NEW PERSPECTIVES ON MOCHE POLITICAL ORGANIZATION

Dumbarton Oaks Pre-Columbian Symposia and Colloquia

NEW PERSPECTIVES ON MOCHE POLITICAL ORGANIZATION

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Dumbarton Oaks Research Library and Collection | Washington, D.C.

Printed in the United States of America

14 13 12 11 10 1 2 3 4 5

Library of Congress Cataloging-in-Publication Data

New perspectives on Moche political organization / Jeffrey Quilter and
Luis Jaime Castillo B., editors. — 1st ed.
p. cm.
Includes bibliographical references and index.
ISBN 978-0-88402-362-3 (hardcover : alk. paper)
1. Mochica Indians—Politics and government.
2. Mochica Indians—Social conditions. 3. Mochica Indians—Religion.
4. Mochica Indians—Antiquities. 5. Peru—Politics and government—To 1548.
6. Peru—Social conditions. 7. Peru—Antiquities. 8. Social archaeology—Peru.
9. Power (Social sciences)—Peru—History—To 1500.
10. Religion and politics—Peru—History—To 1500.
I. Quilter, Jeffrey, 1949– II. Castillo B., Luis Jaime.
f3430.1.m6n49 2010
985'.01—dc22 2009037790

Cover illustrations (front): Well-dressed Moche captive; courtesy of the Ethnologisches
Museum, Staatliche Museen zu Berlin, Preussischer Kulturbesitz (VA 17807).
Warriors defeating their opponents; drawing by Donna McClelland.

Copyedited, designed, and typeset by Princeton Editorial Associates, Inc., Scottsdale, Arizona

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Foreword

At the beginning of the present century, planning for a new research library at Dumbarton Oaks began in earnest. Long considered a pressing need, the library, accommodated at that time in the Main House of Dumbarton Oaks, was quickly outgrowing the space available. The creation of the new library, in turn, meant renovations to the Main House would be needed. Facing the closure of spaces normally used for our scholarly meetings, Jeffrey Quilter, then director of Pre-Columbian Studies at Dumbarton Oaks, saw this as a fine opportunity to organize our symposia in collaboration with our sister institutions in Latin America.

The first "off-site" gathering was held in Lima, Peru, in 2004. It was organized by Jeffrey Quilter, now at the Peabody Museum at Harvard University, Luis Jaime Castillo of the Pontificia Universidad Católica del Perú, and Andrés Álvarez Calderón of the Museo Arqueológico Rafael Larco Herrera. For their topic they chose the subject of Moche political organization. It was a timely selection. The Moche culture, which flourished on the North Coast of Peru in the first eight centuries of the Common Era, has become one of the best known of the Pre-Hispanic cultures of the Americas, thanks in part to the boom in archaeological research following the discovery of the royal tombs of Sipán in 1987. Despite the wealth of new research projects in the region—or perhaps *because* of the great number of them—no consensus had been achieved regarding the nature of Moche political and social organization. Some scholars viewed the Moche as a monolithic state, others saw a clear distinction between a Northern and Southern Moche polity, and yet others argued that the most appropriate model is one that posits that each valley contained an independent polity. The Lima symposium was an opportunity to debate these competing models and to present new data and new perspectives on this most spectacular of the pre-Inca cultures of the Andes.

We at Dumbarton Oaks remain indebted to Jeffrey Quilter, Luis Jaime Castillo, and Andrés Álvarez Calderón for their efforts in organizing this event. It is a particular pleasure for Dumbarton Oaks to have collaborated with the Pontificia Universidad Católica del Perú and the Museo Arqueológico Rafael Larco Herrera on

this symposium on Moche political organization, as both institutions have a long and distinguished history in the field of Moche studies. I express our profound gratitude to doña Isabel Larco de Álvarez Calderón, president of the Museo Arqueológico Rafael Larco Herrera, and Andrés Álvarez Calderón, director of the Museo Arqueológico Rafael Larco Herrera, for their generous support in hosting the symposium in the beautiful surroundings of the Museo. We are equally indebted to Luis Jaime Castillo, director of the Office of International Relations and Cooperation of the Pontificia Universidad Católica del Perú; Salomón Lerner Febres, then rector of the university; and Luis Guzmán Barrón, then provost and now rector of the university, for their support in hosting this gathering, part of which was held on their gracious campus. I am grateful to the talented and hard-working staffs of both institutions, as well as the other Dumbarton Oaks staff members who assisted both before and during the events, including Juan Antonio Murro, Bridget Gazzo, and Kristy Keyes Wolford.

This volume is the fruit of the felicitous collaboration in Lima. In addition to the thirteen papers by Moche specialists, the organizers also invited two scholars from outside the field to contribute their perspectives to the research questions at hand. Linda Manzanilla, of the Universidad Nacional Autónoma de México, presented a thought-provoking commentary in Lima, but her paper was not available for publication in the present volume. William L. Fash, of Harvard University, concluded the symposium and the present volume with a stimulating consideration of the central research questions within the broader framework of Americanist archaeology.

Volumes of this complexity rarely come about without the help of many individuals. I thank the volume editors, Jeffrey Quilter and Luis Jaime Castillo, for their contributions in shaping this volume and their many hours devoted to seeing it through to completion. I also thank the contributors to this volume for their willingness to present new data and debate the central issues, and for their patience during the production phases of the volume. Two anonymous reviewers provided detailed and insightful comments, and I remain indebted to them for their very thoughtful work. I also acknowledge the support of Jan Ziolkowski, the director of Dumbarton Oaks, and Marlene Chazan, director of financial operations at Dumbarton Oaks. Lisa Trever, a Harvard graduate student in Moche studies, was pivotal in the final editorial stages of this volume. Her exceptional work on this volume, both in Peru and in the United States, was essential to its completion. To her we offer our heartfelt thanks for her insights and very hard work. In addition, I acknowledge the contributions of Miriam Doutriaux, Henry Luis Gayoso Rullier, Emily Gulick, Michele Koons, and Carlos Rengifo Chunga, individuals who assisted at several stages of the editorial process. The production of this volume has been overseen by Kathy Sparkes, the publications manager of Dumbarton Oaks, Sara Taylor, art and archaeology editor at Dumbarton Oaks, and Peter Strupp of Princeton Editorial Associates. I am grateful for their fine help in seeing this volume into print.

Jeffrey Quilter and Luis Jaime Castillo dedicated this volume to two outstanding scholars, Elizabeth P. Benson and Christopher B. Donnan. It is a pleasure to

join them in honoring these two, as so much of the recent florescence of this field is due to their pioneering work. Their careful studies over the course of some 40 years, filled with great insights and ideas, and always published thoroughly and in a timely fashion, quite simply transformed the field. Both, too, have contributed greatly to the development of the Pre-Columbian Program at Dumbarton Oaks, Betty most fundamentally as the first curator of the collection and the organizer and editor of the first scholarly volumes, and Chris as a member of the board of senior fellows for many years. They have both continued to enliven the intellectual life of this institution, and we remain indebted to them for their exceptional contributions to Dumbarton Oaks and the field at large.

Joanne Pillsbury
Director of Studies,
Pre-Columbian Program
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Preface and Acknowledgments

The Moche of northern Peru is one of the best known and most intensely studied archaeological cultures of the ancient New World.[1] The general public is attracted to Moche because of its representational art style as displayed in the world's major museums and the novelty of discoveries constantly occurring at Moche sites. The New World's wealthiest gold tombs, discovered at Sipán, and a traveling mid-1990s exhibition that displayed many of the finds impressed many beyond the relatively small number of Moche specialists. Subsequent discoveries of high status tombs, polychrome friezes and murals, and striking ceramic and metal artifacts uncovered at temple mounds (huacas) have continued to stimulate interest in the Moche.

For archaeologists and other scholars, Moche is of great interest because it represents a high degree of social complexity with a rich and remarkable archaeological record of sites and artifacts. The details of political and social formations of earlier times (Initial Period and Chavín) are uncertain, and in deep antiquity many of the building blocks of the culture's sociopolitical complexity were still being formed. By a century either side of the BCE/CE divide, however, the principal domesticated plants and animals and the technologies that would remain crucial for later peoples (particularly irrigation and metallurgy) were firmly in place in the Central Andes. It is then that Moche, as a cultural phenomenon, emerged on the North Coast of Peru, eventually spreading several hundred kilometers from the region around Piura, in the north, to at least the Nepeña Valley in the south. Although claims for the emergence of the state in Peru have been made for earlier eras (e.g., Haas et al. 1987; Haas and Creamer 2006; Shady 1997, 2004), the Moche of the Early Intermediate Period have been considered by many scholars, for some time, to have been organized at this level of sociopolitical complexity. Regardless of whether a particular scholar subscribes to the Moche as one or more states, the critical importance of this phenomenon is that it was "complex enough" to offer us the opportunity to ask questions regarding how Moche sociopolitical systems worked.

Today there is a dynamism in Moche studies that is the result of more than a century of research, with hundreds of sites recorded and studied, collections registered

in museums around the world, and a body of literature that is challenging for any student attempting to enter the field. This long-standing research tradition has been combined in the past 20 years with a true renascence stemming from excavations at sites such as Sipán, Huaca de la Luna, and Huaca Cao Viejo. Indeed, although we have not performed a head count, we believe that the scholars actively engaged in Moche studies today comprise one of the largest research communities in Latin American archaeology.

Because of the plethora of new research, we believed that the time was ripe in 2004 for an assessment of Moche studies. Furthermore, with fine-grained studies well under way in a number of North Coast valleys, we felt that a focus on political organization was particularly apt for a Dumbarton Oaks symposium. It seemed to us that some of the most important breakthroughs in Moche research have resulted from attempting to advance understandings of political systems and that this topic is of great interest to many beyond "Mochicólogos" or even Andeanists.

In brief, Moche studies have proceeded from an early phase in which the nature of politics, whether institutional or more generally, was not discussed or clearly articulated. As scholarship continued, a single-state model came to dominate most views, although some scholars continued to see power more locally based. Lately, our vision of the Moche has been shaped by new geopolitical perspectives: the Moche realm was first perceived as divided into two large regions, North and South (Castillo and Donnan 1994a; Shimada 1994a), and subsequently some scholars have suggested that it consisted of smaller political entities in specific valleys or even portions thereof (Castillo this volume; Castillo and Uceda 2008).

To discuss political organization we must first define our terms. "Politics" is generally defined as the means by which power is distributed, held, and used in a particular society. "Power" may be considered as energy potential—the energy itself, whether as inherent in surplus labor or access to materials necessary to sustain life or create luxury items—and the ability to have access to or direct such energy to one end or another. Given this definition, it is difficult to discuss politics without discussing economics, and so the concept of political economy might be the real core issue regarding questions of the ancient Moche.

The use of the term "political organization" attempts to reduce the number of issues that have to be addressed in this discussion, and it tends to isolate the systems and the structure by which political economies operate in a specific society. For many scholars, "politics" means "government," but formal governmental institutions may be lacking or, if present, extremely difficult to identify archaeologically.

As scholars, our own thoughts regarding such issues have evolved even during the time between the conference and the final steps in producing this book. The book captures a snapshot of a fast-changing field both in terms of the data with which scholars work and the theories by which they interpret such data. In the chapters in this volume the reader will find not only new perspectives but also varying ones ranging from views that equate the Moche style of artifacts and architecture with a political institution to those in which the relationship is much less clear.

In other words, this book does not present a definitive, consensual view of Moche politics but rather various interpretations based on different assumptions about the relations among artifacts, behavior, and beliefs.

Whatever Moche culture was, it does seem clear, however, that leadership, organization, regularization, and control were activities that occurred through the use of a distinctive set of artifacts, architecture, and created landscapes. There was a community of people within a defined spatiotemporal framework that engaged in practices which left their traces in what we call "Moche." How and why these practices were done are the issues that make up the current state of the study of Moche politics. We can see patterns much more clearly, now, than a decade or two in the past, such as insights gained in the Jequetepeque Valley on the influence of Wari (the powerful highland culture that exerted a wide influence over much of Peru) in the waning days of the Moche style—a kind of geopolitics. Much more remains, however, to be done regarding the relationship of Moche as an art style and related religious cult with issues of politics. The symposium and this book have provided the opportunity to take stock of decades of research and to establish baselines for future studies.

We chose the title of the symposium and this book, *New Perspectives on Moche Political Organization,* deliberately as a reference to the 1968 volume edited by Lewis Binford and Sally Binford, which launched a new era in archaeology in general. Although we do not claim that this volume will do the same for Moche studies as *New Perspectives in Archeology* did for archaeology, we hope that it will establish a benchmark of the state of the art as it was in the middle of the first decade of the twenty-first century. Additionally, with this volume we follow in the tradition of publishing comprehensive volumes on Moche studies as begun by Santiago Uceda and Elías Mujica (1994, 2003) and followed by Joanne Pillsbury (2001). Indeed, the pace of Moche studies is so rapid that the chapters in this volume may soon need revision. But for now, it serves as an indication of the direction of research at a particular time and place and as a summary of the tremendous investigative efforts that have transpired in the past two decades.

The trajectory of Moche studies in the past three decades has been greatly influenced by two leading scholars, Elizabeth P. Benson and Christopher B. Donnan. In more than a score of articles Benson has consistently presented new and insightful interpretations of Moche art and culture, exploring both major themes as well as tightly focused studies of art and society. Equally knowledgeable of Mesoamerican cultures, especially the Maya, Betty has brought an invaluable comparative perspective to Moche studies as well. Through her scholarship and publications, her maintenance of many friendships and professional links in Latin America, and her advocacy of Andean Studies while she was at Dumbarton Oaks and since then, she has been an outstanding contributor to Moche studies and much more. Indeed, her 1972 book, *The Mochica: A Culture of Peru,* should still be required reading for anyone beginning serious study of the subject.

In a similar vein, Chris Donnan has been essential to moving our understanding

of the ancient Moche from a generalized interpretation of a single cultural phenomenon to the more complex and nuanced understandings as represented by the chapters in this book. No aspect of Moche studies has escaped Chris's attention, whether it be the analysis of settlement systems, the excavation of archaeological sites, or iconographic interpretations. In all such endeavors he has made major contributions. His publications have been both prodigious and timely, and he, too, has forged links with younger scholars and across international boundaries with a consistent generosity of spirit in sharing his vast and deep knowledge of North Coast archaeology. Chris also played a key role at Dumbarton Oaks as a senior fellow from 1976 to 1984. As a curator as well as director of the Fowler Museum at the University of California, Los Angeles, he, like Betty Benson, demonstrated that Moche specialists excel at more than their special fields of study.

It was thus a special pleasure to hold the 2004 symposium with Betty Benson and Chris Donnan as honorees. It was an even greater pleasure that both scholars, still vigorously pursuing Moche studies and other interests, were able to contribute papers at the symposium and chapters for this book. We are very happy, indeed, that we can honor these senior scholars and yet still count on them as colleagues for many years to come.

We thank the many people who helped make the symposium and this book possible. In particular, we offer our indebtedness to doña Isabel Larco de Álvarez Calderón and Andrés Álvarez Calderón Larco, president and director of the Museo Arqueológico Rafael Larco Herrera, Lima. They both graciously supported the symposium by offering financial support and the use of the Museo Larco as an elegant setting in which to hold the meeting. The staff of that fine institution was of great support.

The members of the Dumbarton Oaks staff who traveled to Peru also helped make the meeting run smoothly, particularly, Juan Antonio Murro, assistant curator; Kristy Keyes (now Kristy Wolford), assistant to the director of Pre-Columbian Studies; and Bridget Gazzo, Pre-Columbian librarian. Since the meeting, new personnel at Dumbarton Oaks have been most helpful in developing this volume: Joanne Pillsbury, director of Pre-Columbian Studies; Kathleen Sparkes, director of Publications; and their staffs. Of those staff members, special thanks are offered to Jai Alterman and Emily Gulick, who each successively served as assistant to the director of Pre-Columbian Studies and who took care of many post-symposium activities essential to the production of this book.

The Pontificia Universidad Católica del Perú was the third institutional member sponsoring this event. We are thankful for the support from Salomón Lerner Febres, then rector, and Luis Guzmán Barrón, then provost and currently rector of the university. The personnel of the Dirección de Relaciones Internacionales y Cooperación, and the Oficina de Eventos at the Pontificia Universidad Católica del Perú were of great help, for which we express our gratitude.

This book would not have been published without the generous support and understanding of Jan M. Ziolkowski, director of Dumbarton Oaks, in the final

stages of preparing the manuscript for this book. We are extremely grateful to him for supporting this project to the end. In particular, he provided aid in the form of Lisa Trever, a graduate student in the Department of History of Art and Architecture at Harvard University. Lisa was tireless and brilliant in her editorial work, ranging from tracking down obscure references to consulting with authors, and everything in between. She was greatly helped by Carlos Rengifo Chunga, head of the San José de Moro Archaeological Project Laboratory at the Pontificia Universidad Católica del Perú, who provided essential contributions from the Peruvian side of this project. We thank them both with our deepest appreciation: the phrase "we couldn't have done this without you" was never more appropriate.

Finally, and for the record, we recognize an event that we hope will become a tradition in the context of large international research conferences. In the days that preceded the Moche Symposium, the three institutions joined efforts to organize a junior conference where more than 30 young scholars, mostly members of the larger Moche excavation programs, presented research papers focused on Moche studies. The results of this conference were edited by Luis Jaime Castillo, Hélène Bernier, Gregory Lockard, and Julio Rucabado and have been published by the Pontificia Universidad Católica del Perú (Castillo et al. 2008a).

Note

1 Most scholars use "Moche" and "Mochica" interchangeably to refer to the archaeological culture. The term "Moche" became popular with the Chan Chan–Moche Valley Project, which attempted to separate a linguistic and cultural reference, "Mochica," from the archaeological culture. "Moche" refers to the river valley of the same name and thus conforms to widely accepted methods of archaeological nomenclature. For a counterargument to return to the use of "Mochica" see Shimada (1994a: xiii–xiv).

CHAPTER 9

HOW MOCHE RULERS CAME TO POWER

Investigating the Emergence of the Moche Political Economy

BRIAN R. BILLMAN

Sometime between CE 200 and 400 a series of social transformations occurred that profoundly altered the lives of the people of the Moche Valley. Thousands of people left the sprawling urban center at Cerro Oreja, and a new urban center was founded at the site of Moche[1] just 7 km to the southwest. At that site, construction began on Huaca de la Luna and Huaca del Sol. The latter monument would eventually become the largest adobe structure ever constructed in the New World. These new monuments were radically different in form and function than antecedent monuments of the Gallinazo and Salinar phases in the Moche Valley. New forms of public rituals were performed at the monuments that involved human sacrifice and the burial of certain individuals with unprecedented quantities of grave goods. Adjacent to Huaca de la Luna, craft specialists turned out vast quantities of ceramic goods for use in domestic and mortuary rituals. Beyond the site of Moche, a major expansion and reorganization of settlement occurred in the valley with the construction of large numbers of new settlements and monumental centers. Three long canals were constructed on the north side of the valley, opening several thousand hectares of irrigated land.

Collectively these transformations indicate a profound change in the relationships between rulers and the people of the valley. Unlike rulers in the Gallinazo and Salinar phases, Moche rulers were able to collect large quantities of goods and labor on a regular basis from commoner households, which they used to finance a broad range of political activities, including monumental construction, public rituals, craft production, land reclamation, and possibly even military actions. Through those activities, the social practices and beliefs of the people of the Moche Valley were dramatically altered. In essence, these transformations were manifestations of the emergence of a new regional political economy in which Moche rulers exercised significant economic, military, and ideological power over the population of the valley.

In this chapter, I examine the emergence of a regional political economy in the Moche Valley through the investigation of changes in monumental architecture, public rituals, mortuary practices, domestic rituals, and irrigation from the

start of the Gallinazo phase (ca. CE 1) to the zenith of Moche political power in the CE 600s and 700s. These investigations reveal some of the strategies that emergent rulers and commoners used to transform the political economy of the Moche Valley and to create the Southern Moche state.[2] Only by examining political formation at the household, community, and regional levels over the course of centuries can we understand the formation of the regional political economy of the Southern Moche state.

A Political Economic Approach to Reconstructing Moche Political Structure

One of the most controversial questions in Andean prehistory is the nature of Moche political organizations. Despite nearly a century of investigation by archaeologists and art historians, the number of Moche polities that existed on the North Coast of Peru in the Early Intermediate Period, the extent of each polity, and the political structure of Moche society continue to be debated (see, for example, Bawden 1996; Billman 2002; Castillo and Donnan 1994a; Schaedel 1985a; Shimada 1987, 1994a). Was the North Coast ruled by a single highly centralized state? Were there distinct Northern and Southern Moche states? Or was the region divided into many small autonomous polities that shared an elite iconography and ideology?

One approach to deciphering the structure of Moche political organizations is to focus on changes in the material manifestations of the political economy—the mobilization of goods and labor for political activities. All societies have some form of political economy, because all political organizations require finance and control. To maintain regional and local alliances, leaders in small autonomous villages mobilize foodstuffs, craft goods, and labor for feasts, inter-village exchange, and raiding (see, for example, Chagnon 1983; Meggit 1977; Oliver 1970; Redmond 1994). In chiefly societies, leaders collect tribute from households to finance political alliances, conduct war, and legitimize their authority through feasting, construction of monuments, regional exchange, and public rituals (see, for example, D'Altroy and Earle 1985; Earle 1978, 1987, 1997; Helms 1993; Junker 1994; Junker et al. 1994; Oberg 1940; Redmond 1994). Leaders of states impose taxes on labor and goods to finance public rituals, the maintenance of bureaucracies, military activities, diplomatic actions, and public works projects (see, for example, Billman 1999; D'Altroy 1992; D'Altroy and Earle 1985; Fried 1967; Hassig 1985; Luttwak 1976; Service 1975; Sidky 1996).

Rather than viewing a political organization—such as a political faction, political movement, chiefdom, state, or empire—as an organic whole, analogous to an organism, a political economic approach views such organizations as dynamic, complex networks of individuals and households, who have divergent motivations, life histories, and resources. At the core of every political organization are networks of asymmetric power relationships that hold together this dynamic web of individuals and households. Quite simply stated, centralized polities cannot exist unless

certain individuals wield power over other individuals. By political power, I mean the ability of one person to get others to do things through the threat or application of positive or negative sanctions (Adams 1975; Fried 1967; Haas 1982; Mann 1986; Weber 1947). The existence of asymmetric power relationships means that inevitably some people will choose to resist domination. Consequently, domination and resistance are fundamental to all histories of political formation. In the Andean world, resistance to political domination has been a common thread in the fabric of social life for thousands of years (see, for example, Rostworowski 1977, 1978, for the many strategies used by the Yunga of the central coast of Peru to resist Spanish control; for a contemporary view of resistance, see Isbell 1978).

Political power relationships are highly complex and involve the interplay of at least nine variables. As defined by Haas (1982), these variables are means, scope, amount, extension, power costs, compliance costs, refusal costs, gains, and power bases. Of particular importance to political economic relationships are power bases (Earle 1997; Haas 1982, 1987). For leaders, a power base consists of all the resources (economic, ideological, and military) that they can use to legitimate their authority and wield sanctions (Haas 1982, 1987). Sanctions, in turn, are used to change the behavior of other people, for instance, getting people to contribute to a political organization, whether it is a centralized polity, faction, or political movement.

Leaders rely on one or a combination of political power bases to develop and maintain networks of finance and control. For this chapter, networks are conceived of as a series of individuals, households, groups, or communities linked by the exchange of goods, labor, or information. These two types of networks—finance and control—are fundamental to the creation of a stable regional polity. Rulers are dependent on networks of asymmetric exchange relationships to mobilize goods for political purposes. For instance, a paramount ruler might have asymmetric exchange relationships with paramount rulers in adjacent polities, lower ranking rulers within his or her own polity, retainers, craft specialists, religious specialists, bureaucrats, and groups of commoner households. These relationships yield surpluses of goods and labor, rendered either directly to the paramount ruler or indirectly through a series of exchanges (for example, from commoner to local ruler to paramount ruler).

The fundamental challenge facing a leader of any political organization is inducing households to contribute goods or labor on a regular, predictable basis. The greatest of empires is dependent on the movement of goods and labor from one individual to the next. Initially, aspiring leaders can use labor and resources from their own households to finance their political aspirations (Oliver 1970). However, if an emergent political faction is to grow, some means must be found to collect resources beyond the leader's household. Small landowning horticultural households are notoriously unwilling to produce beyond the needs of their members (Chayanov 1966; Pauketat 1996; Stanish 1999).

Collection of goods and services, therefore, requires that leaders have some means of manipulating the behavior of members of the general population. Control

is exerted by leaders through various means of persuasion (such as the use of charisma, authority, indoctrination, or propaganda) and through the application or threat of positive or negative sanctions. Sanctions can be ideological, economic, or physical. Persuasion and coercion are exercised through networks of personal relationships—for instance, paramount ruler to local ruler to individuals, households, groups, or communities—and their application requires that leaders control resources and the media of communication. In other words, networks of political control require the development of networks of political finance, and networks of finance require the development of networks of control. These two types of networks are intertwined and must be created together for an ambitious politician or faction to form a stable political organization (Billman 2001).

Opposing the ambitions of leaders are local populations, consisting of communities, households, and individuals. Just as leaders often seek to expand their control, members of the populations often seek to resist political control or to limit the negative impact of political leadership on their daily lives (see Kantner 1996).

The types of power bases potentially available to leaders and those who resist—economic, ideological, or military resources—are created out of specific historical, environmental, and social conditions. By tapping into available power bases, leaders craft specific political strategies for creating stable networks of finance and control. The types of power bases available and the strategies leaders devise to use those power bases ultimately influence the structure, extent, and duration of an emergent political organization. Likewise, individuals, households, factions, and communities rely on power bases to resist domination by leaders.

What leaders are able to achieve and the limits of their power are, in part, shaped by the types of power bases available to members of the general population. Counterbalancing the political machinations of ambitious politicians is the will of the people to resist domination. Just as leaders craft strategies of control and finance, individuals, households, and communities are capable of formulating effective strategies of resistance (Kantner 1996). These include acts of overt resistance, such as migration, shifting their support to other political factions and other leaders, theft, refusal to contribute labor or goods, sabotage, or even armed rebellion and political assassination. Covert acts of resistance also can be highly effective, such as various forms of passive resistance, secretly maintaining beliefs contrary to the dominant ideology, hiding wealth and goods from leaders, malingering, and various other means of dodging tribute or tax payments.

In sum, the essence of the political economic approach to political organization is to focus on the material manifestations of political finance and control in order to understand transformations in the power relationship between leaders and followers that lead to the formations of new political organizations. The expectation derived from political economic theory is that networks of control and finance—as well as strategies of resistance to those networks—should be manifested and reproduced through a wide range of social practices, such as class identities, various types of asymmetric exchange between commoners and rulers (for example, tribute

payments, labor service, gifting, and feasting), patterns of settlement, monumental construction, public and private rituals, and funerary practices. Stated another way, this approach directs us to look at how the daily lives of individuals across the full spectrum of political life were transformed by state formation. By examining the transformation of daily life at the household, community, and regional level, we should be able to decipher the political strategies used by leaders and commoners in the process of state formation.

The Emergence of a Regional Political Economy in Moche Valley: A Tale of Four Transformations

Investigations conducted over the past 30 years have revealed that the lives of people in the Moche Valley were transformed in many ways by the formation of the Southern Moche state in the Middle Moche phase.[3] These changes can be grouped into four categories for purposes of discussion: public spaces and the rituals conducted in those spaces, burial practices and household rituals, ceramic production, and expansion of irrigation. Collectively these transformations reveal the workings of networks of finance and control that constituted the emergent Moche regional political economy in the Moche Valley.

The Transformation of Public Spaces and Ritual Performance

For archaeologists, perhaps the clearest manifestation of the emergence of new political economic relationships between rulers and commoners is the dramatic increase in monumental construction in the Middle Moche phase. During that phase nearly 1.3 million m^3 of ceremonial architecture was constructed in the valley (Billman 2002, n.d. [1996]). The total volume of Middle Moche phase ceremonial architecture dwarfs construction in the preceding Early Moche and Gallinazo phases, during which only approximately 62,000 m^3 of ceremonial architecture was constructed (Billman 2002, n.d. [1996]). More than 20 times the volume of ceremonial architecture was constructed in the Middle Moche phase than in the Early Moche and Gallinazo phases. Further, monumental construction was highly centralized in the Middle Moche phase. Measured by volume, Huaca de la Luna and Huaca del Sol at the site of Moche account for approximately 92 percent of the Middle Moche ceremonial construction in the valley (Billman 2002, n.d. [1996]). The remaining ceremonial architecture was distributed among 12 sites and totaled more than 91,000 m^3 (Billman n.d. [1996]: table 10.7).

This sharp increase in the volume of construction and the concentration of the activity at one site is evidence of a dramatic increase in the power of leaders to mobilized labor. For instance, Huaca del Sol and Huaca de la Luna originally contained more than 193 million adobe bricks (Hastings and Moseley 1975: 197). If the huacas were constructed in 400 years, more than 482,500 adobes would have been required every year, or an average of 1,300 adobes manufactured and laid per day, 365 days a year, for 400 years. However, huaca construction was not continuous

but rather episodic, consisting of at least five major construction phases for Huaca de la Luna (Uceda 2001) and eight for Huaca del Sol (Hastings and Moseley 1975: 196). These numbers suggest that perhaps once every 30 to 80 years, Moche rulers were able to mobilize extraordinary quantities of labor for huaca construction at the site of Moche. Whatever the specific mechanism of labor mobilization (see Moseley 1975b), the size of the huacas indicates that large quantities of labor and agricultural goods were collected from areas well beyond the site of Moche on an episodic basis.

Changes in design indicate that the function of ceremonial architecture was significantly different in the Middle Moche phase in the Moche Valley. The huacas constructed in the valley during the Early Moche and Gallinazo phases were considerably different in design (Billman n.d. [1996]). In those phases, ceremonial architecture in the valley was concentrated at Cerro Oreja, which accounts for 77 percent of the total volume of construction. The remainder of the ceremonial architecture was distributed among five sites. Unlike the Middle Moche phase, these huacas were not designed for public displays accommodating large audiences. The huacas at Cerro Oreja, Cerro Galindo, Cerro Pasqueda, and elsewhere in the valley were located on the highest point at each site, removed from the site residents. Rituals conducted at Early Moche and Gallinazo phase huacas could have been viewed by only small groups. For instance, the huaca at Cerro Oreja is located at the top of the site, 300 m above the valley floor. A massive platform was carved out of steep slopes, on top of which a large adobe huaca was constructed, creating one of the most unusual Pre-Hispanic monuments in the Andes. The steep slopes above and below the huaca did not permit the aggregation of people for viewing public rituals. Although this massive huaca was visible from a great distance because of its size and elevation, the activities conducted at the huaca were visible to only small groups on top of the huaca.

In contrast, ceremonial architecture in the Middle Moche phase was designed for the presentation of large public displays. Large huacas at regional ceremonial centers and smaller rural huacas had platforms and plazas for public displays. For instance, the large walled plazas in front of Huaca de la Luna and Huaca Cao Viejo accommodated thousands of people (Franco et al. 1994; Uceda 2001).

Thus public displays were an important element of political power in Moche society. Once constructed, large huacas became a significant medium of mass communication for the promulgation of ideology (DeMarrais et al. 1996). Those who controlled the huaca controlled what messages were disseminated from the huacas. In a world where information moved at a walking pace and was spread primarily by word of mouth, control of huacas meant control of a crucial means of shaping what people believed. Viewed as a medium of mass communication, these newly constructed huacas—which were capable of drawing audiences numbering in the thousands—were an important ideological power base for Moche rulers.

In addition to public areas, Moche huacas had enclosed spaces with restricted access. Not everything that took place on top of Huaca de la Luna and Huaca Cao

Viejo was visible to the general public. Although some rituals were conducted in public settings for viewing by the masses, certain ritual activities were restricted to small groups. The implication of this partitioning is that not all ritual knowledge was known to the public. Instead political leaders may have tightly controlled key elements of ritual knowledge.

In addition to the transformation in the design and function of huacas, the types of rituals conducted at those structures in the Middle Moche phase were significantly different from previous phases. The performances of two rituals have been documented by excavations at Huaca de la Luna and Huaca Cao Viejo and through the study of narrative ceramic art: human sacrifice and burial of elites in chamber tombs (Alva and Donnan 1993; Donnan and McClelland 1999; Franco et al. 1998b, 1999b; Tello et al. 2003b: 170–182; Tufinio 2006). The polychrome murals at both huacas present larger-than-life scenes of captives being led to the top of the huacas amid colorful human dancers and powerful mythic figures. In the murals the captives bear the marks of torture, such as slashes on their scrotums, and the feet of the modeled dancers contain cut-marked human bone, as if they are dancing on the bones of sacrificed captives (Verano 2001a: 116). At Huaca de la Luna, the tortured, mutilated remains of sacrificial victims have been found, demonstrating that what was depicted in Moche iconography happened in Moche society (Bourget 1997, 2001a; Uceda 1997; Verano 2001a, 2001b).

Another type of ritual performed at Middle Moche huacas was the entombment of godlike individuals in elaborate public events. These events were depicted on fineline Moche ceramic vessels (Donnan and McClelland 1979), and recent discoveries of chamber tombs at Sipán, San José de Moro, and Huaca Cao Viejo document the vast quantities of wealth consumed at these events (Alva and Donnan 1993; Castillo and Donnan 1994a; Donnan and Castillo 1992, 1994; Franco et al. 1998b, 1999b). Furthermore, the ritual regalia recovered from chamber tombs at Sipán and San José de Moro indicate that the two central figures depicted in the Presentation Theme were entombed during elaborate rituals (Alva and Donnan 1993; Donnan and Castillo 1992, 1994).

Although we know little about Gallinazo and Early Moche ritual performances, two lines of evidence suggest that they were profoundly different from Middle Moche rituals. First, to date, neither looters nor archaeologists have found wealthy chamber tombs at Gallinazo and Early Moche huacas. Indeed, no elaborate elite tombs have ever been documented for the Gallinazo and Early Moche phases. Second, no evidence of human sacrifice has been found in Gallinazo or Early Moche ceramic art, public murals, or public monuments (Bennett 1950). The Gallinazo murals underneath the Middle Moche murals at Huaca Cao Viejo reveal polychrome geometric designs (Franco et al. 1998b, 1999b).

These transformations in public space and ritual performance suggest that not only did Moche rulers in the Moche Valley control far more labor than did rulers in previous periods, they also maintained new beliefs and practices that displayed and legitimized their wealth, their power, and their use of violence. In essence, the

collection of tribute from commoner households was embedded in a new set of beliefs. These new beliefs were materialized through a variety of practices, the most important of which probably were huaca construction and the performance of public rituals of violence and death. Unlike monuments and public rituals in the preceding phases, the massive scale of Huaca de la Luna, Huaca del Sol, and Huaca Cao Viejo, the breath-taking murals, and the elaborate public spectacles sent an unequivocal message to the masses of the Moche society, a message of the wealth, power, and violence of Moche rulers. They also signaled that a new political order existed in which Moche rulers exercised far greater power over the population of the valley.

The Transformation of Mortuary Practices and Domestic Rituals

The elaborate burials depicted on Moche fineline ceramic vessels and the wealthy tombs excavated at Sipán, Huaca Cao Viejo, and San José de Moro tell us much about the emergence of social stratification and new elite burial practices in the Middle Moche phase. However, elite burial rituals were not the only type of burial ritual that changed in the Middle Moche phase. Evidence from the Moche Valley reveals a transformation in burial practices that cut across social strata (Donnan and Mackey 1978; Kroeber 1925; Millaire 2002; Tello et al. 2003b). The burial of individuals with special pieces of pottery became the norm in the Middle Moche phase. Although not all Middle Moche burials contained pottery—for example, the low-status cemetery excavated at Pacatnamú (see Donnan and McClelland 1997)—many, if not most, Middle Moche burials did contain ceramic offerings.

For example, based on an analysis of data compiled by Millaire (2002: 202–210), only 7 of the 131 Middle Moche phase graves (or 5 percent of them) reported for the Moche Valley did not contain ceramic offerings. Millaire presents data on a total of 191 Moche phase graves from five sites in the valley (Moche; Cerro Blanco; Caballo Muerto; Pampa Cruz; and MV 632, which is located by the colonial church in Huanchaco). Altogether 131 of those graves, containing 173 individuals, date to the Middle Moche phase (Moche III or IV).

Of the 27 Middle Moche phase burials that Donnan and Mackey (1978) present from the site of Moche and three other sites in the valley, only 3 burials did not contain ceramic objects. For those that contained ceramic vessels, the mean number of ceramic objects per burial is 12, and the median is 9. The number of ceramic objects in the 24 burials that contained pottery ranged from 1 to 62. In a study of burials excavated in the urban zone at the Moche site from 1991 through 1998, Tello et al. (2003b: table 5.5) report that only 2 of the 27 intact Middle Moche phase graves lacked ceramic offerings. Altogether 419 vessels were recovered, for a mean of 17 and a median of 9 for the 25 graves with ceramic vessels. The range is from 1 to 59 vessels. Together these two studies report the burial of 698 ceramic objects in just 49 graves, an extraordinary quantity of grave goods.

The results of excavations at the four cemeteries at Moche and four other sites are by no means anomalous. In the Moche Valley, 25 Middle Moche phase

cemetery sites have been recorded (Billman n.d. [1996]), and additional cemeteries are located at numerous habitation sites throughout the valley. All of these cemeteries are heavily looted and are covered with high densities of fragments of painted Middle Moche phase ceramic vessels. These sites, as well as the tens of thousands of Moche vessels in museums and private collections (see, for example, Larco 2001), demonstrate the widespread popularity of ceramic burial offerings as well as the vast quantity of ceramic objects consumed in burial rituals in the Middle Moche phase.

In contrast, the Gallinazo and Early Moche phase cemetery excavated at Cerro Oreja by Garcelen reveals a different pattern of burial practices. Only 20 percent of the more than 800 Gallinazo and Early Moche burials at Cerro Oreja contained pottery (compared to 95 percent of the reported Middle Moche phase graves from the Moche Valley). Those burials that had ceramic offerings contained relatively few pieces of pottery, ranging from between 1 and 9 vessels for an average of 1.4 and a median of 1. The burial sample includes numerous well-made masonry burial chambers as well as simple pit burials, indicating a wide range of status is present in the sample. These numbers strongly suggest that burial practices changed radically by the start of the Middle Moche phase in the Moche Valley.

The types of ceramic vessels interred with individuals also changed in the Middle Moche phase. The most common types of ceramic vessels in the Cerro Oreja burials are domestic wares, such as jars and cooking pots. Plainware cooking pots, bearing extensive evidence of use, are especially common. Only 19 percent of the objects were bottles. In contrast, only two utilitarian domestic vessels are present in the Donnan and Mackey (1978) sample of 278 ceramic artifacts from 24 Middle Moche Phase burials. Just three vessel types account for 94 percent of the vessels in Donnan and Mackey's sample: *cántaros* (113 vessels, or 41 percent), bottles (109 vessels, or 39 percent), and *floreros* (40 vessels, or 14 percent). The other ceramic items are two bowls, two figurines, eight *cancheros,* and two fragments of vessels of unknown form. Tello et al. (2003b) report similar frequencies of these vessel types for Middle Moche phase graves from the urban zone at the Moche site. Of the ceramics recovered from 27 graves, cántaros account for 40 percent of the assemblage (168 vessels), bottles 24 percent (102 vessels), and floreros 19 percent (81 vessels) (Tello et al. 2003b: table 5.5).

Analysis of the form and function of the cántaros and floreros suggests that Moche burial assemblages were dominated by special types of serving wares. The cántaros are remarkably similar in size, shape, and decoration, and their volumes and rim forms are consistent with use as individual drinking vessels. Likewise floreros, with their wide, open mouths and flat bottoms, have the characteristics of serving vessels.

The cemeteries at Moche and Cerro Oreja indicate that the beliefs associated with burial practices may have been transformed by the start of the Middle Moche phase. New beliefs concerning death and household status were combined with older beliefs and became widely accepted in the Middle Moche phase. As a result,

a broad segment of Moche society engaged in burial practices that required the display and burial of special, ornate serving vessels. Quite possibly these practices placed high priority on displays of wealth items and, perhaps, the serving of food and drink during burial rituals.

The use of Middle Moche phase decorated ceramic vessels, however, was not limited to funerary events. Excavation of Middle Moche phase households at the Moche site (see, for instance, Chapdelaine 2001; Montoya et al. 2004: 215–223; Tello et al. 2004a: 250–256; Tello et al. 2004b: 277–289) and Ciudad de Dios, a rural habitation site in the middle Moche Valley, reveal that floreros, cántaros, and bottles were used in the home along with ceramic figurines, rattles, whistles, and trumpets. At Ciudad de Dios these types of ceramic artifacts were found on the floors of patios and rooms in domestic structures, in kitchen hearths, and in every domestic trash deposit excavated at the site (Billman and Fiestas n.d.a, n.d.b). This same sort of assemblage of painted serving wares, musical instruments, and figurines is found on the surface of Middle Moche phase domestic sites throughout the Moche Valley—from the fishing village at Pampa Cruz, to agricultural settlements near Milagro, to the upper reaches of the middle valley above Simbal and Poroto (Billman n.d. [1996]). This assemblage is suggestive of household rituals involving the serving of food and drink in special vessels, musical performance, and, perhaps, shamanic activities—as indicated by the presence of rattles and figurines, which are still used by traditional healers on the North Coast today (Sharon and Donnan 1974).

In contrast, surface surveys in the Moche Valley (Billman n.d. [1996]) and household excavations at Santa Rosa–Quirihuac, an Early Moche phase habitation site (Billman, Briceño, and Gumerman n.d.; Billman, Kenworthy, and Ringberg n.d.; Mehaffey n.d. [1998]), indicate that these types of ceramic items may not have been used in domestic contexts during the Gallinazo and Early Moche phases. In fact, ceramic serving wares (such as bowls and plates), figurines, and instruments are extremely rare in the Gallinazo and Early Moche phases (Bennett 1950; Ford and Willey 1949; Strong and Evans 1952).

The representations on Gallinazo and Early Moche phase ceramic art are also significantly different than those in the Middle Moche phase. In the Gallinazo phase, decorations consisted of patterns of small triangular incisions, patterned burnishing, modeled face-neck jars, and appliqué figures of animals (Bennett 1950; Mehaffey n.d. [1998]; Strong and Evans 1952). Sculpted vessels in the shape of birds and land mammals also were produced. Black-on-white painting was not used; instead potters used negative or resist techniques (Bennett 1950; Strong and Evans 1952). Negative designs were naturalistic or geometric.

In Early Moche, negative techniques were replaced by black-on-white painting; however, the Moche fineline narrative art style was largely restricted to the Middle and Late Moche phases (Donnan and McClelland 1999; Larco 2001). Donnan and McClelland (1999: 289) have documented 2,300 high-quality Moche fineline ceramic vessels among the tens of thousands of Moche decorated vessels in

museums and private collections around the world, and only 5 percent of the sample dates to the Early Moche (Moche I and II) phase. Although Early Moche phase potters produced some bottles with fineline designs, narrative scenes are extremely rare (Donnan and McClelland 1999: 25–37). Donnan and McClelland (1999: 37) note that "the subject matter of Phase I–II is very limited compared to that of later phases. Most paintings depict either complex geometric motifs (Figs. 2.3, 2.8, 2.9, 2.23) or animals (Fig. 2.25)."

The advent of a narrative art style in the Middle Moche phase signals a significant change in what was being depicted on certain classes of the ceramic vessels. In turn, certain types of decorated vessels found their way into a wide range of domestic and funerary settings. This transformation in style and use of ceramic artifacts in funerary and domestic rituals demonstrates a significant change in beliefs across a broad segment of society in the Middle Moche phase in the Moche Valley.

The Transformation of Ceramic Production

How did households throughout the valley—urban dwellers, rural farmers, fishermen, and crafters—obtain these new types of ceramic objects to honor their dead and conduct household rituals? The transformation of household rituals and burial practices occurred in tandem with a transformation in the production of ceramic artifacts. Large-scale, Middle Moche phase ceramic workshops have been documented at the site of Moche (Uceda and Armas 1997, 1998) and Cerro Mayal in the Chicama Valley (Russell and Jackson 2001; Russell et al. 1994, 1998). At those sites, crafting families produced ceramic objects in unprecedented quantities using mold technology. The volume of production is indicated by the recovery from four superimposed workshops at Moche of more than 1,000 molds and numerous matrices for the mass production of molds (Uceda and Armas 1997: 102). Not only were ceramic vessels, instruments, and figurines produced on a massive scale, but also molds were produced in great quantity. Ceramic production at Moche occurred in crafting households, possibly on a full-time basis, and the superposition of four workshops at that site (Uceda and Armas 1997: 94–100) indicates a long continuity of production in one location, indicating that potting may have been a hereditary status.

Production at Cerro Mayal and Moche was not focused on high-quality fineline bottles; nor were potters producing large quantities of utilitarian domestic ceramics, such as storage jars or cooking pots (Russell and Jackson 2001; Russell et al. 1994, 1998; Uceda and Armas 1997, 1998). Rather potters focused on the production of the figurines, decorated serving wares (cántaros, floreros, and bottles), and musical instruments (rattles, whistles, flutes, and trumpets) that were the mainstays of the new types of household and burial rituals introduced in the Middle Moche phase. In contrast to the relatively small quantity of fineware Moche bottles produced in the Middle Moche phase (see Donnan and McClelland 1999: 289), potters at Cerro Mayal and Moche were producing literally hundreds of thousands of intermediate-grade ceramic artifacts to meet the demands of new ritual practices.

Moche rulers may have played a central role in financing the production of these intermediate wares and their distribution in the Moche and Chicama Valleys. Russell and Jackson (2001) have proposed that Moche rulers provided the potters at Cerro Mayal with food and access to raw materials and then collected and redistributed finished ceramic vessels. In their model, rulers placed themselves between producers and consumers by directly financing craft activities. Pottery would have flowed through a network of hierarchically ordered Moche rulers down to farming, fishing, and other types of crafting households. Support for this model is found in the analysis of botanical remains from Cerro Mayal, which indicates that potters were, in part, dependent on stored food for their sustenance rather than on fresh fruits and vegetables (Attarian n.d. [1996]).

Distribution of intermediate wares through a network of elite households also is indicated by excavations at Ciudad de Dios (Billman and Fiestas n.d.a, n.d.b). The core area of the site consists of a series of large, well-constructed masonry domestic compounds, surrounded by the remains of smaller quincha (wattle and daub) and masonry domestic structures. Intermediate wares are present in all households at the site, often in large quantities. However, there is no evidence of ceramic production at the site, such as the presence of wasters, molds, raw clay, or kilns. The assemblage of intermediate wares is essentially identical to the goods produced at Moche. Consequently, the most likely sources of the intermediate wares were those workshops. Although 155 Middle Moche phase sites have been recorded in the Moche Valley (Billman n.d. [1996]), the only large-scale ceramic workshops identified so far in the valley are at Moche. The production of intermediate wares apparently was highly centralized, and the residents of Ciudad de Dios had access to large quantities of goods from those centralized workshops. Looking beyond Ciudad de Dios, however, surface surveys indicate that surrounding domestic sites contain fewer intermediate wares. Settlement-pattern data indicate that similar nodes of the distribution of these serving and ritual wares may have existed elsewhere in the Moche Valley. Although further quantitative, spatial research is required, the pattern at Ciudad de Dios is consistent with the distribution of ceramic goods via a network of elite households.

If this was the case, then certain households in the valley during the Middle Moche phase may have exercised considerable control over commoner households through the centralized production and distribution of the ceramic artifacts that were vital to the rituals of death and daily life. In contrast, this political economic strategy was not available to rulers in preceding phases. No evidence of large-scale, specialized ceramic production has been identified in the Gallinazo and Early Moche phases. Likewise, highly standardized, special serving and ritual wares are rare in ceramic assemblages from those phases (see, for instance, Bennett 1950; Brennan n.d. [1978]; Collier 1955a; Mehaffey n.d. [1998]; Strong and Evans 1952). In contrast, in the Middle Moche phase, large-scale production of special types of ceramic artifacts by specialized crafting households went hand in hand with ideological transformations at the household level and the emergence of a regional political economy that financed ceramic production and distribution.

The control of the production and distribution of decorated ceramic vessels and ritual paraphernalia also would have allowed Moche rulers to control another important medium of mass communication, in addition to public rituals. In the absence of a written language or modern broadcast technologies, one way for leaders to disseminate their messages is through the production and distribution of artifacts encoded with ideological messages. The forms represented by ceramic figurines and the iconographic representations on decorated vessels produced at centralized workshops may have been one way in which Moche rulers materialized and spread their message beyond urban, ceremonial centers into the rural hinterland, where most people lived. Although Moche rulers periodically reached large numbers of people through public rituals at such places as Huaca de la Luna, the distribution of items freighted with meaning to households throughout the valley would have effectively insinuated state-sponsored beliefs into the mortuary rituals and the daily lives of the Moche masses. Control of this medium of expression would have been another important ideological power base for Moche rulers.

The Transformation of Irrigation

Whereas changes in public, funerary, and household rituals evidence a fundamental transformation in the beliefs of rulers and commoners, the construction of massive monuments and the transformation of ceramic production and distribution indicate significant changes in ruler-commoner economic relationships. Financing huaca construction, large public spectacles, and ceramic production required mobilization of labor and goods on a scale not previously seen in the Moche Valley. Clearly there was a new ideological order in the valley during the Middle Moche phases that transformed the rituals of politics, death, and daily life by blending old and new beliefs. Materialization of this new ideology required the extraction of large quantities of goods and labor from the general population (DeMarrais et al. 1996). Adobes had to be produced for monuments. Food had to be amassed for the support of construction teams as well as for public rituals, once huacas were completed. Ritual paraphernalia and special ceramic artifacts had to be produced; craft specialists had to be supported; and finished goods had to be moved from producers to consumers. Likewise, at the top of the social pyramid, ruling families and retainers had to be provisioned, as well as, perhaps, special classes of warriors, priests, and administrators (for a discussion of possible special statuses and offices in Moche society, see Millaire 2002). For Moche rulers to maintain and expand their positions of power and authority, all of these activities had to be financed. So what were the sources of economic power of Moche rulers in the Moche Valley? How were Moche rulers able to mobilize large quantities of goods and labor on a regular basis?

Perhaps the answer to this political economic conundrum lies in the transformation of the agricultural landscape of the Moche Valley at the start of the Middle Moche phase. In contrast to the Gallinazo and Early Moche phases, during which no significant expansion of the irrigation system occurred in the Moche Valley,

the first truly large-scale canals in the valley were constructed during the Middle Moche phase, when three large canals were constructed (Billman n.d. [1996]: 247–250). The Moro, Vichansao, and Mochica canals opened up large areas of arable land on Pampa Esperanza on the north side of lower valley (Figure 1; Moseley and Deeds 1982: 37–42).

The dating of these canals, the labor requirements for construction of each canal, and the extent of reclaimed land have been discussed in detail elsewhere (Billman 2002, n.d. [1996]; Farrington 1974, 1985; Moseley and Deeds 1982; Ortloff et al. 1985; Pozorski 1987). In summary, the Mochica canal probably was constructed first sometime after CE 300 or 400 in the early part of the Middle Moche phase. The Mochica canal was unlined and approximately 31 km long (Ortloff et al. 1985: 82). Later in the Middle Moche phase, the Moro canal was extended to a length of 28 km all the way to Pampa Esperanza, resulting in the irrigation of a large stretch of land above the Mochica canal (see Figure 1; Ortloff et al. 1985: 79). The Moro canal was constructed in Moche IV, sometime before a major El Niño event between CE 450 and 600 (Ortloff et al. 1985: 79, 91). Portions of the Moro canal on Pampa Esperanza were eventually replaced by the Vichansao canal, which was constructed at an even higher elevation, opening up most of the remaining arable land on the pampa (see Figure 1; Moseley and Deeds 1982: 37). Moseley and Deeds note that the Vichansao canal cut through a Moche III cemetery, but did not cut through any of the numerous Moche IV sites strung out along the canal, placing the construction of the canal in the later part of the Middle Moche phase (Moseley and Deeds 1982: 37). The Vichansao canal in the Moche phase canal was at least 30 km long (Ortloff et al. 1985: 81).

Once completed, these three canals irrigated approximately 6,000 ha of land, increasing the amount of irrigated land in the valley by 40 percent (Billman 2002: table 2; Moseley and Deeds 1982). Based on proposed corn yields for the Moche phase (Wilson 1988: 326), 2.6 people could have been supported for a year from a single crop on 1 ha of land. If correct, then an average single crop of corn on the land reclaimed by the three canals could have supported approximately 10,000 people, if a third of the land was fallow (15,000 people if land was not fallowed). Although the construction of these canals resulted in a huge increase in irrigated land in the valley, the Moro, Mochica, and Vichansao canals required surprisingly low quantities of labor to construct compared to the number of people supported by the canals. Approximately 500, 600, and 900 person-seasons,[4] respectively, were needed to complete these canals (Billman 2002; Ortloff et al. 1985: table 4).

Here is part of the answer to the question of why the Moche rulers were able to muster so many more goods and so much more labor than could rulers in previous periods. The emergent regional political economy of the Southern Moche state was based on the backs and strong arms of the tillers of these new irrigated fields. With the investment of a relatively small quantity of labor in canal construction, rulers could have reaped the benefits of approximately 6,000 ha of reclaimed land.

For instance, if a group of leaders in the Moche Valley in the Early Moche phase had the rights to approximately 600 person-seasons of labor out of a popula-

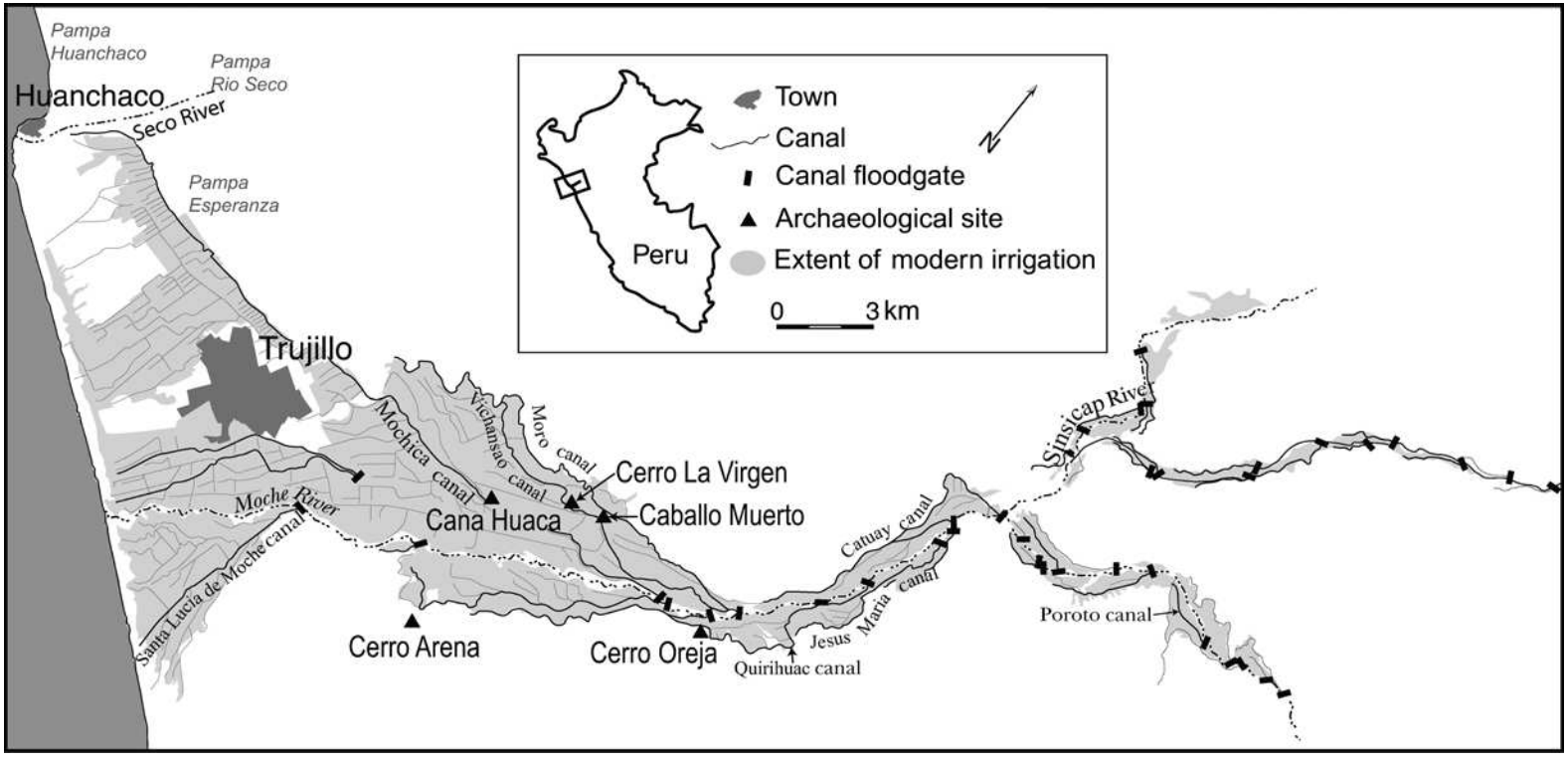

FIGURE 1 Locations of modern irrigation canals and key archaeological sites in the Moche Valley, Peru. In the Middle Moche phase, the Mochica canal was constructed, followed by the Moro canal, which originally extended to Pampa Esperanza. In the latter part of the Middle Moche phase, much of the Moro canal was replaced by the Vichansao canal, which terminated at the Rio Seco. Adapted from Map #6 in ONERN (1973).

tion base of approximately 12,000 people in the valley (about 2,400 families), then they had the potential to organize and marshal the labor needed to construct the Mochica canal. This quantity of labor could have been extracted over the course of several years, rather than all at once, thus reducing the annual burden of labor service per family. Given that leaders in the valley in the Gallinazo and Early Moche phases were able to extract sufficient labor to construct 62,000 m^3 of ceremonial architecture (Billman 2002, n.d. [1996]), marshaling 200 person-seasons every year for 3 years was achievable.

Once completed, the Mochica canal placed the leaders in a position to control a significant new economic power base: the distribution of several thousand hectares of prime irrigated land, capable of supporting 8,000 people or about 1,600 families (if one-third of the land was fallow), many times the number of people required to construct the canal. With the construction of the Moro and Vichansao canals, an additional 400 families could have been supported, for a total of 2,000 families for all three canals. Through fallowing, crop rotation, and careful water management, such population levels would have been sustainable over the course of the Middle Moche phase. Sufficient water would have been available in most years to irrigate these new fields. Based on the modern record of river volume, irrigation water shortages would have occurred only a few times per generation, if a third of the land was fallowed (Billman 2002: table 2).

In the Pre-Hispanic era, distributing high-quality irrigated land to families may well have been the most powerful positive sanction available on the coast of Peru, where land and water are life. Ethnohistoric sources indicate that patron-client relationships—known as *parcialidades*—existed between lords and commoner farmers on the North Coast before the Spanish conquest. These relationships were one of the foundations of the political economy of the Chimú state (Netherly 1984, n.d. [1977]). In exchange for use rights to land and water, smallholding farmers paid tribute in the form of labor or goods to local lords, known as señores, curacas, caciques, or *principales* in ethnohistoric documents (Cock 1986; Netherly 1984, n.d. [1977]; Ramírez 1996). Curacas were arranged in a hierarchy with the Chimú royalty at the top. Lower level lords owed tribute to and received gifts from higher lords. This type of tenant farming relationship is also a relatively common form of political control and finance in a wide range of historic chiefdoms and states (see Earle 1997: 67–89; Sidky 1996).

If lands irrigated by the three canals were divided up among tenant farmers, who paid a labor service of one person for a season each year—as was the case in the Inca empire (Murra 1980)—then these new fields could have yielded 1,000 person-years of labor (2,000 families, each contributing one person for half a year) (see Moseley 1975b for a discussion of the possible existence of a system of mita labor tax in Chimú and Moche polities). Alternatively, if tribute was collected in the form of agricultural staples, then collection of just 10 percent of the harvests from tenant farmers could have supported 1,000 people working full time for a year (10 percent of a harvest capable of supporting 10,000 people).

Another strategy would have been to retain part of the newly reclaimed fields for use by the state. If rulers retained 10 percent of the land watered by the three canals for their own use, yields from the land could have supported about 1,000 people for a year. The land could have been worked with labor payments from the tenant farmers on the remainder of the land irrigated by the canals. In addition to land allotted to parcialidades, Chimú rulers probably claimed certain irrigated fields for the state (Pozorski 1987). Those fields probably were tilled through labor service payments from parcialidades, with the produce from the fields belonging to the state.

With access to 1,000 person-years of labor every year, financing huaca construction, public spectacles, craft production, and other political activities was feasible. Consider that an adult can produce an average of 100 adobe bricks a day. Therefore, one person working 6 days a week for a half year can produce 15,600 adobes, and 1,000 people working a half year can produce 15 million adobes. Huaca de la Luna, with more than 50 million adobes (Hastings and Moseley 1975: 197), was constructed in five phases (Uceda 2001), for an average of 10 million adobes for each phase. In other words, the tribute from the new fields on the north side of the valley could have financed each of the construction phases of Huaca de la Luna in as little as 1 or 2 years with sufficient surplus to support ruling families as well as people holding special offices, crafting families, and retainers. Even the construction of Huaca del Sol—which contained 143 million adobes—was feasible. Each of the eight construction phases averaged approximately 18 million bricks (Hastings and Moseley 1975: 196–197). By constructing each phase over the course of several years, labor requirements could have been met by tribute from these new fields. However, because such construction events probably occurred only once a generation, the peak labor demands required by construction would not have been the norm.

The Emergence of a Regional Moche Political Economy

By focusing on what rulers and commoners were doing, analyzing evidence of the extraction of labor, and examining transformations in beliefs and daily practices, we can begin to decipher the mysteries of the emergence of a regional political economy in the Moche Valley in the CE 300s and 400s. The transformations outlined in the previous section reveal the emergence of asymmetric networks of control and finance that spread throughout the lower and middle Moche Valley and, perhaps, beyond to the Chicama Valley to the north and as far south as the Huarmey Valley. This regional political economy may have been based primarily on the extraction of tribute from farming households in exchange for access to land and water. The development of that network of finance required the simultaneous development of networks of control.

As the paramount rulers of the Moche Valley exerted their political dominance across the region, they faced the fundamental challenge of maintaining the allegiance and compliance of commoner, crafting, retainer, and curaca households.

This required countless explicit and implicit negotiations between rulers and diverse segments of society. The evidence of diverse social and political circumstances that we have encountered, and will continue to encounter, in the Moche world are the predictable result of the way that rulers and political organizations operate. Although in our contemporary political life we hold to the principle of equality and equal justice for all, in practice this ideal is difficult to achieve. The practicalities of political process in the Moche world required rulers to treat different segments of the society in different fashions. Moche rulers would have had to use diverse sets of strategies to control the various regions, communities, social groups, factions, households, ages, and genders, just as individuals and groups used divergent strategies to resist political domination. In essence, the Southern Moche state and other Moche polities ruled through a mosaic of control, involving many different political strategies of control and finance, rather than a monolithic, uniform state structure.

In societies where information moved by human voice and human feet, creating and controlling media of mass communication was essential to the development of regional networks of control. For Moche rulers, ceramic production and public performances at huacas were tools for manipulating a wide segment of society, engineering consent, and delivering threats and promises of sanctions. By CE 400, Moche rulers apparently controlled these two media of mass communication. At newly constructed huacas, rulers were able to draw together thousands of people on a regular basis to observe and participate in elaborate public rituals. Through networks of lesser curacas, they distributed ceramics objects bearing the messages of the dominant ideology. In short, Moche rulers had achieved control over crucial elements of the means of ideological production. By controlling these media, Moche rulers appear to have influenced the transformation of the rituals and practices of politics, death, and daily life. Arguably it was this new ideological order—expressed in art and ritual—that held the Southern Moche state together. The radical transformation of systems of belief and the creation of state religions by emergent rulers was an essential element of historic cases of state formation, such as the Ashanti, Zulu, Merina, Hunza, and Hawaiian states (see Dewar and Wright 1993; Earle 1997; Flannery 1999; Kottak 1980: 58–87; Morris 1965; Service 1975; Sidky 1996).

If ceramic objects and public ritual were the media, what was the message? In other words, if these two media of communication were used by Moche rulers to express the promise or threat of various kinds of positive and negative sanctions, then what sanctions were available to Moche rulers? Moche rulers at Huaca de la Luna probably exercised control through a network of curaca households, and, to a large extent, the rulers would have been dependent on these local curacas to maintain control in the rural hinterland and neighboring valleys. To these curaca households, Moche rulers could have offered a secure position in the regional hierarchy of finance and control; access to new labor and irrigated land and water; ceramic objects and probably other items, such as beads and metal objects; the ideological

rewards of elevated status and access to rituals as well as rewards in the afterlife; and the threat of the loss of access to all these things and possibly even the threat of death. A similar range of rewards may have been offered to crafting families, retainers, and holders of special offices.

The vast majority of the population, however, was farmers, upon whom the network of tribute extraction was founded. In exchange for annual tribute payments, the farmers may have received use rights to land and water, access to craft goods, and, perhaps, the right to attend the public spectacles held at the Huaca de la Luna. Rulers also may have been obligated to protect fields from raiding, hold periodic public feasts, and provide work teams with chicha (corn beer) and food. As long as the rewards to commoner households for compliance were sufficient, the cost of compliance not too onerous, and the cost of refusal dire, the paramount rulers were able to keep their positions of political power and maintain the networks of finance and control that held together the Southern Moche state.

Remarkably, this intricate web of negotiations, this network built on myriad exchanges and negotiations, held together for several hundred years (perhaps from the CE 200s or 300s into the CE 700s). This system would not have been possible without a key element, which has been implied throughout this chapter: the application of physical sanctions, such as public humiliation, banishment, torture, death, or military actions. The expansion of irrigation on the north side of the valley, which was the foundation of the new regional political economy, would not have been possible without a military means of protecting land, water, and the farmers who worked the fields. The huacas and sacred places that formed the ideological infrastructure were also vulnerable to conquest or destruction by outsiders. Likewise the potters and crafting families—who produced the items of wealth that were the currency of political exchange—and the retainers, special office holders, and ruling families that managed and ruled the state were all vulnerable to attack. Therefore the material resources and the people that formed the basis of power required protection by force of arms. The wielding of military power to protect land, wealth, and people would have been essential to maintaining the stability of the Southern Moche state for several centuries.

Acknowledgments

I thank Andres Álvarez-Calderón Larco, Luis Jaime Castillo, and Jeffrey Quilter for organizing the 2004 conference on Moche political organization, in which this chapter was first presented, and Dumbarton Oaks, the Museo Arqueológico Rafael Larco Herrera, and the Pontificia Universidad Católica del Perú for sponsoring the conference. Funding for fieldwork and analysis was provided by the Wenner-Gren Foundation for Anthropological Research, the Institute for Latin American Studies at the University of North Carolina at Chapel Hill (UNC), the UNC Field School in South American Archaeology, a National Science Foundation Dissertation Improvement Grant, Fulbright Fellowship, Sigma Xi Grant-in-Aid-of

Research, University of California at Santa Barbara Humanities–Social Science Grant, Dumbarton Oaks Pre-Columbian Fellowship, and UNC Research Council Publication grant. I thank the Instituto Nacional de Cultura (INC) for permission to conduct research in the Moche Valley. Access to the data from the burials at Cerro Oreja was granted through a *convenio* agreement between the Instituto Nacional de Cultura, the UNC-Chapel, and Utah State University. I especially thank the director of the INC project at Cerro Oreja, Jose Garcelen, for providing access to photographs, drawings, and site records from the project.

Notes

1 This site is sometimes referred to as Huacas de Moche. I prefer the original name given to the site.

2 Elsewhere I have discussed my justifications for referring to the polity centered at the site of Moche as the Southern Moche state (Billman 2002: 373–372).

3 In this chapter, the Middle Moche phase is equivalent to Moche III and IV in the Larco Sequence. In the Moche Valley, this phase probably dates from CE 200 or 300 to the CE 700s.

4 Person-season is a useful unit for calculating labor estimates for canal construction on the North Coast. A person-season equals 156 working days, based on 6 working days per week during the 6-month season of the second crop. There are two agricultural seasons in the Moche Valley (ONERN 1973: 225). Like most other central Andean coastal valleys, a majority of the river flow occurs during the first season between December and May (ONERN 1973: 225). During the second season only a fraction of the Moche Valley can be planted because of the low volume of river flow. Because considerable surplus labor is available in the second season, most canal construction probably took place then.

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