or often, if the size of the operation warrants it, complete dedicated facilities, are developed for the exclusive use of the client. Contracts of a definite or indefinite period of time are written, and a client pays a previously agreed upon rate only for the actual hours worked. All other direct fringes are included in this rate. Some companies like mine try to keep it simple by

including the rate of all other elements of manufacturing overhead, general and administrative costs, value added duties, and in some cases, certain items of indirect materials and tooling.

The administrative "umbrella" therefore, comes from the subcontractor. The client has the freedom to utilize his human and physical resources and create a capability that is truly an extension of his own U.S. operation. He can superimpose his controls, processes, quality procedures, and production as he would in his own shop. The advantage is that this can be done often without major capital expenditures for facilities and without needlessly accepting many of the often significant financial and legal exposures. This is a good way to evaluate the benefits of a Mexican operation. Your exposure can be defined, you benefit from the contractor's expertise, and you have a chance to try Mexico on for size before you jump into a pool and find out too late that you forgot to put on your swimming suit.

A third way that some people look to get started in Mexico is to work through a contractor who will have an affiliation with an industrial park or shelter plan operator. This is simply a variety of labor-hour subcontracting, and it usually involves a dedicated plant developed to suit a client's needs. Cost will vary here and can be more or less than some of the other

ways of doing business that I have alluded to. I might caution you here, however, to be careful of real estate oriented services. By this I mean, you want more than a pretty building. You want a contractor who will help you accomplish your objectives and create a true, effective extension of your U.S. domestic capabilities. These relationships, incidentally, if properly conceived, can lead to a turnkey method of operation once off the ground and flying.

Regardless of the "modus operandi" people are often confused when it comes to dealing in Mexico or with a subcontractor. Questions most often asked include: How do I find a good subcontractor? How much will it cost? Couldn't I do it cheaper myself in my own plant in Mexico? Won't I lose flexibility or control of product quality? These questions are all valid and perhaps deserve some candid discussion.

How to find a good subcontractor? Look to trade shows, seminars like this one, local economic development agencies--all of these are valid sources. Remember, however, to "look before you leap." Check out references, look at a company's track record in good times and bad. Look for a complete team behind a salesman's or promoter's glib pitch.

How much will it cost? Get a firm "fixed price" or "hourly rate" quotation. When shopping, make sure you are comparing apples to apples. What appears to be a

bargain too good to be true might, in fact, turn out to be too good to be true. Generally speaking, in high tech projects, I believe that most legitimate subcontractors will quote fixed price work at about \$4.50 to \$5.50 per hour based on productivity factored assembly standards. This will include all elements of overhead and G & A and, as is the case with my company, includes "value added" duties. Hourly rates when time is sold by the hour will typically run from \$3.50 to \$4.50 per hour depending on volume, length of contractual commitment, and level of contractor's investment. In any of the above cases, savings of 40 to 60 percent on labor can be and should be realized.

Why pay a subcontractor premium? Can't I do it cheaper myself? In some cases this might be true but more often than not it simply isn't possible. An outsider often doesn't have the time, contacts, or understanding of the system to obtain the expertise in a reasonable orderly fashion at an advantageous cost. Ultimately, if the size of an operation dictates, it could be justifiable. Believe me, however, it also could lead to potential financial disaster.

Flexibility and quality factors? Most maquiladora operations that fail or do not live up to advance expectations do so because of communications and logistical problems. Those that meet their objectives are properly conceived, properly planned, and properly

monitored with complete feedback loops. All parties involved, however, must be dedicated and have the wherewithal to succeed. If properly managed, there are no reasons not to be successful with respect to quality and quantity.

The aspect of the Japanese and the Mexican industry is something I would like to close on because I have been alluding to the U.S. side. There is an experience I would like to share with you about what I think can be done in an industry where you carefully create the marriage of interests of countries.

We have found literally thousands of Mexicans of both sexes to be eager, dedicated, and willing to learn and very capable of meeting quality and quantity objectives. We recently passed a milestone of having processed over \$2 billion of U.S. market value of high technology products through our shops. This was done with Mexican workers and it was done with the liaison relationship of developing the infrastructure of Mexican management. We haven't done that because we are any more intelligent than anyone else.

Up in the new industrial city in Mesa de Otay, where my company has three plants, one sees an emerging and exciting blend of Mexican national industry, big time U.S-Mexican twin plant operations, and an expanding base of major Japanese-Mexican enterprises.

In this melting pot, free enterprise is mixing a brew with the ingredients of Yankee ingenuity, Mexican resolve and pride, and Japanese "naritsu diaichi shugi," which is the principle of efficiency first. The flavor of this concoction that results is nurturing a new breed of international industry and industrialists that I believe represent a wave of the future. In character it is neither American, nor Japanese, nor Mexican. What is exciting is that Baja California and California are right in the middle of it. For us locally it offers a tremendous challenge 'to San Diego and Tijuana.

I have been telling people for years that this maquiladora thing makes sense. It is a viable solution to many of our common problems. As an U.S. president once said, "the business of America is business." As a president of Mexico once said, "we are in an alliance for production." A very wise businessman I met on the first visit to Japan said that "makoto shinyo" is everything. As I understand him, he was referring to the concept of loyalty and trust. These, of course, are the foundations with which long term business and personal relationships are built and maintained. It seems to me that these concepts of business, alliance, and trust are what the maquiladora industry is all about. To really understand it, however, let me extend an invitation to you to see for yourselves.

As an old game show host on television used to say, "come on down." As my teenage daughter used to say, "check it out." As one of my old army buddies used to say, "try it you'll like it." That in essence is my invitation: Come on down, check it out, try it, you'll like it.

Louv: I'd like to move on now, directly to the Japanese perspective, with Yasuo Sasaki. He was born in Brazil, and received his Bachelor's of Law degree from Hosai University in Tokyo. His studies include a heavy concentration in business administration as well as business law. He is Sanyo's representative in San Diego, and he is fluent in Portuguese, Spanish, and English, besides Japanese. As such, he was the ideal person to start Sanyo's maquiladora venture in Mexico.

Yasuo Sasaki, Sanyo Corporation, San Diego and Tijuana

My situation here, I would say, is very unique in the sense that here we are talking about a Japanese corporation located in San Diego, with its manufacturing operation down in Tijuana. It is also unusual for a Japanese to be speaking here. I guess you might wonder why a Japanese corporation is in San Diego or in Tijuana. What is the secret? There is no secret. We are not hiding anything. It just happened that way.

I do not know how many of you will agree if I state that Japan basically is a country of maquiladoras. Japan has always been, in my opinion, a country of maquiladoras. Japan still imports all sorts of raw materials from overseas to process there and then export finished products.

Let me give you 3.n example. All of you know that Japanese industry imports crude oil from Mexico and scrap metals from the United States. These are processed into automobiles to export the United States. In this sense, Japan is a country of maquiladoras. This contrasts with U.S. industries which probably import finished products from overseas. If it proves to be more profitable, instead of manufacturing in the United States, they would probably choose to close their manufacturing operations in the United States and import finished products from overseas.

Japanese industry basically cannot afford that luxury. Japanese industry has no alternative. They have to continue producing a larger volume, at lower cost, and at better quality, in order to stay a little bit ahead of the competition. They cannot afford to do anything else; it is a matter of survival. This, then, basically is the difference between an American industry and a Japanese industry. Although it could be said that this is a difference of philosophy, I would say that this is a difference of necessity.

Mexico is a very, very rich country, in terms of natural resources. Mexico has everything that the Japanese do not have. Mexico, as I mentioned earlier, has crude oil and has good quality labor at a very reasonable cost. However, the biggest asset that Mexico has is not its natural resources. Nor is it the cheap and inexpensive labor. From my point of view, Mexico's biggest asset is its neighbor, the United States, which is the richest country in the world and the biggest marketplace in the world. Mexico has it. We Japanese do not have that.

In initiating our operation in Mexico and Tijuana, we have experienced a lot of difficulties. The number one difficulty, of course, apart from the language barrier, is cultural differences. Everything in Mexico is so different as compared to Japan. Everything in Mexico is so different as compared to the United States. We have learned a lot and are still in the process of learning.

There are a couple of things that we have learned in Mexico. Number one is the fact that the only asset that you have in an operation overseas is people. If you have the right people, who can support you, who can guide you, that is all you need in a foreign country. These people should be inside your company and also outside of the company.

People sometimes ask me, Sasaki, do you have any problem in working in Mexico with Mexicans? Do you have any problem in working with Mexicans? I would say, yes. I have problems every day, and if you don't have a problem every day, you are not in business. But this is true not because you are in Mexico. If you are in the United States, you have the same problems. If you are in Japan, you will have the same thing; you will have a problem with Japan and with the Japanese.

After three and one-half years in Tijuana, people sometimes ask me about the differences among the three countries I am involved with--Japan, the United States, and Mexico, That is a very difficult question, but the way I answer, this question is as follows.

Although I don't know much about the United States, I feel that in order to carry out business if you have 90 percent of know how, the remaining 10 percent can be human relations, or know who. So 90 percent is know how and 10 percent is know who.

It is very similar in Mexico. The only problem is that in Mexico it is the other way around, You have to have 90 percent of know who, and probably only 10 percent of know how.

In Japan, the situation is still different, because the Japanese want 90 percent know how, but also they ask for 90 percent know who.

Louv: Molly Shields is Assistant Commercial Attaché for the U.S. Department of Commerce at the U.S. Embassy in Mexico City. Her professional career includes 10 years with the Mitre Corporation in the area of international marketing, and she has been at the U.S. Embassy in Mexico City for two years. There she deals with all light industry areas and foreign investment. She spends much of her time working with different aspects of the maquiladora industry.

Molly Shields, Assistant Commercial Attaché, U.S. Embassy, Mexico City.

I live in Mexico City and I travel around Mexico fairly frequently. Coming to the border is always a delight because the border has basically been insulated from the economic problems of the rest of Mexico. Today, I am going to talk about U.S.-Mexican relations, primarily commercial and trade relations, and also about how the U.S. government views the maquila industry. Also, since there is no one here from the Mexican government, I am going to presume to say how the Mexican government views the maquila industry.

Frequently, the relationship of Mexico and the U.S. is compared to an old bad marriage. They are never going to get divorced, but they are never going to get along. And that has certainly been true for a long time, but it is not true today. Our relations are

probably better today than they have been in decades. That is especially true commercially, but it is also true politically. We have the problem of Mexico's view of Central America and its neutralist voting record in the U.N. However, those issues have not been allowed to affect the smooth working of the rest of our relationship.

In the past year Mexico and the U.S. signed what is called the Subsidies Agreement, in which Mexico agreed to phase out export subsidies in exchange for receiving the injury test for Mexican products entering the U.S. in countervailing duty suits. Last summer, in July, the Mexican government began a series of liberalizations of the Mexican market, and most significantly, reduced trade barriers by removing the import permit requirement from 7,000 items of the total 8,000 items on the import list.

The Mexican government announced recently its decision to move forward with GATT negotiations. At the same time we are beginning negotiations now for a commercial and trade treaty. These two, the GATT accession and a bilateral trade agreement, are both very, very important for Mexico and the U.S. We are important trading partners. Sixty percent of all of Mexico's international commerce is with the U.S., so when you talk about international trade in Mexico, everyone automatically thinks about the U.S.

To date, we have no formal or legal structure or framework in which this trade relationship is conducted. And it is very important to the U.S. because we want to give Mexico special status, and we have to really struggle to do so today. Mexico needs to protect its access to the U.S. market, the most important market in the world for Mexico.

We are also starting discussions on the opening of Mexico's investment climate to foreign investment and better protection of intellectual property rights in Mexico. Much progress has been made in rescheduling the debt. The Baker Plan has been announced and, of course, Mexico is probably the key country involved.

Here, I want to venture a personal opinion. With the declining oil prices, I think that you will not see Mexico's economy go down the drain. I think that the debt will be further rescheduled. There will be more negotiations in terms of extending and lengthening the repayment period, instead of 4 billion dollars of new fresh money coming into Mexico this year.-, I think you'll see a significant increase in that.

I also think that it is very important that our two presidents are very good friends. I was in Mexicali for the presidential meeting in January, and the question that was always asked there is, why aren't the two governments going to sign a formal agreement? And the answer is that there have been no thorny issues that we

have had to resolve. The discussions this year were part of on-going discussions between our two nations, and there is an agenda, and we are moving forward with this agenda.

Within the U.S.-Mexican commercial relationship the in-bond industry has truly been the high point. It has been a real success story. It works efficiently in the interest of our two countries.

I would now like to talk for a brief moment about Washington's view of the in-bond industry. In Washington, there is no bureaucratic organization specifically focused on the in-bond industry. No bureaucrat goes to work every morning and says, "Well, today I have to regulate the in-bond industry," or "I have to track figures on the in-bond industry." Likewise, in Congress, there is no committee that worries specifically about the industry. The industry has been in both disfavor and favor in Washington, depending on the current mood of the Congress. The AFL-CIO has lobbied over the years to get rid of 806-807, but currently the Congress is very supportive of the industry, so is the U.S. government.

This support can be seen in the case of the recent trucking legislation. This past year the U.S. Congress passed a law in which it wanted to obtain reciprocity for U.S. trucks, enabling them to have access to Mexico. The legislation basically closed the border to Mexican

108

trucking. Because it would have so dramatically affected the maquila industry, the maquila industry mobilized, lobbied Washington, and the law has been implemented to the benefit of the industry. That is, it has not been implemented as it was intended, which is in everyone's interest.

Also, there is a growing understanding of what the industry is and what it does for the U.S. A lot of this has come out of academia and a lot of it has come out of lobbying organizations in Washington. There are indications, for example, that in 1984 there were 165,000 direct jobs in the U.S. as a result of the 200,000 maquiladora jobs on the Mexican side of the border. In addition, significant business and commerce in the U.S. was a result of the maquila industry.

It is estimated that there is a per year, per worker savings of about \$15,000 to \$20,000 for U.S. companies with maquiladoras in Mexico. The Mexican in-bond industry is heavily concentrated in the automotive and electronics sectors and these are areas in which the U.S. has really had to move in order to remain competitive, both internationally and to protect their share of the U.S. market.

The industry, then, has not been a net loser of jobs as far as the U.S. is concerned. In fact, it has created jobs in the U.S., and most of those jobs are in the more highly skilled and more high-tech areas.

In Mexico, most of the parts and components that come into the industry are from the U.S. There is U.S. control and U.S. management over what goes on in the industry. And Mexico is, of course, the largest in-bond supplier to the United States.

The Mexican government is much more involved in the in-bond industry than is the U.S. government. However, Mexico is not as involved in the maquiladora industry as it is in other areas of the economy. The Mexican government is the erector of the economy, and it is intimately involved in the economy as a buyer, being responsible for more than 60 percent of all acquisition in Mexico. The Mexican government is not only more aware of the industry, but it is also more concerned about the issues involved.

Today the important issues of the maquiladora industry have been discussed. These include the border concentration, the lack of ties to the domestic economy and the question surrounding female labor along with its concomitant social changes. Also there is the issue of technology transfer, whether it is in deed taking place, and the problem of infrastructure demands that are required up here along the border.

The Mexican government is very sanguine about the fact that the industry is the second major provider of foreign exchange in Mexico today. This realization will become even more important with the declining oil

prices. The border area has not suffered like the rest of the economy, a fact that has not been lost on the Mexican government. The industry is also creating employment at a time when the domestic economy is not able to create enough employment simply to meet the number of new workers coming into the workplace every year.

One area of the industry that generally is not well understood is the level of investment. At the U.S. Embassy in Mexico City we estimate that foreign maquiladora investment is around \$2 billion. Total foreign investment in Mexico is around \$8 billion, which makes the in-bond industry tremendously important as a source of foreign investment. Moreover, we estimate that the rate of investment in the in-bond industry in Mexico is about 40 percent of the rate of all foreign investment coming into Mexico.

This is a significant figure and the Mexican government is trying to facilitate maquiladora investment in several ways. The government is now actively trying to streamline the bureaucratic process for establishing in-bond plants. Believe me, foreign investment in the in-bond industry is just a dream compared to making a foreign investment in other sectors of the Mexican economy.

The Mexican government is also trying to provide better infrastructural support to the border. The

importance of the border area was recently underlined with the issuance by President De la Madrid of the Northern Border Development Plan. Of course, infrastructure support has to be seen within the context of resource constraints in Mexico.

Mexican banks are now providing both peso and dollar financing to industrial park developers and others in the industry, particularly to attract Mexican capital. SECOFIN is now taking over the promotion of the industry and Mexican states are getting heavily involved in promoting the industry within their own areas.

Despite recent official interest, the lack of intense Mexican government involvement in the maquiladora industry has largely been the secret to its success. What happened in the mid-1960s was that the framework was set up in which an industry could flourish, and the government backed off. It has fine-tuned its policy in response to industry demands, but it has not been involved to the extent of interaction in other sectors of the economy.

I am going to close by making several predictions in terms of U.S. and Mexican government policy. I do not think we will see any major departures in policy. The U.S. should have no policy changes although perhaps the U.S. government will respond to Mexico's request to exempt from the quota textiles of U.S. origin that have been put together in Mexico.

In terms of Mexico, we will see problems of economic support in times of scarcity, although there will be an effort to provide better infrastructure. Efforts will be made to tie the industry better into the domestic economy with an incentive package. Frankly, I do not think that the incentive package is going to do much. However, with the liberalization of the domestic economy, the removal of protectionist policies, and more competitive national industry, there will be economic and business reasons for maquiladoras to do more local sourcing.

Also, there will be continued encouragement to move the industry inward and inland. This movement will come about not as a result of incentives, but with the resolution of transportation and communications problems, and with the saturation of the border labor markets.

In sum the maquiladora industry will continue to be the success story of our relationship.

Louv: Dr. Joseph Nalven is a cultural anthropologist and the Associate Director of the Institute for Regional Studies of the Californias. He has done many local studies on the issues of undocumented workers.

Joseph Nalven, Associate Director, Institute for Regional Studies of the Californias.

You are probably familiar with studies by anthropologists of exotic places. I assure you San Diego-Tijuana is very exotic.

Some of my studies have focused on the development of the border region. I have titled one paper "Prophets of Boom, Prophets of Doom," ("Prophets of Boom, Prophets of Doom: The Future of Border Industrial Development in the San Diego-Tijuana Region," in Campo Libre II Winter-Summer 1984, 1-2:153-187, California State University, Los Angeles). As you have already heard the boom part from the other panelists, I will provide a counterbalance and provide some words of caution, and not based on the same myths that Howard Boysen had in mind. I will look at two issues in particular. First, the question of our divided community.

We have two different sets of standards driving the motors of development on the San Diego and Tijuana side, which also raises questions about the workforce and the preferences that employers have for the most productive worker. I would like to make some comments about what this means for the San Diego area in the year 2000.

The San Diego Union did an excellent series, about six months ago on the year 2000. However, the segment on the border underplayed the dynamics of the border

region. Many of the issues we have discussed today should have been in that series.

First on the question of regional development. In 1983, the Commission of the Californias had a meeting in Tijuana and spoke in glowing terms of economic development in the region. When it came time to talk about environmental questions, specifically about the Tijuana sewage issue, they decided to pass. We have a similar question before us as we talk about economic development in this region. In San Diego, environmental impact studies are required for new construction projects. Earlier, mention was made of an industrial intersecretarial commission being held in Tijuana. As I understand the make-up of that commission, Mexico's counterpart to our EPA (SEDUE) is not a member. This omission points to a different emphasis on where the environmental perspective belongs in terms of development. The same concern was raised in a U.S. Embassy Ai.-gram (A-50, July 25, 1983), which spoke of industrial solvents in Tijuana maquiladoras going directly into the sewage system. That does not happen as much on the U.S. side because we have regulations and systems for industrial pre-treatment. Those same standards do not exist on the Mexican side. The issue is not to point the finger and blame Mexico, but rather to acknowledge that we have two different equations on how economic development ought to be implemented.

border? This is a question I have for Mr. Sasaki, and other Japanese businessmen looking at American and Mexican mentalities about the preferred worker. Do they find themselves pulled in the same way that either of us look at workers, or do they have separate criteria?

I would like to read to you and close on this statement. This excerpt was from an interview with a Kearney Mesa assembly plant executive officer. He distrusted working in Mexico, and probably could have learned from the myths that Howard spoke of. His preference was to have an open border. This is his scenario:

I am in favor of an open border for selecting one's place of employment, and together with the open border, we should eliminate the minimum wage. (He meant on the U.S. side.) We would be a lot better off by removing the artificial line on the paper and the worker would get what he is worth on the open market. American workers should be paid worldwide rates. We shouldn't be protecting our low skill people here from low rates that are being paid down in Mexico. Some will be hurt by removing these protections, but others, I think, will realize when they are exposed to the harshness of things, they will have to work, and they will benefit from that.

Clearly the bottom 'line in business is not social service. Yet, we have a framework for labor force standards and community standards that should be taken into consideration. How does that fit into the development of the maquiladora industry? It is not a question of retarding the industry's growth, but of how these elements should work together. I would like to see these questions addressed presently, so that they do not come back to haunt us down the road.

i I

THE MAQUILADORA IN TRI-NATIONAL PERSPECTIVE:
CONCLUDING REMARKS

Richard Louv

To conclude this gathering, I would like to say that two common themes seem to come through all of these addresses. One is that economic change involving several countries is happening right now. The second one is more difficult to pin down because there is no bottom line to it. It is related to cultural understanding, as Joe Grunwald pointed out, the concerns of unintended consequences, the unintended social consequences of either business or government activities.

Slowly San Diego and Tijuana are becoming 21st century cities. We are probably not as far along in that as we think we are. To the south is Mexico and the rest of Latin America. To the east are the Pacific Rim nations of Asia. One would think we would be making a lot more dollars out of that than we actually are. One international trade expert told me that San Diego is a sleepy mid-western city plunked down on the Pacific Coast, it does not fully realize its potential, especially with Latin America. Sometimes we cannot see the forest for the trees. According to one scenario, the Pacific Rim nations, Japan, South Korea, and other Asian nations have just about fulfilled their economic potential, at least for us. Latin America will be the world's boom region of the 21st century.

That, of course, assumes that we won't have catastrophic acts of God or of politicians.

Today, however, San Diego does about as much trade with Latin America in dollars and cents, as does Kansas City, Missouri. Now, there are some geographic reasons for that. Part of the reason is that San Diego is not as close to Mexico as we think. Kansas City is actually closer to Mexico City than truck routes and the train routes. San Diego is, given the 11 Miami might as well be in Latin America. Nonetheless, San Diego has potential strengths unlike, for instance, Texas, which is closer to Mexico City, or certainly Kansas City. We have potential strengths here that cannot be measured in miles. For one thing, San Diego is the nation's leading model, really, of Hispanic Integration. We have our problems, but compared to Texas or Los Angeles, we have very little cultural friction. The Hispanic influence as well as the Asian influence here are going to be more important in the long run than accessibility to train routes, because we will have a lot more people here fluent in Spanish, unlike myself, and people who are culturally sensitive.

Those people, and many of them are here today in the audience, are going to contribute to increased cultural and business ties with Latin America and not just with Mexico. With those ties will come business. Such cultural ties cannot be underestimated, assuming the U.S. economy really is to become international. In a sense, San Diego is being forced cultural

and linguistic awareness, Slowly, quietly, the city is getting ready for the international economy.

Now, one aspect that I do not think has been addressed much here is immigration policy. I do not necessarily accept Dr. Grunwald's answer to my question on that. I think in the coming months and perhaps years, as we move toward a new immigration policy, that you might see some unintended consequences coming from such things as employer sanctions. The maquiladora program was given birth because of the death of the bracero program. We now have an informal bracero program, an underground bracero program, and if that were to come to an end, there might be some interesting consequences in Tijuana and all along the border, both for Mexico and for ourselves.

SEMINAR PARTICIPANTS

Howard C. Boysen is a graduate of Arizona State University, was a commissioned officer in the United States Army, is married and has three children. His experience includes being a process engineer for

Motorola Semiconductors from 1960-1964, a supervising engineer for Fairchild Semiconductors in Mountain View, California from 1964 to 1968, then department manager, operations manager, vice president of operations, and president of IMEC Corporation from 1968 to the present.

Over the years Mr. Boysen has become a recognized spokesman on the benefits of maquiladora operations in Mexico. He has traveled extensively in Asia, Latin America, and Europe. In the past he has addressed various meetings of the U.S. and Mexican Chamber of Commerce, the Mid-America Committee, members of the U.S. Congress, and has appeared on the special program on "Border Business" broadcast by the McNeil-Lehrer Report on PBS. Recently he was a part of a U.S. delegation to Costa Rica to evaluate maquiladora opportunities in that country.

Paul Ganster is Director of San Diego State's Institute for Regional Studies of the Californias. His previous

experience includes a faculty appointment at Utah State University, service as Coordinator of Mexico Programs at UCLA, Visiting Professor at the Universidad de las Americas in Puebla, Mexico, and Fulbright Lecturer at the Universidad de Costa Rica in San Jose, Costa Rica. He holds a Ph.D. from UCLA in Latin American history.

Ganster is Vice President of the Association of Borderlands Scholars, Vice President of the Comision Internacional de Historiadores Latinoamericanistas, Executive Secretary of the Conference on Latin American History, and a board member of PROFMEX--the Consortium of U.S. Research Program for Mexico. He was Founding Editor of the U.C. Mexus News and is Editor of the PROFMEX Mexico Policy News.

Gangster's research areas are Latin American social history and border policy studies. He is Editor of Desarrollo en la frontera México-Estados Unidos: medioambiente, problemas y politicas (México, D.F.: SEP, forthcoming) and Co-Editor, with Hartmut Walter, of Environmental Hazards and Bioresource Problems of the United States-Mexico Borderlands (Los Angeles, UCLA Latin American Center, forthcoming).

Joseph Grunwald was a Senior Fellow at the Brookings Institute for many years before being elected President of the Institute of the Americas in 1984. In 1963 he organized, and then coordinated for more than a decade,

a joint research program on Latin American economic development (ECIEL) in which about 50 institutions from Latin America have participated. A Ph.D. from Columbia University, he has taught at several universities. Before joining Brookings he was professor at Yale University (1961-1963), and the University of Chile where he reorganized and directed Its Institute of Economics (1954-1961). He served as chairman of the Joint Committee on Latin American Studies of the Social Science Research Council and the American Council of Learned Societies (19~55-1973)., was a member of the executive committee of the Council for the International Exchange of Scholars, President of the Latin American Studies Association, and served as Deputy Assistant Secretary of State for Inter-American Affairs (1967-1977). His writings have concentrated on Latin American economic development.

Ricard Louv is a nationally syndicated columnist with The San Diego Union and Copley News Service. He is the author of America II, which John Naisbitt, author of Megatrends, called "the best description thus far of what will be on America's social agenda for the balance of the 1980s.11

Mr. Louv has written a series for The San Diego Union called "Southwind," one of the first serious looks at the complexities of immigration by a major daily

newspaper. He continues to write about immigration in his column, and may be writing a book on this subject in the future.

Perhaps most important of all, Richard Louv is married to Kathy Frederick Louv, and is the father of a four-year-old boy growing up in America II.

Enrique Mier y Terán has been living in Tijuana since 1954 and in 1959 he founded the first in-bond company in Tijuana, and most probably in all Mexico. Later, he set up the first semiconductor in-bond plant for Fairchild Semiconductors. Since then, he has founded several plants and acted as consultant for others. He started Plamex, S.A. in 1971, an in-bond company, subsidiary of Plantronics, Inc., that produces telecommunications and computer equipment, which it also sells in other parts of Latin America. He is now Chairman of the Board of Plamex. He is President of Latintel, S.A., which manufactures computer accessories, and also President of two real estate companies that own industrial buildings. He also acts as private consultant, mostly for installation and development of in-bond companies in the country.

Joseph Nalven, Associate Director for the Institute for Regional Studies of the Californias, received his training in cultural anthropology at the University of

California, San Diego. He has held a Rockefeller Postdoctoral Fellowship In Environmental Affairs, studying the binational policy and planning context concerning transnational air pollution in the San Diego-Tijuana air shed. Dr. Nalven has also worked as a legislative assistant for the City of San Diego and held the position of senior researcher at Community Research Associates, Inc. Among the projects he has directed are a study of the economic impact of undocumented immigrants on the County of San Diego, a study of employers of undocumented Immigrants In the agriculture, restaurant, and electronics industry, and a study of the perception of energy conservation among the low-income ethnic minority population of San Diego for San Diego Gas and Electric.

Yasuo Sasaki was born in Brazil and received a Bachelor's of Law degree from Hosei University in Tokyo. His studies included a concentration In business administration and business law. He has been working for one or another of Sanyo Electric Trading's affiliates or subsidiaries since 1963. During this period he has been given increasingly responsible positions, mostly In the area of marketing or sales management. He has been posted at the company's main office in Osaka, Japan, in the Tokyo office, in several countries in Latin America, in Sanyo Electric's office

in New Jersey, in Sanyo E & E Corporation in San Diego, and finally with Sanyo Industries (America) Corporation right here in San Diego. Because of his knowledge of Sanyo's overseas business practices and sales techniques and his deep involvement with all phases and aspects of Sanyo's Latin American sales, coupled with his fluency in several languages (Portuguese, Spanish, English, and Japanese) he was the ideal person to start Sanyo's maquiladora venture in Mexico. As such, Mr. Sasaki was involved from the beginning, as Executive Vice President of both Sanyo Industries (America) Corp., the parent company, and Sanmex S.A. de C.V., the Mexican company, in starting this operation from the ground up. In the three years since Sanmex started manufacturing, facilities and production have more than doubled.

Mollie Shields is Assistant Commercial Attaché for the U.S. Department of Commerce at the U.S. Embassy in Mexico City. Her education includes an A.B. degree from George Washington University, an M.A. in public administration and political science from the University of Oklahoma,, and additional graduate study at Oxford University.

Ms. Shields' professional career includes ten years with the Mitre Corporation in the area of international marketing and service with the U.S. Department of State

as staff officer for U.S. military bases treaty negotiations in Spain.

She has been at 'the U.S. Embassy in Mexico City for two years. There she deals with all light industry areas and with foreign investment. Ms. Shields spends much of her time working with different aspects of the maquiladora industry.