

ROME WORKS

*An Architect Explores the World's Most
Resilient City*

TOM RANKIN

Peruzzi Press

Copyright © 2015 Thomas Greene Rankin. All rights reserved.

This book or any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of the publisher except for the use of brief quotations in a book review.

Published by: Peruzzi Press (www.peruzzipress.com)

Printed in the United States of America

First Printing, 2015

ISBN 978-0692559413

Rome Works © Thomas Greene Rankin. All Rights Reserved, except where otherwise noted.

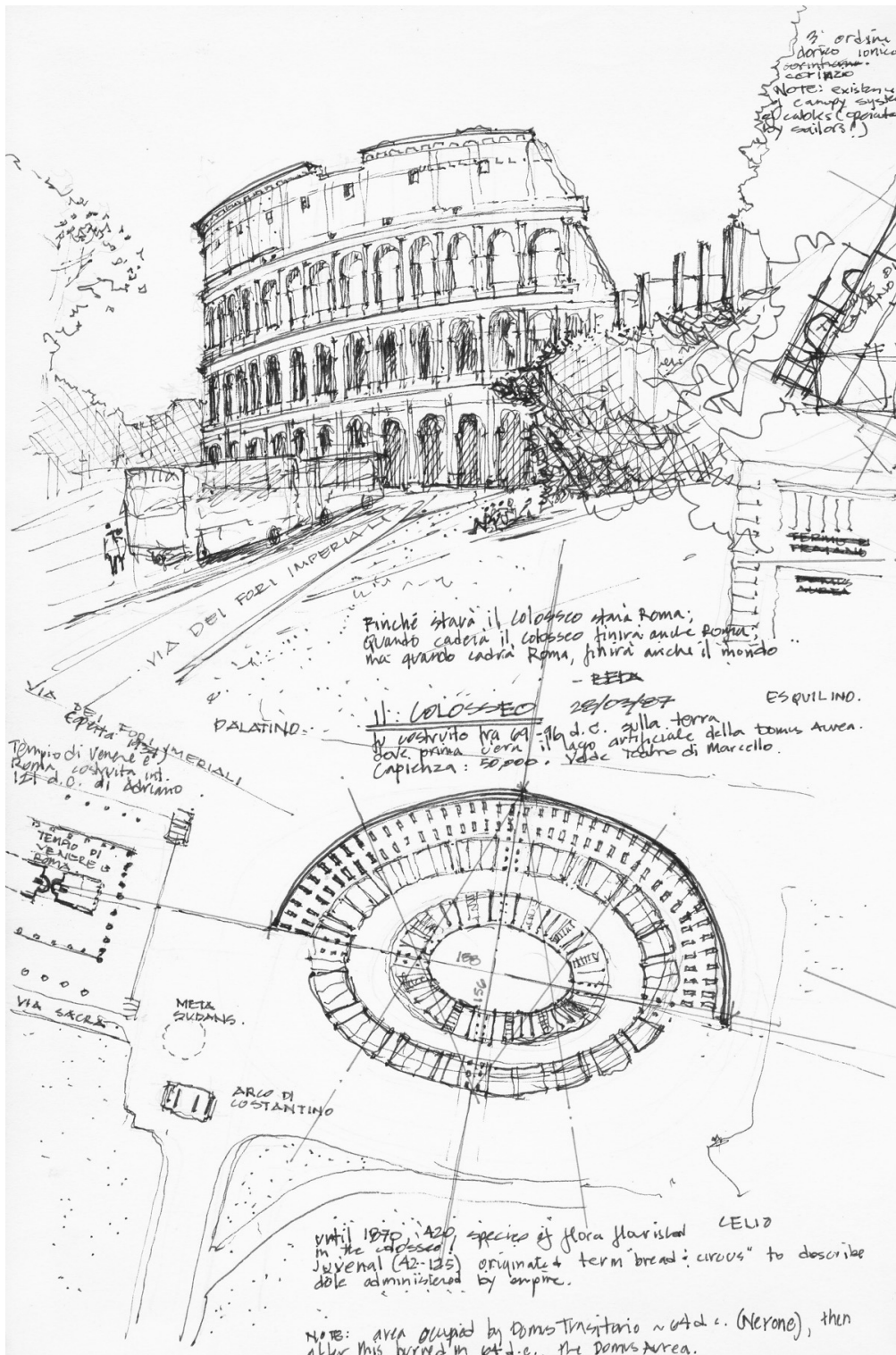
CONTENTS

Preface	v
Introduction: Why Rome?	viii
1. Water: Acqua Bene Pubblico	1
2. Green space: Europe's Greenest	30
3. Urban Fabric: The Built Environment	55
4. Energy: The Power of Rome	68
5. Waste: Rome's Economy of Reuse	86
6. Transportation: All Roads, Then and Now	110
7. Community: SPQR-style	142
8. Conclusions: Emergency, Opportunity and Transition	160
Afterward	169
Bibliography	171
Acknowledgements	189

PREFACE

This book is an account of over two decades of life in Rome, observing the city, learning about it everyday, and working humbly in hopes of making it an even better place. Some of the content will be familiar to readers of the *Still Sustainable City Blog*, but much is new and written from memory, which is known to play tricks. There are probably inaccuracies, which I am happy to fix in future editions, but I sincerely hope I haven't painted an erroneous picture of Rome — or of anyone of its players — in these pages. If so, please drop me a line at tom@romeworks.net and I will make amends.

-Tom Rankin



“The greatest function of the city is to encourage the greatest possible number of meetings, encounters, challenges, between varied persons and groups, providing... a stage upon which the drama of social life may be enacted.”

-Lewis Mumford

INTRODUCTION: WHY ROME?



First Impressions

The train, as I recall, is on time. It pulls slowly into Termini Station, the screeching of brakes giving way to the echoing announcements of departures and delays. Passengers arriving from Tuscany, Lombardy or beyond begin to merge into the cosmopolitan chaos of Rome. I say goodbye to new acquaintances, a handful of backpackers like myself, a quiet Franciscan priest and a boisterous, bearded political science student who had been eager to share anti-American and anti-clerical sentiments but was frustrated by the language barrier.

From the train window I watched as green fields and rolling hills abruptly gave way to massive urban apartment blocks. Fleeting glimpses of private lives floated by. Balconies, dim interiors seen through open windows, bright sheets hung in the sun, a child on a balcony, an old man in a white undershirt smoking, an overgrown garden, a junkyard filled with wrecked cars, a Roman wall. Actually, it's *the* Roman wall, the Aurelian Wall, and one of its gates, the Porta Maggiore. Above I see the cross-sections of ancient aqueducts and peer in passing into concrete corridors which once carried Rome's water. Then, alongside another stretch of aqueducts I glimpse a broken octagonal dome and recognize the ruins of the ancient Temple of Minerva Medica. Before the train has begun braking, I am overwhelmed.

Now in the station, descending the narrow steps, a stench like old public restrooms rises from the litter-strewn tracks and blends with the smoke of freshly lit cigarettes. Why the sudden need to light up, I wonder; everyone had been smoking in the aisle of the train for the whole trip. (This was 1983, long before smoking bans reached Italy.)

I pause on the platform to let first impressions form. As the smoke clears I observe the crisp, repetitive lines of the station's mosaic-faced concrete canopies that frame the deep-blue October sky. The late afternoon sun is warm but I move several steps into the shade and feel its cooling effect. Then I hear the water. It bubbles continuously like a tiny mountain spring from a black basalt stone fountain, elegantly incorporated into the base of the dark stone piers. I stoop to drink and the water is cold and sweet.

Slow Architecture

I am an architect who feels little need to build. For every one thousand Italians there are approximately two architects, one

every two square kilometers. Rome alone has 18,000 architects, a stable population, and a stock of buildings that has been growing, on and off, for millennia. The city which I have called home for two decades has many needs, but new architecture is not foremost among them.

The challenge today is not growth but restraint, not building more but using better that which we have, not reinventing the city but rethinking how we *live* the city¹.

Cities use about 75 percent of the earth's resources and produce the same percentage of greenhouse emissions. But this doesn't mean, as previous generations suggested, that the solution to our global crisis is to abandon the city. If, as some environmentalists once suggested, we commune with nature, we risk destroying the very wilderness that we claim to cherish. No, we are urban animals and the city is our nature. From environmentalists to urbanists to administrators, people are finally waking up to the realization that, if we can fix our cities, we stand at least a chance of fixing our planet.

At the start of the modern era cities were, often rightly, depicted as concentrations of pollution, injustice and waste, but this is no longer true. As our industries have gone from grey to green (or moved to distant shores, which is another story) most of the negative consequences of urbanism have vaporized. Instead cities offer the best—perhaps the only—venue in which to build a new economy that, in Lester Brown's words, is powered largely by renewable sources of energy, boasts a much more diversified transport system, and that reuses and recycles everything.

So if “cities aren't the problem, they are the solution,” as Jamie Lerner, the former mayor of Curitiba, Brazil, has succinctly put it, we should look carefully at Rome, the quintessential city. It

may no longer be Caput Mundi, as the Romans saw it, but there is perhaps no more archetypal city in the world, making it an important laboratory for the inevitable transition which world cities will undergo if they are to survive.



Rome's Termini Station during Critical Mass bike ride

Cities not Built from Scratch

With a nearly three-thousand year head-start on the “cities from scratch” materializing on the screens of visionary architects like Norman Foster, Rome contains an urban complexity which cannot be cultivated quickly. The very persistence of Rome’s physical structure over time, transformed, renewed, enlarged and sometimes downsized, has allowed Rome to achieve cultural prosperity while minimizing material and energy expenditures. When we get beyond the green rhetoric of the newest technological solutions in solar collectors and UV glass, the greenest building is usually one which has already been built, thus elimi-

nating the environmental costs of its demolition and reconstruction.

We tend to think of Rome as a city that fell, that ended, that had its day, like an old refrigerator that we send to the landfill, but contemporary Rome refutes this. In Rome we are reminded that cities are not like old cars that fulfill their increasingly short useful lives and are then discarded and replaced. They persist, transformed, as needs, limitations, technologies and users change. Cultural production, like biodiversity, unless interfered with has a tendency to get more sophisticated over time and in Rome this has been going on with peaks and valleys for millennia. In Rome we see that cities, like nature, are more resilient than anyone thought possible.

An Olivetti and Lots of Fiats

Since the end of the Second World War Italy had been focused on reconstruction and on finding its place on the international stage. In doing so, two contrasting traditions were at work. On the one hand there was a sense of public service, of joining forces to rebuild a war-damaged country. Master plans for new towns sprouted from the drawing boards of planning commissions. Gone now was the monumentality of the Fascist new towns. The postwar urban designers sought to achieve a collective sense through pseudo-vernacular language (peaked roofs, iron railings, etc.) and informal, shared public spaces. Many of these new towns and new urban neighborhoods were financed under the INA-Casa project, a national insurance company with the capital needed to jump start growth. The U.S. government also provided support, both financial and advisory, especially through the United States Information Service which helped produce the *Manuale del Architetto*. This veritable building manual, still on the bookshelves of most Italian architects over forty,

provided instructions and templates for traditional and modern construction. The construction industry boomed in mid-century Italy and by the 1970's MIT social scientist Charles F. Sabel would find a "radically new way of organizing industrial society" in Italy's networks of small, innovative productive firms.

Meanwhile, Adriano Olivetti was making strides anticipating personal computing through cutting-edge business machines but also rethinking the workplace model by providing innovative campus-like facilities in the corporate headquarters in Ivrea, where employees would be encouraged to think creatively.

It was a time of frugality, by necessity. G. E. Kidder-Smith describes Italy's scarcity of resources: "almost no coal for heat, almost no iron for steel, no petroleum for movement, not enough forest products for paper and construction, not enough agricultural products for 47,000,000 mouths....rarely has so much genius flowered on such inhospitable ground.²"

This frugality was celebrated in film and literature, and to a degree in architecture, under the banner of neorealism. A decade later poet and film-maker Pier Paolo Pasolini would find in Rome's marginalized urban underclass inspiration for books such as *Ragazzi di Vita* and films like *Mamma Roma* and *Accattone*.



Rome's Aqueduct Park with INA-Casa housing where parts of Pasolini's Mamma Roma were filmed

But another Italy also thrived in the climate of uncertainty of the post-war years, an Italy of special interests, in which it was every man for himself and his family. In contrast to what Sabel saw, a much bleaker picture is painted by Ed Banfield in *The Moral Basis of a Backward Society*, one of “the inability of villagers to act together for the common good³.”

All the status symbols for this other Italy seem to emanate directly from America: the automobile, the color TV, the shopping mall, and the single-family home.

Over the last thirty years in Italy I have witnessed the struggle for Italy's civic heritage to hold its own against the onslaught of private interests. Another way to view this struggle is between planning and regulation, on the one hand, and unregulated, often illegal, action, a struggle which has taken its toll on the global

economy and the natural environment alike in recent decades. As an American in Rome I feel some responsibility for exposing the devastation that is being wrought on the eternal city in the name of neo-liberal progress. I've seen where it leads, and it isn't pretty.

Pastels and Solar Panels

My first trip to Rome coincided with the tail end of the *anni di piombo*, the “years of lead” named for the frequent shootings and violent unrest which left its mark on the streets of many Italian cities. As violence raged on the streets of Rome in the late seventies I was just starting to study the great works of Western culture. For four years in the manicured grounds of Princeton University I learned to draw buildings and follow the timeless compositional rules of classicism. I also learned a great deal about the masterpieces of architectural history, a large number of which seemed to be in Italy. Architecture schools in the early eighties, in particular Princeton under the reign of Michael Graves, were preaching a return to history, especially the 19th century neoclassical Beaux-Arts style, known by the moniker “post-modernism”. It was refreshing after decades of dry and pedantic modernist excess to see a human touch in buildings. History was again okay, as was a bit of ornament if the budget allowed. It was fun to make buildings with facades that attracted — rather than offended— the masses and with plans that followed straightforward rules of connectivity. The rules of the game and its playing pieces were easy to pick up and I turned out to be a pretty good player. Axes, symmetry, hierarchy, an insider's game built around buzzwords like *parti*' and *poché* produced surprisingly believable results on paper. Rendered in pastel *prismacolor* pencils, the effect was mesmerizing.

And yet this game felt wrong.

Outside of the design studio, I was active in the nascent environmental movement, participating in committees to fight nuclear proliferation, pollution and the military-industrial complex. With my small group of friends at Princeton I would read E.F. Schumacher's *Small is Beautiful* and Leo Marx's *The Machine in the Garden*. I became a vegetarian, cooking big pots of rice and veggies with stoned intellectuals while rocking out to Patti Smith or Funkadelic. My desk was covered with clippings about alternative energy technologies, usually awkward-looking contraptions jerry-rigged from solar panels, inverters and arrays of batteries assembled, it would seem, by hippies in Vermont or Germany and sold through mail order companies advertised in the back of Rodale magazine or the Whole Earth Catalogue. While I found the new-age self-righteousness hard to stomach, I was convinced that architecture could provide an alternative to our high-impact, consumptive lifestyle.

In the architecture schools of the 1980s however, with the possible exception of Berkeley or MIT, voicing a concern for sustainability was met with eye-rolling normally reserved for bell-bottoms or tie-died t-shirts. Here we were reading Michel Foucault and Aldo Rossi, looking to the city and its architecture to provide systems of signs, structures and stories. Architecture was language and form. I might prefer the creative atmosphere of the design school, and the Talking Heads and Tom-Tom-Club were certainly more danceable than the folk-rock of the whole earth crowd, but it was clear that I was not going to even utter the word "sustainability" without disparagement.

I was fortunate to find the sympathetic ear and inspiring advice of a professor in the engineering school (where being cool was not even an option) to advise me. With Professor Steve Slaby, and Architecture Dean Robert Maxwell who bravely stepped up

to the plate as second reader, I wrote my thesis on “ecological urbanism” in the native pueblo villages of the American Southwest. Environmentalism and archaeology, a less fashionable option could not have been conceived.

Years later the pendulum has swung; history is now out of fashion and sustainability is the buzz word even in schools that shunned it decades ago. Green is the new black.

Rome Revisited

Not quite two years after Princeton, having earned a bit of money and some practical experience lending my post-modern design skills and European precedents to speculative real-estate developers at architectural firms in Boston, I am back in Italy. This time I have budgeted a full two weeks for Rome and its environs. In hindsight, far from satisfying my desire to “do” Rome this must have been the fatal decision that would hook me permanently. I found a city of clunky Fiats and Alfas and lots of two-stroke Piaggio motor scooters spewing black smoke on streets crowded with craftspeople, shopkeepers, bureaucrats, students, clergy, a few tourists and even fewer immigrants. Except for the favorable exchange rate, Rome was not an easy place for the traveler, nor a particularly pleasant one. But for a penniless architecture student with a sketchbook, it was perfect. Great palaces I recognized from slide lectures were covered in grime and graffiti and, if not semi-abandoned, usually filled with dusty smoke-filled offices of obscure government departments.

Each evening I would plan the following day’s exploration, often with an Irish architecture student named Gavin I had met in my *pensione* near the train station. He had Bannister Fletcher, I had the Atlas of European Architecture, a book that I still use for its minimalist logic in combining a chronological list of build-

ings with nothing but the essential information with gray scale label-less maps overlaid with tiny numbers. Every day I would systematically observe, photograph and sketch Rome's built heritage.

Two weeks flew by and I was off to Germany (or was it Spain?) but I would never rid myself of the passion for Rome I developed in those two short weeks. Every other city would be lacking. Not enough contrast, too flat, too self-consciously efficient, too contained or too sprawling. Back in Boston after four months exploring the old continent, from London to Jerusalem, it was Rome that most often filled my daydreams.

As an architectural designer beginning to work in architectural firms in my home city of Boston, fresh out of college, I had found myself involved in projects of various scales where the basic structures and systems had already been dictated by economic and policy factors. I was usually tasked only with the application of aesthetic expression, the icing on the cake. I was more interested then, as I am today, in design as a means to achieve synergies and efficiencies, to create flexible frameworks for a wide range of potential future scenarios, and the challenges facing Rome involve just that.

And it was to Rome that I would return again and again until one day, practically without realizing it, I found I had become an expat. I continued to travel between the US and Italy, but now it was to return home to America to visit my aging parents, to renew my own children's sense of their American heritage, and to shop for books, electronics and cheap clothing which were still rare in Italy.

Welcome to the Real World

From my expat vantage point, I was no longer able to believe some impossible *bella vita* under the Roman sun now that I was dealing with it on a daily basis, nor would I let stand the stereotypes many Italians harbored about America, either to idealize or to vilify it. All that was left was to share my unique perspective in hopes that I could lend insight to Romans and outsiders alike. I had one foot in the architectural milieu, mired in its dense history and muddy theorizing, rich and seductive but with surprisingly little relevance, especially since I was in no position to win international competitions which might, by some remote turn of events, have spelled success for me (as opposed to Rome's other 18,000 architects or, for that matter, any of the world's millions of architects who would give their right arm to build in Rome). If I had one foot in architecture, my other foot was in the real world. And this world, one of emerging global opportunities, fueled by digital media and communications, seemed inextricably linked to a cycle of production and consumption that led straight to planetary catastrophe.

Or did it? Kenneth Frampton argues convincingly for a critical regionalism, for architecture as a force of resistance against what he calls universal civilization. Places, grounded in history, topography, hydrology, places like Rome, might act as anti-entropic forces against the momentum of dumbed down globalization.

In Rome I found these two worlds, that of culture and history on the one hand and that of urban ecology on the other, able to coexist. Over time (lots of it!) the city gradually emerged reinforced by feedback loops, positive and negative both. Pushing outwards, driven by internal forces usually wielded by an economic elite though on occasion, such as the revolt of the Plebes

in the 2nd century BCE, with grassroots instigation. But also limited by external constraints: the Tiber river, the seven hills, the Apennine Mountains, the Mediterranean Sea, availability of food, land and building materials.

Lewis Mumford, in his seminal work *The City in History*, writes that our first task in our attempt to achieve a better insight into the present state of the city, is to “peer over the edge of the historic horizon, to detect the dim traces of still earlier structures and more primitive functions.” Certainly he had Rome in mind. Rome, more than most other cities, has seen a persistent and continuous process of expansion and retraction. Never completed, it is, like “modernism,” an unfinished project. Yet, unlike instrumental functionalism striving toward some ideal “complete” state, Rome has accepted its flux as the condition of urbanism.

Rome as a Laboratory for Environmental Sustainability

To speak of environmental sustainability and Rome in the same sentence, or even the same book, may seem surprising. By various standards, Rome is dragging its feet in meeting goals such as reducing its dependence on fossil fuels, eliminating waste of water and other materials, and improving air quality by cutting emissions. In recent years Legambiente’s *Ecosistema Italia* report ranked Rome 75th out of 103 Italian cities it rated for sustainable practices, down from 62nd place in previous years.

At a time when many nations, as they pursue their increasing commitment to sustainable city building, are looking for lessons from the past in the traditional urbanism to Rome and other Italian cities, contemporary Rome itself has drifted in the other direction: toward forms urbanization that have been shown elsewhere to be unsustainable in other cultures, especially the US.

In place of the tradition of dense pedestrian and transit-oriented neighborhoods Rome has promoted peripheral dormitory and shopping developments, still only tenuously connected to the city except by private automobile.

The 2003 master plan for Rome, in an expressed effort to jump-start the polycentric organization of the city, called for 18 *centralità urbane e metropolitane*, mono-functional developments with commercial, educational or cultural programs. It is up to the next generation of designers, entrepreneurs, policymakers and citizens to see that these evolve into pieces of city and not just urbanized areas, a distinction that is fundamental. At a time when the planet is increasingly urban the qualities of cities are changing. As urban population has boomed, the average density of cities has decreased. Are we really becoming more urban?

In Rome, the current trends call into question the city's much flaunted resilience. In a city built upon centuries of adaptive reuse of both buildings and materials, there is serious discussion of demolition of massive structures such as Corviale, the infamous kilometer-long public housing project, and Tor Bella Monica. Reusable *sanpietrini* cobblestones are being replaced with throwaway asphalt. In a city which in antiquity demonstrated a clear understanding of passive solar heating and natural ventilation, few buildings of the past two decades can be said to have been designed on principals of solar thermal heating or cooling. In a city which can still boast one of the largest percentages of agricultural land within its boundaries, each year thousands of acres of fertile soil are being given over to urbanization. A city which in the post-war years developed not just a network but a culture of buses and trams now has the highest per capita private automobile usage in Europe. And, last but not least, a capital whose rise to power was thanks in great part to an abundant and

equitably distributed water supply is now moving towards the privatization of that water. It is enough to look around Rome (or read numerous Rome-based public advocacy blogs) to dismiss any notion that the eternal city today is a model of ecological urbanism. That title might go to Vancouver or Copenhagen, to Curitiba, even London or here in Italy to Siena (n. 6 on Legambiente list), but not to Rome.

But I am suggesting Rome not as a model but as a laboratory, that is a venue in which to carry out research, to “work on problems” as the etymology of the word reminds us. A laboratory is a place where scientific work gets done. In her last book, *Dark Age Ahead*, one of the world’s great urban thinkers, Jane Jacobs, praises (or eulogizes?) the scientific method through which a fruitful question is posed, a hypothetical answer proposed, then tested, leading to the next fruitful question. It is through such rigorous work, not through heroic gestures, that the hard problems are solved and the species evolves.

Science and design are often seen as opposites, the former wide open to all knowledge while the latter invariably narrows down the choices to one out of infinite possibilities, one color, one choice. But when it comes to the study of the city, science and culture comprise a unified field of inquiry.

The late Italian architect Aldo Rossi, author of one of the landmark architectural texts of the last century, *The Architecture of the City*, often slipped the term “scientific” into his discourse: the scientific autobiography, the little scientific theatre, etc. Italian examples of science and culture finding common ground or at least promiscuity abound: Vitruvius, Hadrian, the Arcadian movement, the Academy of the Lincei, Giordano Bruno, Enrico Fermi, Renzo Piano, and the list could go on. Even the presence in Rome of NGOs such as the Food and Agricultural Organi-

zation (FAO) and the World Food Program point to the city's ambiguous position between science and public policy, between the global north and south. Sadly we are in a period in which both culture and scientific research are under attack, their funding being cut, undermining seriously the sustainable future of Italian society. Jane Jacobs' discussion of the scientific method, in fact, pointed to cases in which it is being abandoned by the very people, such as "traffic engineers," who purport to carry its torch.

Seven Themes

This book is structured around seven themes, like the seven early kings of Rome or the seven hills on which they founded the city. Like Rome itself, these themes overlap and sometimes contradict one another (is the Pantheon a classical temple or an early Christian church, a feat of engineering or a humanist hangout?). Nevertheless they will serve as useful organizational devices to reign in the complex history of a complex city.

Rome at the start of the 21st century is at a tipping point, on the verge of falling again by abandoning a long, rich and deeply established tradition and instead adopting some of the worst aspects of American culture. And if it falls this time, it may not get back up. What's worse is that if Rome can't resist these superficial temptations, how can we expect China to? However, in each of the seven sustainability themes presented here Rome could just as easily turn its efforts toward sustainable urban design and become not just a laboratory but a world model for urban sustainability.

Notes

1. I am paraphrasing here the teachings of Professor Francesco Scoppola.
2. G.E.Kidder-Smith, *Italy Builds* (New York: Reinhold Publishing Co.; 2nd Printing 1957) 16.
3. Ed Banfield, *The Moral Basis of a Backward Society* (Free Press, 1967) 55.