

Polis and Chora
Recalibrating Natural and Urban Harmony in Porto Rafti

by
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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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ABSTRACT

The landscape of Attica in Greece suffers rapidly progressing urban sprawl in a culture of over privatization. In the absence of proper legislation, corruption and poor implementation of existing laws, the consequences of allowing unplanned settlements to emerge unhindered in Athens and its periphery are now palpable and irreversible. This thesis illustrates that the continuous fragmentation of the ground plane into easily consumable land for private development does not bring about social progress, as is advocated by its proponents. The unregulated contemporary consumptive way of life essentially leads directly to the collapse of civil society through the silencing of the public voice in the propagation of settlements devoid of both natural and urban public space. Consumption of natural resources at an unsustainable rate pollutes and destroys the delicate ecological balance, generating a situation of crisis which simply feeds the cycle of urbanization.

This thesis presents a critical examination of the unique conditions affecting the development of Athens and its periphery, and the resulting ecological and social pressures in order to establish a case for a socially and environmentally sustainable urban intensification and the creation of vital public spaces. A paradigmatic vision is presented for the rapidly developing ecologically sensitive coastal town of Porto Rafti, based on restoring a harmonious coexistence of natural and urban realms.

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To my parents, Phoebus and Vassiliki for sacrificing so much so that I may get to know it,

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Fig.0.1. Dinner time in Porto Raffi.

PREFACE

SUMMER

As ‘unaccompanied minors’ we were sent off on the seemingly endless trip over the Atlantic to Greece. I was six years old the first time. With my sister Alexis and my cousins Sandy and Demetra, I visited Greece every year during summer holiday. We stayed with my paternal grandparents, Demetra and Athanasios and my aunt Iro in a tiny seaside apartment in Porto Rafti. The entire day was spent on Avlaki beach. Nine out of twelve months of every year were spent eagerly waiting for summer so that we could return. Porto Rafti was what we lived for.

This is where I learned to speak Greek, where I learned to eat, where I learned to swim and ride a bike, where I made many friends, and where I learned what life is all about.

Later, unwilling to sacrifice my summer vacation to work terms, I returned to live and work in Athens. I slowly began to realize that Greece, Athens, and Porto Rafti had changed. Over the course of twenty years, I have had the privilege of experiencing the irregular development of Porto Rafti. This once peaceful retreat was being exploited, and I wanted to understand why. I wanted to fix it.

As a joke, my grandfather used to call this place ‘Avlaki City’. I would have never guessed this would prove to be prophetic.

πάν μέτρον ἄριστον ·

everything is best in moderation

Architecture has always been about articulating a consciousness; about declaring where we stand as a culture and about what we hold most valuable. These values are expressed not only through the buildings we construct, but also through the equally important unbuilt spaces leftover. In the past, architecture's purpose was to support communal life in agglomerations created to escape the frightening and merciless natural world. This lifestyle isolated man from the cosmic connections of a life in harmony with natural cycles, thereby influencing a new search for a connection to the eternal cosmos.

The example of ancient Greece reveals the conception of democracy as a vessel for the realization of a cosmic relationship through symbolic immortality. The polis of Greek antiquity supported democratic values by establishing spaces in which individuals could present themselves and their deeds. Citizens were thus empowered to shape their own future through symbiosis in public life.

The world has now surpassed its carrying capacity, and along with overcrowding comes the panic to obtain the resources to sustain its population. Foreign powers out to capitalize on yet untapped natural resources impose alien social constructs upon populations which do not identify with them. As populations accepted into the industrialized world continuously increase, their cultures must quickly learn to reconcile the global consumerist culture which mercilessly eradicates differences and effaces local traditions. As a result, traditional settlement systems and community organizations collapse, leading to power struggles and war. The oppressed flee their homelands to more affluent and peaceful regions, both nationally and internationally, where they are often unwelcome. This process of global mass urbanization puts unsustainable pressure on both urban and the surrounding rural environments charged with accommodating these new residents. Desperation and helplessness on the part of shunned refugees leads to a culture of xenophobia on the part of the locals.

INTRODUCTION

Rather than reinforcing co-operation in the public realm throughout the built world, we lock ourselves up in the safety of our isolated homes. We end up alienating ourselves from each other and from the world around us, leading us to further consume and exploit for our own enjoyment, further propagating the cycle.

Cities thus continue to sprawl in a culture of over-privatization. Such short sighted sparse inhabitation of the ground plane inevitably consumes indispensable agricultural land and precious natural biotopes. So called democratic states continue to ignore the public realm without which democracy is impossible. Rather than investing in proven solutions, namely socially sustainable urban intensification and the creation of viable public spaces, international government bodies prefer to sit back and reap land development profits while they invest in problematic international trade deals. The silencing of the public voice points to the end of a civil society, where citizens no longer feel they have a vote or a share in the decision-making. Even the birthplace of democracy is not immune to such pressures.

While architecture has traditionally served the purpose of taking us back to our beginnings as a collective society, architecture now becomes a part of the problem, leading to the failure of this communal existence. Our world remains frightening and merciless, but now, this arises on account of the manmade.

In this thesis I explore the history of the urban development of Athens and the surrounding Attica region from antiquity to the present in order to understand the influences contributing to the sprawl of the capital and the social, political, and environmental consequences of continuous urbanity in the Attica peninsula. The sudden urbanization of Attica came as a result of the concentration of successive waves of political and agricultural refugees in Athens, historically Greek nationals, and recently of international origin. As the capital

haphazardly developed, declining urban environmental conditions and expanding urban infrastructure facilitated an outward extension of the city onto the surrounding agricultural plains. This escape to the 'green villages' of the adjacent coast and countryside began the settlement of formerly pristine environments. With the advent of both native and international tourism, paired with the newfound ability to commute to the city centre for work, the urban condition has begun to consume the periphery of Attica.

Recent hurried infrastructural developments in eastern Attica are quickly transforming land use and settlement patterns while threatening the stability of these ecologically sensitive areas. Directly along the path of urban sprawl is the coastal town of Porto Rafti, surrounding a natural harbour on the eastern coast of Attica. While many nearby settlements face analogous pressures, Porto Rafti boasts unique climatic conditions and calmer ocean currents on account of its unique topographical features. Paired with its adjacency to the new Attica highway and relocated international airport, these features make it an increasingly popular tourist escape. The unprecedented rate of growth and the continuing permanent settlement of newcomers to the Greater Athens Area indicate that Porto Rafti will soon become a city in its own right. Yet the unmitigated touristic development of all available natural and agricultural land in the absence of an urban plan yields a settlement with a clearly suburban arrangement. This is an apprehensive urbanism characteristic of our reckless and ego-centric leisure culture. When the ground plane is fully developed, it will be too late to incorporate the public spaces of both urban and natural character which are essential to the cultivation of political responsibility and public life of the community.

I investigate environmental pressures and resultant ecological destruction on national, regional and local scales to highlight the unbalanced nature of Greek development trends. Greek architect and

urbanist of international repute Constantinos Doxiadis states:

there can be no doubt that human settlements are very complex biological individuals. If only we think how many complex organisms (human beings, animals, trees, transportation networks, and so forth) they contain and in how many combinations these exist, we will recognize the complexity of these settlements.¹

Regardless of this fact, the growth of urban environments continues to be driven by profit. Development for private and touristic use is oblivious to its effect on the natural environment, and by extension, on fellow citizens and the future of the national way of life. In a culture whose existence is entwined with the sea, it is astounding that the connection has not yet been made in the national consciousness that the preservation of Greece's natural wealth is directly linked to the nation's future; especially since the primary source of income is tourism. It becomes clear that there is an urgent need to protect existing nature and ecosystems, and that the tourism industry needs to be reconfigured such that it can accommodate growing demand while preserving the landscape.

I propose a system of planning strategies to reclaim the ecologically sensitive areas of Porto Rafti for the creation of viable public spaces influencing socially and ecologically sustainable urban intensification. This approach resists the over-privatization of the landscape through built form, thereby restoring a balance of the natural and the manmade in the public realm of the emerging city. Natural process is thus reclaimed and reconciled with the social life of the city. With nature at the forefront of local consciousness, I encourage environmental awareness and stewardship, creating a sense of personal responsibility in the future of local nature and by extension, of the city. This potent civic realm will rekindle relations between men and influence co-operation and action toward reaching the goal of a healthy living environment. Citizens are thus empowered to shape their own

future through symbiosis in public life. Reconnecting the natural and public realms allows the development of urban space and form in a manner which makes it clear that the symbiosis of the manmade and the natural is essential in order to ensure the simultaneous prosperity of the city and flourishing of the natural world which supports it.

I have divided the thesis into four chapters providing the argument and research supporting the proposed strategies for a more balanced approach to urban development in Porto Rafti. In the first chapter, 'the Birth of the Metropolis', I establish the cultural history affecting the urban and political development of Athens and its periphery. I compare the example of ancient Athens to the contemporary situation in order to highlight the importance of public space and political responsibility in the health and vitality of the city. The developmental history of Greece outlines the reasons for the absence of such political involvement today. The concerns and arguments I present in this chapter were collected from diverse sources including books, interviews, newspaper articles, the internet, and reports.

Several books came together to outline politically charged history that must be addressed when proposing an intervention in the periphery of Athens. Elizabeth Barlow Rogers' *Landscape Design: A Cultural and Architectural History* defines the environmental influences affecting the settlement patterns of the Greek landscape, while Vincent Scully's *The Earth The Temple and the Gods and Sexual Personae* by Camille Paglia profile the close relationship of the polis to the surrounding natural conditions as understood by the ancients through their deities.

The Human Condition by Hannah Arendt, *Architectural Principles in the Age of Historicism* by Robert Jan Van Pelt and *Athens: from the Classical Period to the Present Day (5th Century B.C.-A.D. 2000)* edited by Charalambos Bourras, Michael Sakellariou, Konstantinos

METHODOLOGY, RESOURCES AND THESIS STRUCTURE

Staikos and Evi Touloupa, provide a comprehensive understanding of the critical role of built form in the establishment and preservation of the democracy of ancient Athens. Here, I identify the public realm of the city as the stage upon which every citizen was empowered to affect his own future and the survival of the human race through collective speech and action. The absence of public space in the urban realm leads to a powerless and alienated population.

A Short History of Modern Greece by Richard Clogg, *Greek Architecture Now* by Karin Skousbøll and *Athens: from the Classical Period to the Present Day (5th Century B.C.-A.D. 2000)* provide amongst them a detailed look at the modern history of Greece and the local and international political forces affecting the evolution of historical events in Greece.

The Australian Institute for Holocaust and Genocide Studies website provides a history of Greek expulsion from Asia Minor through their *Pontian Genocide and Asia Minor Holocaust Research Unit*. Here, historical accounts and survivor interviews give insight to the affect of these tragic political events upon common citizens. I conducted interviews with my own family members Demetra Kotsiopoulou, Iro Karydi and Sophia Tsirozidi in October of 2007 during my first research trip to Greece. My interview with Ourania Souvatzi was conducted in August 2008 in Toronto. These women, all of whom share Asia Minor ancestry, tell the migration histories and struggles of their own families. I also consulted *The Refugee Problem: Report of a Survey* by Sir John Hope Simpson, written a few years after the conclusion of the Greco-Turkish war to obtain statistics and information regarding population settlement and repatriation efforts in Greece.

Athens 1830-2000: Development-Planning-Transportation by George M. Sarigianni, *Athens 1830-1966* by Kostas Mpiris, *Anthology: The Contemporary Greek City* and *Landscapes of Modernisation: Greek*

Architecture 1960s and 1990s both edited by Yiannis Aesopos and Yiorgos Simeoforidis give insight to the urban trends and conditions arising in response to Greek historical events which have shaped the Greek urban landscape.

The Greek book *Ephemeral-Timely-Untimely* by E.P. Papanoutsos, and an interview published in *Η Καθημερινή* newspaper with Neo-Hellenistic Literature professor at the University of Michigan Vasilis Lambropoulos entitled 'We are Blessed to Torment Ourselves' discuss the tortured relationship of the Greek people with their own history. The cultural psychology resultant from centuries of foreign conquest is also explained therein.

I brought these sources together to understand a culture able to adjust to a life of struggle. I explain the formation of the urban condition of Athens and its surrounding region in the context of this difficult history. In this way, I was able to understand the effects of the resultant urbanity on the psyche of its inhabitants.

In the second chapter, 'Porto Rafti', I discuss the developmental and urban history of the study area in relation to the historical context outlined for Greece and the Greater Athens Area. The research in this section is informed primarily through the use of books, strategic planning reports, military maps, aerial photographs and interviews obtained during two month long research trips to Greece in September-October 2007 and July 2008. I tape recorded six informal interviews which I conducted with my family, friends, and local architects. I later transcribed these interviews in Greek and then translated them into English, providing a total of thirty five transcribed pages. I compiled the photographic and cartographic data in a series of mapping exercises in order to graphically represent development patterns and pressures.

The main source for this account is *Markopoulo of Mesogeia: Journey Through the Ages* by Stamatis D. Methenitis. This Greek book examines the history of the municipality of Markopoulo, of which Porto Rafti is a part, from antiquity to the present day. Pausanias' second century A.D. *Description of Greece* along with Camille Paglia's *Sexual Personae* and Karl Kerényi's *Dionysos: Archetypal Image of Indestructible Life* supplement the ancient history of the settlements of Porto Rafti in relation to the mythologies and founding myths of the site.

I enhance the historical accounts gathered from literature with my interviews of lifelong residents of the Markopoulo region. Local resident Sophia Tsirozidi provides an account of the region and tracks its changes from the Second World War to the present day. Eleni Petouri, local architect and employee of the local municipal planning office offers information regarding the urban development of the region in relation to political and land use changes in the region throughout her own lifetime.

Causes of Urban Sprawl in Athens and East Attica 1981-2001 by Lila Leontidou explains the forces driving sprawl of Athens eastward toward Porto Rafti. Here I explain the rapid land use changes resulting from this urban expansion. I consulted the *Environmental Performance Reviews: Greece* published by the international Organization for Economic Co-operation and Development, which highlight national environmental and political difficulties in urban and natural environments. *The Municipality of Markopoulo Operational Plan for the 2004 Olympic Games* compiled by private urban planning firm Information-Training-Regional Development S.A. and the *Strategic Plan for the Municipality of Markopoulo for the period 2007-2010* by the National Technical University of Athens provide useful information regarding the infrastructural, institutional, social and urban con-

ditions in the Municipality of Markopoulo. These volumes discuss benefits and shortcomings of existing conditions are discussed, while proposing the addition of important urban amenities in order to accommodate the expected population increase in the region. These crucial reports, however fail to propose a vision or possible arrangement of these amenities. While the lack of civic spaces is discussed, no viable suggestions are made toward a more vital public life other than the addition of more commercial activity along existing stressed traffic routes. Furthermore, necessary infrastructural network growth and the remediation of environmental stresses are not part of the discussion, leaving key issues affecting the future of a successful settlement at Porto Rafti out of the dialogue. I take the omissions of these vague strategic plans as indicators of what needs to be addressed in my own proposal for a future vision of Porto Rafti.

In an attempt to understand the development over time, I obtained historical aerial photography and topographical maps of the Markopoulo and Porto Rafti areas from the *Hellenic Military Geographical Service* in Athens. I cross referenced working digital drawing files of Porto Rafti from the Municipality of Markopoulo Planning department with the most recent aerial photographs (taken in 2000 and 2008) to discover possibilities for development. In so doing, I discovered plans for land use change and urban intensification at the expense of natural and agricultural amenities. I was unable to obtain urban plans, both past and present, from the Municipal authorities after numerous efforts. This led to the verification of my suspicions that the lack of transparency on account of disorganized and hierarchical government impedes public participation in discussions for urban growth.

In chapter three, 'Like Frogs Around a Pond', I discuss the pressures of expanding urbanity on the natural realm which affect built form and public life of Porto Rafti. In researching this section, I closely

followed current events during the period of study through Greek media to determine trends in landscape use and exploitation which directly affect urbanization and development patterns. I followed satellite newscasts from Greece, namely *ANT1 Satellite* (antenna) and *EPT World* (Greek Radio and Television), as well as the websites of prominent Greek newspapers, such as *Τα Νέα* (the News), *Η Καθημερινή* (the Daily), *Το Βήμα* (the Stride), *Η Ελευθεροτυπία* (the Free Press), and television channels *EPT*, *ΣΚΑΙ* (SKAI) on a regular basis. I looked also at international interpretation of Greek current affairs at online news websites such as *Reuters*, the *CBC*, the *BBC*, the *Telegraph*, the *Guardian*, the *International Herald Tribune*, the *New York Times*, *Earth Talk Magazine* and the *Christian Science Monitor*. In parallel, I listened to the voice of common citizens was through online blogs, independent media websites such as *Balkananalysis*, *Athens Independent Media* and *Open Democracy*, video sharing websites such as *YouTube* and popular culture trends, including graffiti and political posters around Athens. I compared these current events and trends with official policy of European and Greek institutions and government found on their respective websites. These sources include the *European Commission*, *Greek Parliament*, the *Hellenic Ministry for the Environment, Physical Planning and Public Works* (*ΥΠΕΧΩΔΕ*) the websites of *Eastern Attica*, the *Municipality of Markopoulo*, and *Porto Rafti News*, the *Intergovernmental Panel on Climate Change*, the *World Wildlife Fund* and *Greenpeace*. I also examined interviews, reports, books and images of the developing urban condition in Porto Rafti.

I used Article 24 of *The Constitution of Greece* by the Seventh Revisionary Parliament of the Hellenes to set a frame of reference for the responsibilities of the Greek government relating to environmental protection policy. According to the document, the environment is to be protected at all costs, yet the behavior of governing officials and the general population indicate a disregard for ecological con-

cerns. The effects of incomplete and nonexistent legislation and the inability to properly monitor and enforce existing regulations are identified in relation to their effect on the seemingly uncontrollable urban condition. I consult the OECD's *Environmental Performance Reviews: Greece* once again in this context to outline the weaknesses in the nation's political structure. This document also outlines the effects of human activity and development on air quality, land and marine ecosystems, and the deficiencies in policy that allow for the exploitation of the systems which are meant to protect the resources and natural wealth of Greece. The national land registry (for private property and protected ecosystems) and building permit policy are also discussed here.

I clarify the critical situation revealed in national trends by cross referencing the above findings with the regional and local examples of Markopoulo and Porto Rafti. Deficiencies in urban services outlined in The *Municipality of Markopoulo Operational Plan for the 2004 Olympic Games* and the *Strategic Plan for the Municipality of Markopoulo for the period 2007-2010* provide useful insight to the needs of Porto Rafti if it is to evolve into a viable city with a vibrant public realm. The Municipality of Markopoulo and Porto Rafti News websites further informs the progress of these issues as they arise.

To examine the scale of individual buildings on the urban problem, I examined the *General Building Code* in relation to the cultural obsession with private property consumption to determine how the regulations and planning officials are deceived to achieve higher profits in the development and real estate industries.

After a detailed explanation of the effects of the continuous outward expansion of the urban condition onto surrounding natural and agricultural landscape, I conclude that the protection of our natural surroundings must become the foundation for the maintenance and

growth of a healthy urban realm in Porto Rafti.

In chapter four, 'Harmony', I propose a vision for the recalibration of the public realm of the city by reincorporating the natural realm. Much research which is not directly referenced in the text of the thesis has influenced its development.

The Greeks and the Environment edited by Laura Westra and Thomas M. Robinson, is a series of essays examining the ancient Greek ecological awareness. While many philosophical ideas examined share a preoccupation with cosmic order, it seems the Greeks probably could not have associated the decline of their civilization to their overuse of local natural resources because of their belief in the supremacy of their gods. *The Ecology of the Ancient Greek World* by Robert Sallares provides a detailed examination of the interactions of the ancient Greeks with their natural surroundings. These two volumes present what seems like a forced and post rationalized ecological awareness, yet they offer a good study of the traditional deep rooted connection of the Greek people to their surrounding landscapes.

Jared Diamond's *Collapse* and Ronald Wright's *A Short History of Progress* examine the decline of past civilizations and the relative role of the exploitation of natural resources of their landscape. They advocate a shift from a position of short term consumption to long term thinking in society's approach to how we interact with our natural surroundings so that we might avoid future natural and social catastrophe.

Ecumenopolis: the Inevitable City of the Future, written by Constantinos Doxiadis and J.G. Papaioannou outlines Doxiadis' theory developed throughout the 1960s that the future of human settlements will encompass a condition of continuous urbanity in what are now the world's major urban centres. This theory seems that it is rapidly

being proven true the number of people being accommodated in today's cities grows continuously. The patterns of urban growth outlined in this theory predicted almost exactly the modern urban form of Athens. His work for the Athens planning office, while not directly influenced by the Ecumenopolis theory, responded to the desires reflected in the citizens of Athens at the time the groundwork was being laid for urban expansion along the patterns now manifest in Athenian urban form. Doxiadis' equally important book *Ekistics* charted a scientific approach to human settlements. This theory posits that human settlements are very complex biological entities which thrive through a balance of networks, shells, nature, anthropos and society. While the book presents the intentions of developing balanced human settlements, it has been criticized for its implications that nature serves as a resource for human consumption and appropriation, and that nature can only be properly managed by experts.²

Taking the influence of all of these sources into account, chapter four is intended to provide a vision which encourages a more democratic, symbiotic and respectful relationship with our natural surroundings in an attempt to create a more vital public realm through our interactions with it.





Chapter 1

BIRTH OF THE METROPOLIS

THE LEGACY OF THE MOTHER CITY

Fig.1.1. View across the agora from the temple of Hephaestus toward the Acropolis in Athens



Fig.1.2. Greece is located in south eastern Europe on the north shores of the Mediterranean Sea.

LANDSCAPE CONTEXT

Greece has always been a very poor and difficult country in which to make a living. It is geographically a small country, whose overall mountainous terrain leaves little land available for habitable plains, and by extension, for agriculture. The scale of the landscape is small. The topography of Greece consists of many broad valleys, fed by springs and separated by mountains. The geologic configuration influenced the dispersal of small settlements among the undulating landscape and along the coast of the surrounding seas. The geographic fragmentation of the Greek landscape and the reliance of its settlements upon underground spring water hindered the formation of a united autocratic and significant bureaucratic administration. The communities were too small and dispersed to require the type of mass societal organization that is typically needed for large scale grain cultivation. Instead, small tribal societies developed whose existence was dependent upon hunting and subsistence farming. These tribal settlements were the beginnings of the *polis*, the typical Greek city-state¹. Their connection to the landscape was manifest in all aspects of daily life.

COLONIZATION

When discussing the *polis*, it is impossible to dissociate the built up urban district from the surrounding rural area (the *chora*). The inhabitants of town and country were co-dependent, and therefore bound to each other; the word *polis* represented all of the land which was held under its charge. The fortified urban compound was surrounded by a vast territory; together the two made up the *polis*. Determined by a combination of practical concerns (water and arable land availability) and sites perceived to be linked to divine power, the locations of settlements were highly dependent upon their natural environment².

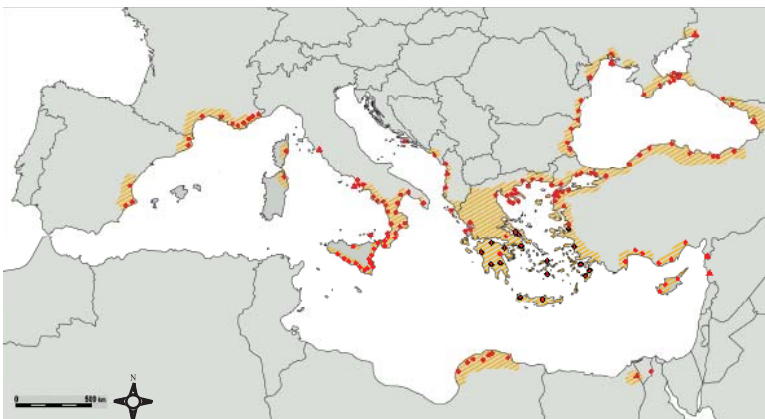


Fig.1.3. Greeks colonised the banks of the Mediterranean from the 9th century B.C.E onward. Indicated in red are the sites of the colonies, and hatched in orange are the extended areas inhabited by Greek peoples.

When the carrying capacity of the hinterland of city-states could no longer sustain their growing populations, the respective *chorae* began to expand as well, in efforts to secure more food. Soon enough, populations of adjacent city states began fighting for supremacy over new and expanded territories. When it became clear that the countryside of mainland Greece was not sufficient to sustain its people, the *polis* was forced to seek out new lands to farm and develop, thus establishing colonies, and as a result trading partners, along the coasts of the Mediterranean basin and the Black Sea. These Greek settlements developed as early as the 9th century B.C.E. From very early on, migration for survival became a fact of life for the Greeks.

POLIS AND HINTERLAND

In antiquity the interdependence of urban and rural settings was palpable. The landscape in antiquity was considered to be the physical manifestation of the gods, and the founding myths of Greek culture and society were closely interconnected with ideas of the landscape and the *polis*. The development of the *polis* was a result of this strong transcendental relationship with the landscape. These relationships were of utmost importance for the Greeks of antiquity, for reasons of both physical and spiritual wellbeing. The permanence of the landscape related to the eternal nature of their gods, and man's ephemeral earthly presence was conceived in reference to these in order to establish a meaningful existence. Art historian and architecture scholar Vincent Scully writes:

The forms [the Greeks] made can be seen in their uncompromised logic and true dimension: as compact images of act and will – of what, that is to say, men are and can make – nakedly separate from the natural environment but to be understood in balance with it. The landscape should therefore be regarded as the complement for all Greek life and art and the special component of the art of Greek temples, share the shape of human conception that could be made at the landscape's scale.³

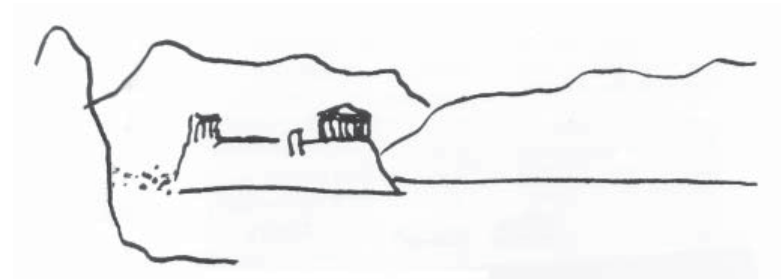


Fig.1.4. Sketch by Le Corbusier placing the Athenian Acropolis in harmony with the surrounding mountains.

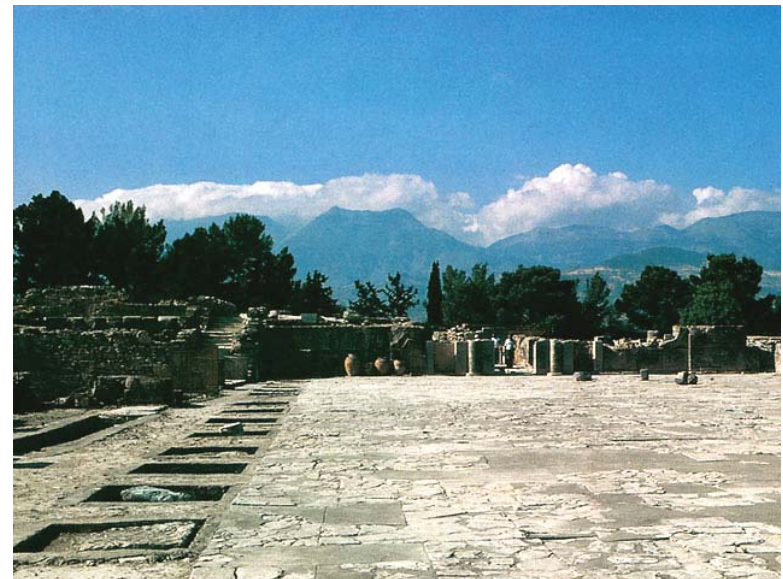


Fig.1.5. The Palace of Phaistos in Crete, dates back to the Minoan period between 2000 and 1470 B.C.E. The long axis of the central court is aligned with the twin peaked Mount Ida.



Fig.1.6. The theatre in Delphi built into the steep hillside during the 4th century B.C.E. takes advantage of the awesome natural setting as a backdrop.

The *polis* and its development and organization were thus conceived as well. The qualities evoked in the mythical and later literary representations of the landscape, such as wilderness, unpredictability and irrationality were contradicted in the conception of the city: tame, predictable and rational. Regardless of the attempt to bring order and understanding (the *polis*) to a world they could not control, the ancients were acutely aware of the volatility of their world at the hands of their natural environs (and their gods). This bred an awe and reverence for their surrounding landscape. Within the context of this eternal and omnipotent cosmic realm, the city was conceived of as second nature; a place of refuge from the wilderness and the natural place for man to live and grow.

The ancients understood their place within the natural environment. Their cities were organized in a manner that understood the carrying capacity of the land; their cities were self sustaining, drawing strictly on what the land could offer them at close range. The political system set up to maintain the organization of the city took into consideration all aspects required to operate and sustain a large settlement. Active citizens of the city were not only those who dwelled within its walls, but also included those who contributed to its sustenance and survival. Each *polis* was subdivided into *phyles*, or tribes. In Attica there were ten such tribes under the protection of Athens. Three *trittys* (triplet or third) made up each *phyle*. Three *demoi*, one from a coastal region, one from the countryside, and one from the city were grouped together to make one *trittys*. *Demoi* were subdivisions of the territory (both urban and rural) made up of citizens protected by the *polis*. All property owners: farmers, hunters and fishermen, held the same societal importance as did the politicians⁴. This more sophisticated organization was specific to Athens, and came at a later date, of course, under the government reforms of Cleisthenes circa 508 B.C.E. His *isonomia*, or equality of political rights⁵, revolutionised Athenian political life and later influenced other city states,

allowing for equal governance of members of the city as well as those who provided for its sustenance in the countryside and on the coast. This relationship emphasised and restored sentiments of mutual significance between the opposing poles of the *polis*. It was not until the later emergence of philosophical thought that the balance between natural and manmade was tipped. As classical philologist Eduard Fraenkel put it, the imagination of the classical Greeks sought “*λογος, ratio*...the intelligible, determinate, measurable, as opposed to the fantastic, vague and shapeless”⁶ which were previously understood as symbiotic.

ORIGINS OF DEMOCRACY - ATHENS

Nature and the divinities manifest therein were seen as immortal, a counterpoint to the mortality of man. While the manmade was to be understood in balance with the natural realm, the very idea of the city stems from the human need to survive its wrath. The Hellenic concern with immortality was derived from the symbiotic view of the natural and manmade. As the Greeks were surrounded by nature and their gods which were immortal, their pursuit of a meaningful existence sought a vessel through which humans could transcend their mortality and attain immortality. As the natural place in which man can live and grow, the *polis* became the stage upon which this search for the immortal was played. Since by their nature men are not immortal, it followed that immortality could be achieved through the manmade. According to ancient Greek thought, those who live life in pursuit of excellence and who prefer immortal fame to mortal things are truly human. Those who are content with natural pleasures are destined to live and die like animals⁷. It was thus through ever excelling (*aein aristeuein*) in public action, where one could be seen by everyone, that any mortal could achieve immortality. The collective pursuit for individual immortality was the principle on which democracy was built.



Fig.1.7. Orthogonal plan of Miletus in Asia Minor was laid out by Hippodamos in the 5th century B.C.E. The obsession with order is manifest in the orthogonal layout of the town.



Fig.1.8. The idealised image of public life in ancient Athens is depicted here in Raphael's 'School of Athens'

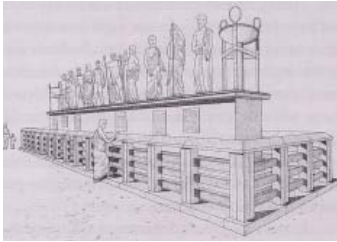


Fig.1.9. and 1.10. Monument of the eponymous heroes - *stelai* - reconstruction drawing left and remains in the Athenian agora right. The ten eponymous heroes gave their names to ten tribes established by Cleisthenes. The monument served as a memorial to the heroes and a bulletin board of sorts for the citizens of Athens

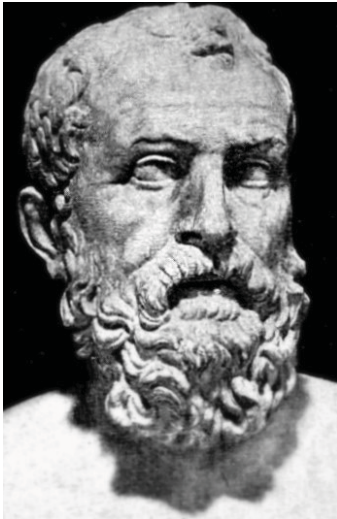


Fig.1.11. Solon founder of democracy



Fig.1.12. Legendary King Theseus, the founding hero of Athens, is seen here slaying the Minotaur. This is one of the twelve labours of Theseus, representative of the union of the tribes of Athens. Following this task, he liberates Athens from her subjugation to Crete and is able to unite the settlements under the protection of one city.

Democracy thus became the instrument for the achievement of equality. But the realization of this equality was born of a crisis. The *polis* itself is the result of poverty. It has already been mentioned that each city state in antiquity could not survive without its surrounding hinterland. This annexed landscape provided food for the urban dwellers in exchange for political protection. The majority of households making up a settlement were thus farms. Independently organized community units based upon kinship were incapable of sustaining themselves in times of need. When a harvest yielded minimal food, independent farmers were forced to mortgage themselves and their farms to aristocratic lenders in order to feed themselves and their families. When the farmers failed to make payments to the lenders, they became serfs and ultimately slaves on their own land. A series of bad harvests at the end of the 7th century B.C.E. resulted in the loss of many Athenian farms to lenders. This loss of property meant the loss of citizenship and the right to partake in decision making of the town. Upon Solon's election to the position of archon in 594 B.C.E. he cancelled all debts and set free all slaves, restoring land to its rightful owners and by extension restoring citizenship to all men of Athens. From this point onward, the boundary line surrounding each citizen's property, the *nomos*, became sacred. The city and the countryside were thus reunited, the citizens of each working together to govern the *polis*.⁸

Despite the vital role of democracy in the development of the ancient Athenian *polis*, it was a completely artificial political model. Democracy was based on a conscious destruction of the traditional associations which had bred the catastrophic social situation in Attica. It was based on the act of refusal. Knowing that the future of Athens would be condemned in the event of sustained exploitation of farmers at the hands of wealthy aristocrats, Solon refused to allow the destruction of Athens to continue. His reforms put the power back into the hands of the people who were affected. Citizenship

was thus restored to all through property ownership. This meant the right to accept or refuse legislations that would affect their future. With the reconstitution of the political sphere, people who had been reduced to a life of servitude without property were accepted anew into the political life of the *polis*. The Athenian *polis* essentially became a society of refugees. This was not, however, the first time in the history of Athens that such an event occurred. Political philosopher Niccolò Machiavelli writes in his *Discourses* of the acceptance of the inhabitants of the Attic hinterland into the Athenian *polis*. During the reign of the legendary king Theseus, the small communities in the periphery of Attica were politically united under the protection of Athens. This union in the interests of self defence incorporates former outsiders into a newly established political body. This union of refugees in the face of an impending crisis (such as invasion) is seen as one of two possible origins of the city⁹. Democracy allows for the equal acceptance of the foreigner into the body politic of the city. It follows that crisis as the basis for the founding of cities by refugee societies makes democracy an open wound. Thus, the city, any city, is eternally destined to be the place of the stranger.

PUBLIC AND PRIVATE REALMS

In ancient Athens, democracy was sustained by the architecture of the *polis* by means of the separation of private and public realms. As the incubator for democratic life, the *polis* held the property line to be sacred. This borderline was the entity which allowed for the distinction between the two realms. The assertion of the sanctity of the boundary safeguarded the property of each citizen. After all, property ownership was the prerequisite for admission into the public life of the city. Political theorist Hannah Arendt discusses the importance of the public and private realms for the establishment of a democratic state in her book *The Human Condition*. The private realm of the home and the ownership of property, she says, “originally meant



Fig.1.13. Athenian Ostraca found in the Agora and Kerameikos districts. These broken shards of pottery on which names were inscribed were used to cast negative votes safeguarding against tyranny. The selected politician was ostracised from Attica for 10 years.



Fig.1.14. The base of a Kleroterion and voting tokens used in the Athenian voting process

Fig.1.15. Ancient boundary indicators known as Horoi or Herms. Before Solon they marked mortgaged properties. After his *isonomia* they were maintained in order to distinguish between the public meeting places of the city and residential neighbourhoods.



Fig.1.16. and 1.17. Property boundary walls on the Island of Mykonos. Photographed by architect Aris Konstantinidis. left 1950, below 1938. The property line, sacred in antiquity, safeguards each citizens property as well as their admission into the public life of the city.



no less than to have one's location in a particular part of the world and therefore to belong to the body politic"¹⁰. The significance of owning property relates to the purpose of communal living in the first place. The basis upon which the *polis* is conceived is the struggle for survival. "For the *polis* was for the Greeks...first of all their guarantee against the futility of individual life, the space protected against this futility and reserved for the relative permanence, if not immortality, of mortals."¹¹ As the pursuit of the immortal happened in the presence of equal citizens in the public realm, it must follow that anything related to mortality must be hidden from public view in the confines of the private realm. "The realm of birth and death must be hidden from the public realm because it harbors the things hidden from human eyes and impenetrable to human knowledge. It is hidden because man does not know where he comes from when he is born and where he goes when he dies."¹² The cosmic relationship through an *axis mundi* inherent in the ownership of private property escapes rational explanation and therefore cannot be a part of public consciousness. A citizen and his family were connected to the natural world through the hearth which was connected to the earth and subsequently to the mystical realm. Without this place in the world manifest as the architectural construction to conceal mortality, the citizen had no right to partake in the public affairs of the *polis*¹³. He could not be admitted into the common struggle for survival and immortality.

Every *polis* struggled with these opposing forces of life and death, reconciling the mystical energies of their religious mythologies in daily life through urban form. The borderline was that which separated the private realm from the public, and the public realm from the wilderness. It kept the indeterminate, immeasurable, mysterious, and mortal realm beyond the city walls and within the property line of the home away from the rational, intelligible, determinate and measurable public realm where men strove for survival against a frighten-

ing wild world. The boundary was the law which guaranteed survival against the unknown. Political action in the public realm, and by extension democracy, was the key to survival. “*Bios politikos* denoted explicitly the realm of human affairs, stressing the action, *praxis*, needed to establish and sustain it.”¹⁴ The property line indicated that the owner of the land was accepted to live among his equals as a citizen. The actions undertaken in the public realm represented the daily pursuit of excellence and by extension of immortality.

ROLE OF CITIZEN IN THE *POLIS*

The *polis* of antiquity was based on a common interest in its operation and prosperity. The city as a place of refuge was the natural place for man to live and grow. Collaboration, therefore, was inherent in the idea of subsistence against wilderness. There was no room for anyone who was not devoted to matters of the *polis*, as this type of existence was in opposition to the essence of political life by definition. Each citizen had to actively take part in the daily affairs of the community in order to ensure their collective survival. As the function of the city was to ensure life through cohabitation, it must follow that political life was intended to be peaceful. “To be political, to live in a *polis*”, says Arendt, “meant that everything was decided through words and persuasion and not through force and violence”¹⁵. Action and speech were considered the highest of all human capacities, and even predated the development of the *polis*¹⁶. It was believed that action, and by extension speech, was a privilege particular to humanity. Both animals and gods were incapable of such exchange as it is completely reliant upon the constant presence of others¹⁷. Plurality as the human condition of life in the city thus supported the development of civilized exchange between men in the form of action and speech in order to achieve the goals of the *polis*.

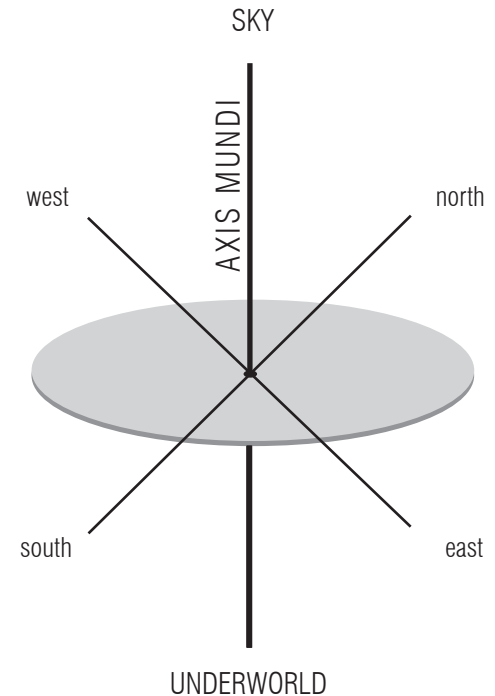


Fig.1.18. Diagram of Axis Mundi showing the relationship of the earth plane to the mystical realms of the sky and underworld.



Fig.1.19. Pericles addresses his fellow citizens in a debate on the Pnyx of Athens in the painting 'Pericles Attacked by Cleon' (1853) by Philipp von Foltz. Located on the side of the Aeropagus hill, the Pnyx was the meeting place of the Athenian legislature, and is the physical embodiment of democracy. (In reality the speaker would face away from the Acropolis. Also, the Acropolis would have reached this state of completion only after Pericles' death)

The role of the citizen is to strive for the healthy body politic in order to ensure his own physical and psychic wellbeing. Speech and action in the public realm make the *polis*. Rather, it is the organization amongst men that is born of human communication and communal action which creates the *polis*. The public realm, the realm of human affairs, rises out of action and speech, two elements of equal importance. The *polis*, therefore, is comprised not of the physical form and location of the city state, but of its inhabitants and the space of human interaction created between them¹⁸. Only a healthy community is capable of the proper management of its affairs. Miscommunication, selfish dealings and withdrawal from public life lead to an unhealthy and impotent community. It is through cooperation that a community gains the power to care for its urban and rural environments, its agricultural production, its trade activity, and its defense. The power of freedom exists in numbers, and the sharing of words and deeds multiplies that power.

NATION VERSUS STATE

From the fall of the classical *polis* to the Romans until the emancipation from the Ottoman yoke, Greece has been conquered by alien kingdoms and empires. Hellenic territory has essentially changed hands for two thousand years, her command being continually left to the whims of foreign leaders. As a neglected colonial territory of one conquering nation after another, the sense of civic responsibility inherent in the *polis* was completely wiped out of the Greek consciousness. Up until the present day, apathy and hate for the state and its activities prevails among Hellenic citizens. These sentiments are a direct result of the historical circumstance. State authority during the various periods of subjugation was not simply foreign, but inimical, hostile toward ethnic foundations. Consequently, in order to affirm their ethnic peculiarity, their unique existence, many generations were compelled to hate, to betray and fight the organs and

operations which in their eyes represented the government and personified the idea of the state¹⁹. It was a constant struggle to keep the Greek national identity alive. Thus, for many years, there was no concurrence of nation and state. The present day finds the Greek people in command of their own government, but even following emancipation, a people cannot easily embrace the administration with its limitations, even if it now belongs to them, when a short while ago the state existed as the whim and violence of the oppressor²⁰. When someone with such subconscious wounds from being ruled becomes the ruler, he adopts the tendencies and behavior of the former oppressor which he once despised, thinking this the only way in which to escape his former dreadful situation. Perhaps this is the reason that whoever comes into a position of power in Greece quickly becomes a tyrant²¹. To build in the region of ancient Athens means building in a historically charged territory. With regards to politics and civic life in Athens, there is an expected irrefutable demand imposed upon it. The example of ancient Athens therefore becomes relevant as it highlights the contemporary absence of political responsibility and its effects on the development of modern Athens.

CATASTROPHE

The modern morphology of Athens was influenced principally by the influx of refugee populations of the Asia Minor catastrophe and population exchange of 1922. Greeks had been settled and prosperous on the coastal areas of Asia Minor and Black Sea since antiquity. Greeks and other settlers of the region had been living together harmoniously for centuries. The Ottoman conquest of Constantinople in 1453 and the subsequent occupation of the rest of Greece by 1500 altered the situation dramatically. Hellenes, both in Asia Minor and in the Greek peninsula now lived under the yoke of the Ottoman Empire.



Fig.1.20. 'The Secret School' circa 1880 by Nikolaos Gyzis depicts a typical scene from the Ottoman Occupation where children would attend night school in basements in order to keep the Greek culture and language alive.



Fig.1.21. A Scene from 'The Siege of Constantinople' painted by an unknown artist in Paris in 1499



Fig.1.22. 'The Bishop of Old Patras Germanos blesses the flag of the Greek War of Independence' (1865) by Theodoros Vryzakis



Fig.1.23. 'Georgios Karaiskakis on Horseback rushes to Acropolis' (1844) by Georgios Margaritis.



Fig.1.24. Prince Otto of Wittelsbach of Bavaria, the first King of Greece following the emancipation from the Ottoman Empire.

During the Greek war of independence (1821-1830) the intervention of the powers of the Triple Entente (United Kingdom, France and Russia) effectively secured the success of the war and the independence of Greece. As self declared protectors of Greek independence, the Triple Entente offered the Greek throne to the Bavarian prince, Otto of Wittelsbach. They did so without considering Greek needs and opinions, in an attempt to formally end the war and state confusion. Foreign administrators, each with their personal financial goals, thus continued to exert heavy influence on the unstable Greek state up until the expulsion of King Constantine II in 1963²². Greek essayist and educator Evangelos Papanoutsos writes:

when this small Hellenic corner was liberated from the Turkish yoke, our state was not founded or developed instrumentally upon autochthonous forms of organization and administration taken from our own psychological and other needs and from the historic movement of the life of the nation, but was imposed upon us from outside by foreigners who naturally did not care to examine whether that costume was made to our measure, and neither did they try to make it fit. In this way, administrative and political institutions experimental for our country were implemented which never communicated deeply with the soul of our people, and perhaps they never responded completely to their actual needs²³

Following the conclusion of the Greek war of Independence in 1832, the majority of the Hellenic population remained under Ottoman rule beyond the Greek borders established by the 1827 Treaty of London. The Entente protection of Christians in the Ottoman Empire, however, was seen by the Germans as an obstacle to their interests of direct access to Middle Eastern oilfields. In 1908, the "Young Turks" nationalist government seized control of the Ottoman Empire through military junta and decided that Asia Minor would be the home for Turks alone^{24 25}. Following the defeat of the Ottoman Empire during the first Balkan war of 1912-1913, an alliance with Germany during World War I gave the so called Young Turks the opportunity to imple-

ment their plan. Political and economic life in Asia Minor at the time was dominated by Hellenes, Armenians and Jews, making it easy for the Germans to convince the Turks that the Hellenes were working for the collapse of the Ottoman Empire²⁶. Soon after in 1915, the deportation (death marches) and genocide of the Pontian Greek and Armenian populations of Asia Minor began.

Following the end of World War I, the partitioning of the Ottoman Empire according to the Treaty of Sèvres amongst the Allied forces along with the genocide of Hellenic population of the Pontus region provided the Greek incentive for the Greco-Turkish War. Within the framework of these events, the '*Megali Idea*', or 'Great Idea' of Greece was given the opportunity to develop. This nationalist 'Great Idea' articulated the hope of establishing a Greek state including all ethnic Greeks of the Diaspora, which at the time lay mostly within Turkish occupied territory. False hopes of territorial gains in Asia Minor were given to Greece's prime minister at the time, Eleftherios Venizelos, by the western Allies, particularly by British Prime Minister David Lloyd George, enticing Greece to join the war on the side of the Allies^{27 28}. After significant advances by the Greek army, the return of exiled King Constantine I to the Greek throne prompted the Allies to cut off aid to Greece on account of Constantine's pro-German position during the war. The failed attack on Ankara caused Greece to appeal to the Allies for help, but early in 1922, Britain, France and Italy determined that the Treaty of Sèvres could not be implemented on account of Turkish nationalist resistance and had to be amended. In harmony with this resolution, the Italian and French troops evacuated their positions, leaving the Greeks exposed. The proposed armistice in 1922 by the Allies was refused and Turkish military drove the Greek army along with the resident Greek populations back to the Mediterranean Sea and out of Turkey. This resulted in the catastrophe of Smyrna and the massacre and expulsion of Greeks from Asia Minor. Following the defeat of the Greek army and

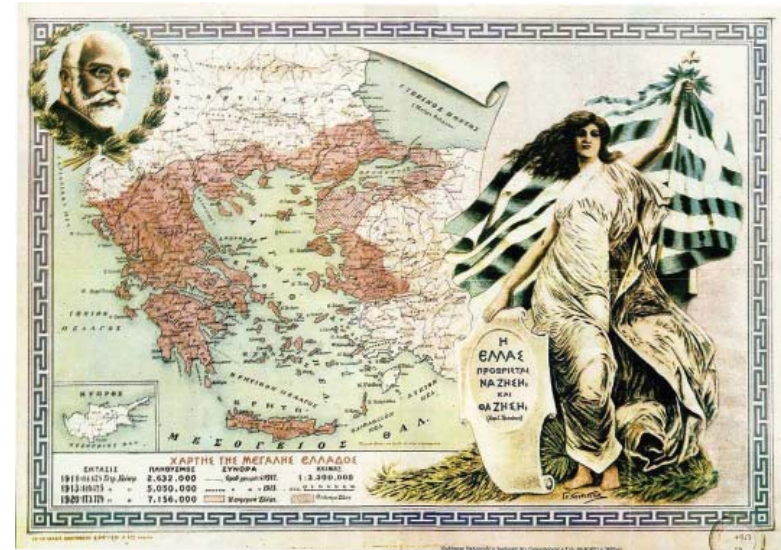


Fig.1.25. Map of Greater Greece following the Treaty of Sèvres, when the Megali Idea seemed close to realization, indicating the land expected to be claimed after the anticipated Hellenic victory in the Greco-Turkish War.

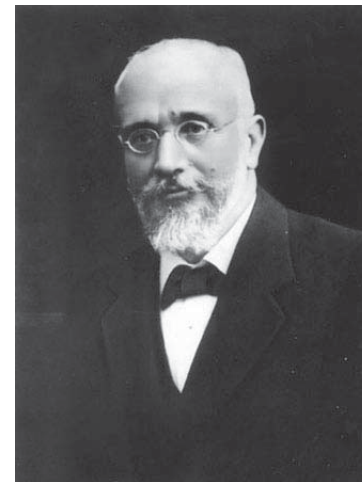


Fig.1.26. Eleftherios Venizelos, Prime Minister of Greece October 1910 - February 1915.

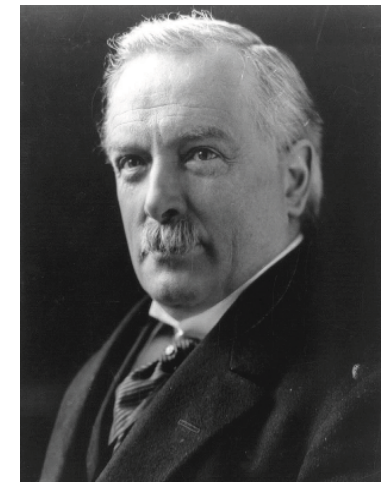


Fig.1.27. David Lloyd George, Prime Minister of Great Britain December 1916 - October 1922.



Fig.1.28. Pontian Greeks marched by the Turks to the desert, to die.



Fig.1.30. Greeks of all ages were tortured and killed.



Fig.1.32. The great fire of Smyrna (Ismir) on the Asia Minor coast.



Fig.1.34. Greeks forced onto boats at Smyrna quay while allies look on.

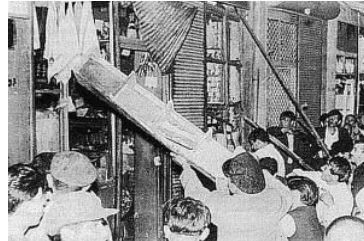


Fig.1.29. Hellenic property attacked in Constantinople Pogrom (destruction)



Fig.1.31. Christian leaders hung. One of the first steps of the genocide.



Fig.1.33. Slave labour trains move Greeks to labour camps. Few survived.



Fig.1.35. Boats sink amidst the deportation panic at Smyrna quay.

the catastrophic failure of the ‘*Megali Idea*’ during the Greco-Turkish war of 1919-1922, Greece and Turkey agreed to a population exchange to settle the dispute in 1923 with the Treaty of Lausanne²⁹. Termed the “Asia Minor Catastrophe”, Christian Orthodox Hellenes living in Asia Minor were deported back to mainland Greece while Muslim Turks living in Greece were likewise sent back to their homeland³⁰. It is estimated that between 1.3 million³¹ and 1.5 million Greek Orthodox inhabitants from the originally calculated 2.8 million³² Ottoman Empire Greeks fled to repopulate the Greek mainland. A further unknown number fled to other surrounding nations while about 300,000 citizens were permitted to remain in Constantinople (these remaining Greeks were deported from Constantinople in 1964). The remainder (an estimated 600,000³³) were massacred prior to or during the expulsion from Turkey.

The relationship of Greeks with their national history is discussed by Vasilis Lambropoulos, professor of Neo-Hellenic and comparative literature at the University of Michigan in an interview for Greek newspaper *Η Καθημερινή* (*The Daily*). Greece possesses the distinct characteristic of historic depth however it is not a continuous history on account of numerous long periods of inactivity under foreign conquest.

We are blessed to torment ourselves, to live a discontinuity. However this is our continuity. We are always searching for a Hellenism that we thought was more honest, pure, complete and united. And we don't succeed in achieving it. This presents us with a complex, a constant anxiety. If we allow it to, this anxiety will get the best of us, and it will develop into hysteria and nationalism. If on the other hand we approach it as a pleasant invitation, then we achieve a new Hellenism which belongs to us³⁴.

This is precisely what created the '*Megali Idea*' following the emancipation from Ottoman rule, which in turn led to the Asia Minor Catastrophe. Prime Minister Eleftherios Venizelos, assisted by British Prime Minister David Lloyd George had severely miscalculated the situation in Asia Minor at the Paris Peace Conference. The Asia Minor Catastrophe depicts a perfect example of foreign powers (the Allies) meddling in national politics and deviously leading the still immature Greek state to devastation in order to secure their interests (control of the Bosphorus Strait). On the other hand, the tyrannical and expansionist tendencies of the Ottoman Empire can also be seen in the retaliative '*Megali Idea*' nationalist policies of Venizelos. The formerly oppressed, now emancipated, took on the qualities of the oppressor³⁵.

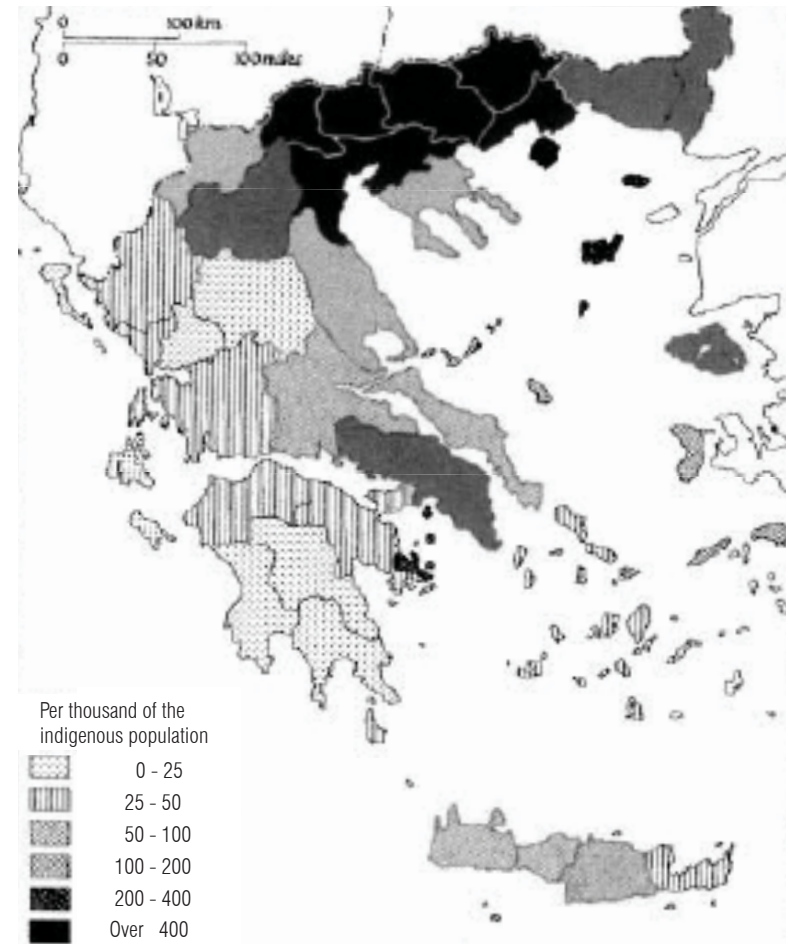
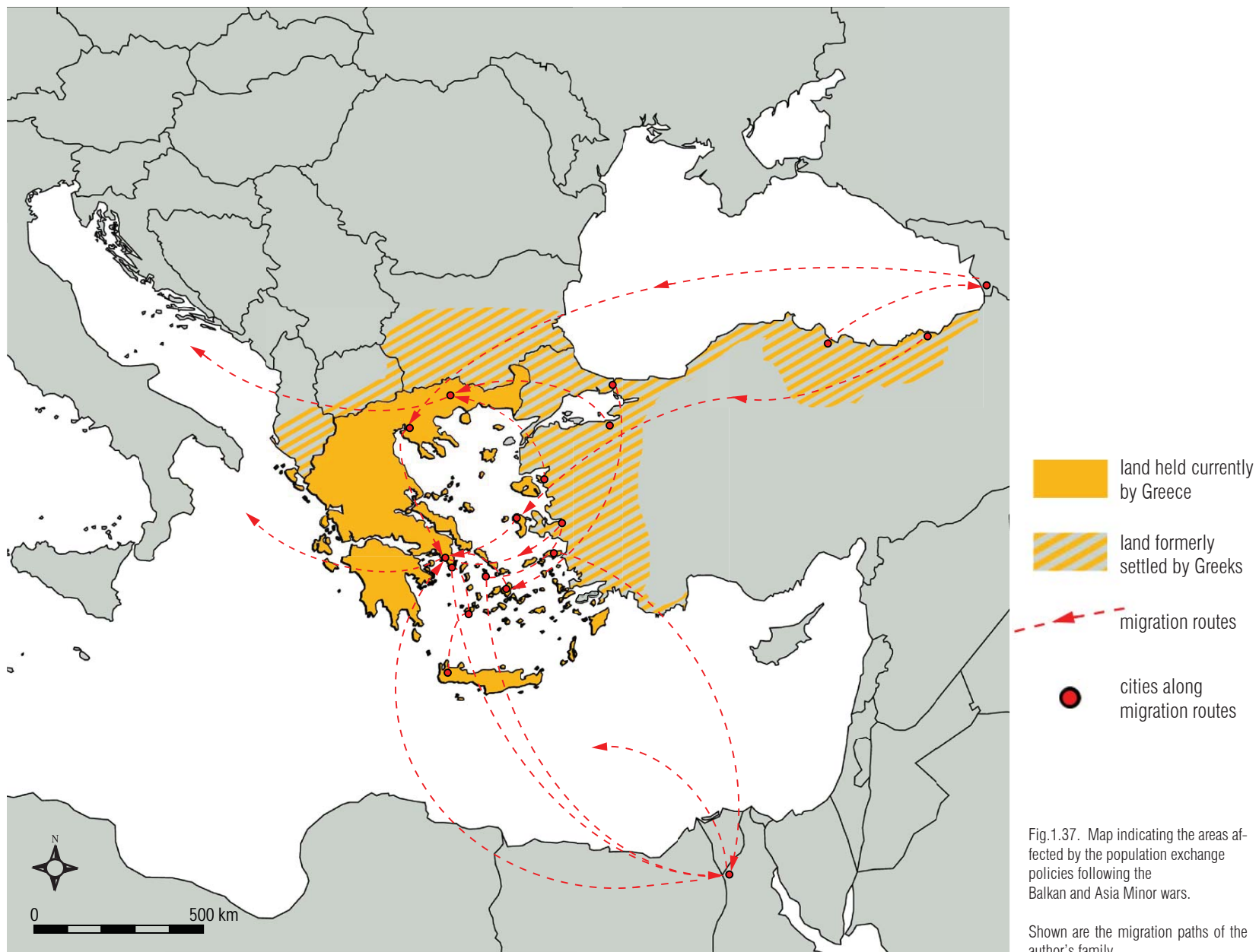


Fig.1.36. Pattern of Greek refugee settlement during the inter-war period. The northern province of Macedonia received the majority of the refugee population (more than 600 000) while the region of Attica took in slightly more than 300 000 people.



MODERN ATHENS

Just as the ancient Athenian city state, so the modern Greek state was born of a catastrophe. Up until the 1920s, the urban morphology of Athens resembled that of a small town. Following the ancient example, the newcomers, expelled from their ancient homeland, were given property and were made citizens. Approximately 300,000 of these refugees settled in central Greece and Attica³⁶. The population of Athens and the surrounding hinterland had suddenly exploded. The insufficient housing for the refugee population resulted in the emergence of illegal housing clusters around the proportionately few refugee housing estates which had been built for the incoming migrants. These squatter settlements, only after they had been densely inhabited, later developed into legalized (i.e.: incorporated in the city's urban plan) working class neighborhoods. Decades later, internal refugees escaping agricultural poverty after the civil war of 1946-1949 flocked to Athens in order to find work and a steady income. Similar development patterns continued in order to meet the increasing urban housing demands. Illegal settlements around the periphery of existing neighborhoods continued to emerge, and in older neighborhoods, single family dwellings were developed into multi storey apartment buildings able to house more residents. The urban population of Athens grew drastically, resulting in overcrowding.

Given the monocentric nature of Greek politics and by consequence, of the Greek economy, the Athenian capital continues to densify with the constant influx of population into the urban core. Provincial populations struggling with the unsteady economic incomes of the rural agrarian lifestyle continue to settle in the capital. Migration for survival, a fact of life for the colonizing Greeks of antiquity remains a reality for modern Hellenes. The deterioration of the landscape and the environment throughout the ages has resulted in even less

Fig.1.38.
Refugee apartment
blocks on Alexandras
Ave. Athens built
1933-1935



illegal squatter refugee quarters-
clockwise:

Fig.1.39. Piraeus 1944

Fig.1.40. Michalakopoulou

Fig.1.41. Anaphiotika 1938



illegal squatter refugee homes-
left: Fig.1.42. Kaisariani 1943
right: Fig.1.43. Kokkinia 1944





Fig.1.44. A view from the hilltop neighbourhood of Kypseili toward the Acropolis and Piraeus showing the dense residential sprawl of the Athenian plain.



Fig.1.45. A view from the Hymettus Mountain across the densely packed city of Athens.



Fig.1.46. A satellite image of Athens reveals with striking clarity the density of the city's fabric.

predictable crop yields for modern farmers. The changing climate along with reduced rainfall, rising temperatures, soil erosion, and forest fires results in increasingly difficult agricultural practice. As in antiquity, reduced crop yield means the inability for a farmer to sustain himself and his family. Contrary to the migration patterns of their ancient counterparts, modern migrants congregate in already overpopulated urban conglomerations such as Athens. In order to survive, most Greek agricultural families leave their farmland in the hands of their aging relatives and move to the city in search for a steady income and a better life.

Half of the population of modern Greece now lives in Athens and its periphery. With a continuously increasing population flow to the Greek administrative centre, it is only natural that the capital continues to densify and sprawl onto the Attic hinterland. With intensifying

population concentrations and traffic congestion in an ever increasing proportion of the urban core, Athenians feel the need to escape the city to the countryside and coast in order to unwind, for vacationing or even for permanent residence while continuing to work in the urban core. Since the 1960s the trend of having an urban home in addition to a rural dwelling has been a common phenomenon for an ever increasing proportion of urban dwellers. The Greek landscape, upon which the founding myths of the Greek civilization are based, is highly charged with historical and mythical memory. It has been repeated on many occasions by numerous Greek authors and poets that the greatest inheritance of the Greeks is the landscape. Naturalist poet Pericles Yannopoulos used to say ‘ο βιος εν Ελλαδι ειναι υπαιθριος’, or “life in Greece is lived mainly in the open air”³⁷ to describe the impact of the habitable landscape on the Greek psyche. The landscape is something of which we were once occupants, and therefore provokes feelings of nostalgia. This is especially true of the Greek landscape from which its modern inhabitants have been on the most part separated on account of a necessity for the urban lifestyle. This nostalgia for life in nature is the precise reason that urban dwellers who had migrated from pastoral villages sought a rural escape from a hard city life encased in concrete. It is also the source of the obsessive touristic development of the Greek landscape both for local and foreign vacationers. Such fervent extension onto the landscape, as in the overcrowded Attic periphery, threatens the balance of natural and agricultural systems which support human life here.

CONTEMPORARY SIGNIFICANCE OF PROPERTY

In the past, private property gave its owner a place in the world and the opportunity to belong to the body politic of that place. The acquisition of property and by extension of citizenship was something men strove for in order to be a part of the administrative action of their city. Citizenship was a means to connect to the cosmic mystical



Fig.1.47. Tourists camping on a beach in Gythio, Peloponnissos. 2006



Fig.1.48. A labourer napping outdoors, Attica 1947.



Fig.1.49. A seaside outdoor wedding in Porto Rafti, Attica. 2008.



Fig.1.50. A seaside open-air fish tavern in Chania, Crete. 2008.



Fig.1.51. A dining room in the countryside, Salamis 1955.

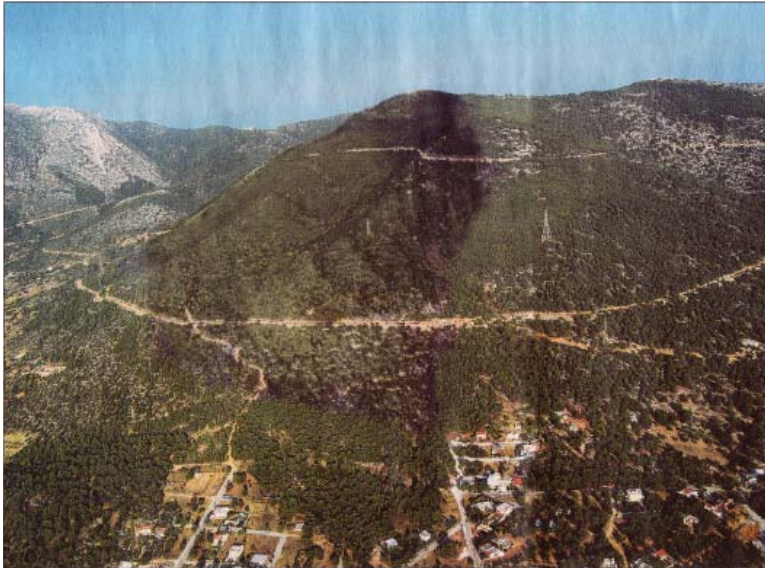


Fig.1.52. A photograph appearing in July 27 2008's edition of 'Η Καθημερινή' newspaper (*The Daily*). The caption reads as follows. "The fires which devour the hillsides of Hymmetus Mountain seem to be designed in order to expand legally buildable land area. This photograph of the burnt areas near Glyka Nera neighbourhood shows the direction of the fire and provides evidence of a human hand behind the initiation of the fire. Split administrative responsibility, the absence of fire guards, and the weakness of planned prevention allow the audacious arsonists to reconfigure the residential fabric as they see fit."



Fig.1.53. A cartoon appearing in the Hellenic newspaper 'Το Βήμα' (*The Stride*) depicting the consumptive nature of property acquisition in Greece.

reality through contributions to the body politic of their city. Later, private wealth, rather than private property, became the qualifying condition for admission into public life as it assured that its owner would not be required to engage in providing for himself, leaving him free to engage in public activity³⁸. In the modern world, property ownership serves the purpose of increasing personal wealth. It is no longer necessary to own property in order to acquire citizenship. Modern society is readily willing to sacrifice private property in the interests of accumulating wealth. Unfortunately, modern property has lost its former worldly character, threatening the abolition of private property with the implication of losing the place of one's own³⁹.

Property ownership in Greece has become the most common wealth indicator. As Greece has always been a very difficult country in which to make a living, real estate ownership and development has become the most profitable industry among Hellenes. The unpredictability and decrease in crop yields from agricultural properties along with the recent decrease in remuneration for the produce at market has left farmers with little or no choice but to sell off their land and move to the city. Recent obsession with real estate acquisition amid the general population has provided the demand to complement the situation. Urbanization and the tourism industry, constantly on the rise in Greece, allow for these development ventures to continue. Greed has taken hold, as people attempt to acquire as much property as they possibly can, in attempts to increase their personal worth. Urban properties are rented out, while rural properties can be developed as either residential buildings, adding to the sprawling urban mass, or touristic properties, contributing to the destruction of Greece's environmental wealth. Property ownership has become a common business enterprise. Developers have finally found a way to transform the unprofitable agricultural and mountainous land areas into goldmines, but at what price?

Property acquisition in Greece happens at all costs. Investors buy up as much property in as many diverse markets as possible in order to live their desired luxurious lifestyle. Corruption is rampant, and the natural ecosystems, upon which life is completely dependent and whose balance is so delicate, are completely disregarded in the interest of increasing personal profits. Often, property acquisition happens through illegal means, disregarding environmental protection laws in order to expand buildable land areas. As if the environmental destruction were not bad enough, the social implications of property ownership for wealth accumulation compound the issue. Disproportionate development of private properties in the interest of maximizing profits means that any and all undeveloped land is at risk of being bought up and turned into even more private residences. Consequently, no land is left to development for the public realm. In an underdeveloped public realm, the urban infrastructure for public action and exchange does not exist either. A real estate investor can use only one of his numerous properties as his home, and only one of these properties can be truly classified as one's place in the world. When private property itself no longer holds the implication of citizenship, then the residents dwelling within no longer submit to a sense of civic responsibility intrinsic to the *polis*. When one does not hold a stake in his place of residence, then he is less likely to give back to the social wellbeing of that place. Multiple property owners do not feel the need to give anything back to the numerous communities in which they own. Conversely, they demand that the governing authorities in each respective place give them their due. They demand better services and more benefits, but are not willing to help with the realization of these goals, either by community involvement, the donation of funds, tax payments or any other form of public action. It is extremely common to hear Greeks complain about the absence of action on the part of the state regarding any issue. They demand legislations that will make their own lives easier, and most often, these demands would negatively impact the social balance



Fig.1.54. A new housing development under construction on Parnitha mountain near Athens. Parnitha is protected as a national park and such construction is illegal, generating speculation as to the administrative corruption involved in this and many other similar construction projects.



Fig.1.55. A poster advertising the Marshall Plan in post war Greece. The strategy of the United States after World War II was to help rebuild and create a stronger foundation for the nations of Western Europe, and to repel the reach of communism. While crucial for the recovery of Greece and the rest of Europe, the plan was largely based on the proliferation of American ideas, products and social organization. Such foreign aid policies make the private economics of a nation into a public affair. The behavioural normalization expected in return for monetary aid erodes the potent role of the citizen and the independence of the nation in question. The Marshal plan was the first element of European integration; the union of a peaceful and united block of nations, tied to American trade and capital.

and national economic stability if fully enforced. In this case, action has been misunderstood as something required of a politician while it should be part of the daily engagement of every citizen. The blame on the government is often misplaced, when the responsibility is typically that of the common citizen in his own illicit activities. Everything that a healthy public realm requires seems to be too much to ask of the typical citizen. In reality, every citizen must understand that in order for the provision of better services and benefits to become manifest, there must be some sacrifice in the form of public action on the part of the citizen.

MODERN ROLE OF CITIZEN IN DEMOCRACY

The degradation of public and private realms and the consequence for political life was astutely described by Hannah Arendt. The public realm of the modern consumer age, preoccupied with economics which were formerly confined to the private realm of the household, has made the private care for private property a public concern. This rise of the concerns of the private realm into the public sphere has resulted in the emergence of society. The borderline between the private and the political has thus been blurred, and in consequence, so has the role of the citizen⁴⁰. The management of society has become akin to the management of the household, making its citizens act as though they were members of one large family, with the same convictions and concerns.

It is decisive that society, on all its levels, excludes the possibility of action, which formerly was excluded from the household. Instead, society expects from each of its members a certain kind of behavior, imposing innumerable and various rules, all of which tend to “normalize” its members, to make them behave, to exclude spontaneous action or outstanding achievement⁴¹.



Fig.1.56. A public education poster from 1980, the year before Greece's ascension into the European Union. Yet another example of behavioural normalization implemented in Greece through the joining of a larger societal body. ie: The EU was intended to make Greeks civilized.

This is the main problem with modern mass society. The individuation which in antiquity was the key to the success of the public realm and the *polis* has been relegated to the private domain. Distinguished public acts of excellence are now frowned upon as disturbance of the public order, misbehavior or even insanity. The 'good citizen' has now become mediocre, unremarkable, and timid.

It is known that a democracy with a fully involved citizenry is only possible with small numbers typical of a modest town such as was Athens in antiquity. The more people involved in the body politic, the more likely it is that the public realm will be comprised of the social rather than the political⁴². When the concept of democracy is expanded to include all people of a nation, such involvement is surely impossible and as such, the common citizen is left on the periphery of the democratic process. Living a political life in the sense of contributing to the common good through action in the public realm should not be reserved for the politicians of the House of Commons. Unfortunately for Greek society (and all modern societies for that matter) the common citizen has been conditioned into remaining submissive, thinking that he is impotent to influence the public realm. In consequence, public indifference leaves the solution to problems which affect all citizens in the hands of the elected minority. Papanoutsos provides an explanation for this phenomenon.

The connection of our citizens with the state, and our national organization, would have been very different, more ideal, compact, and instrumentally cohesive, if this wonderful unit, the community, which was created with the blood of our people from the most ancient years and operated so brilliantly during the years of servitude, was left to develop naturally in a more universal, richly divided administrative system. The foreign administrations destroyed this unit and imposed upon us institutions and molds, in which we attempt to find ourselves, but in vain, even in the present day.⁴³

Fig.1.57. and 1.58. Garbage strewn around the provided garbage receptacles in Porto Rafti, Attica.

It is common practice in Greece to leave garbage around the bins and not inside them. Indifference with regards to the public realm is rampant, as it is provided and cared for by the state. Rather than each citizen taking responsibility for their actions and omissions, as in the case of littering, seen here, citizens accuse the state of not keeping the streets clean. This can be attributed to the misinformation and miscommunication amongst citizens on account of the lack of public gathering spaces. Citizens feel they are impotent to influence the public realm, leading them to place blame and responsibility on the elected minority. If private citizens had properly dealt with their refuse to begin with, this situation would not have manifested.



Fig.1.59. Garbage strewn around a garbage receptacle during a garbage strike in Athens in 2006. Seen here is an extreme illustration of apathy in relation to the case in point. This can be seen as a metaphor for the possible 'mess' that can be made of public affairs if citizens remain indifferent and uninvolved.

The real problem, however, is the isolation of each person from his fellow citizen. Arendt says that “modern equality based on the conformism inherent in society and possible only because behavior has replaced action as the foremost mode of human relationship, is in every respect different from equality in antiquity”⁴⁴. Where ancient equality was based on individuality through public action, modern equality is based on behaving, or put more bluntly, doing nothing. When men no longer engage in public speech and action, the space of appearance wastes away, and men become alienated from one another. This alienation breeds subjection, as power can only exist between men where action and speech coexist.

Feelings of betrayal of the people by the governing party and corruption for the economic benefit of the powerful are common among Greek citizens. Scandals are continuously brought to light which validate these concerns. Such corruption within the governing body yields a disregard for laws, state property and initiatives. In fact, the absence of the common citizen from the public realm leaves him powerless. Overdevelopment and densification of the ground plane as private properties leaves no space available to be given over to civic space for public interaction. In the absence of places of exchange, speech and action are rendered impossible, leaving citizens even more powerless. Feeling left out of their supposed democracy, citizens begin to operate in their own best interests. More often than not, these private initiatives are illegal and cause immeasurable damage to environment. In the end, both citizens and politicians have turned the political circumstances of their beloved nation into a free for all culminating in social chaos. This situation is unfortunate, as it could be avoided with an increased involvement in public life. If people acted together, they could reduce the opportunities for the powerful to profit while the weak are looking away.

CALL TO ACTION

Globally, our contemporary situation is one of crisis. Mankind consumes natural resources at an unsustainable rate, polluting and destroying the delicate balance of the world's ecosystems. The situation is no different in Greece. Lack of comprehensive legislation and widespread blatant disregard for state regulations has put much pressure on Greece's delicate ecology through environmental destruction. The sprawling Athenian capital into the peripheral Attic hinterland is just one broad example of the nation's impending environmental destruction. As the city grows into the Attic peninsula and land uses rapidly shift from provincial to urban or industrial applications, formerly rural towns experience sudden population growth and poorly planned development. These towns eventually end up annexed onto the sprawling capital. The Greek landscape is not well equipped for the modern world. Infrastructure views progress as if it were a natural occurrence, breeding more and more uncontrolled growth. This growth must be molded into a more balanced approach to the development of both the urban and rural landscapes.

One such town being overrun by assumed progress is the Town of Porto Rafti in the Municipality of Markopoulo on the east coast of the Attic Peninsula. As a popular vacation destination of late, rapid development threatens the urban morphology, ecological stability, and social health of this formerly pristine landscape. In the interest of profit, Porto Rafti continues to be developed without a clear plan for its future. Longtime residents of the bay area lament the destruction of their beloved town. In the interest of both investors and residents, Porto Rafti cannot continue to deteriorate at the rate that it has been recently. An overcrowded urban realm, polluted natural realms of land and sea along with a socially alienated population will make Porto Rafti an undesirable place, both for visitors and residents. The town is headed in this direction already. The local community must

Fig.1.60. Key map indicating the location of Porto Rafti relative to Athens and Attica



take action now to save their home. Rather than sitting idly by and allowing the rape of the local landscape, it is time for the local residents to take political action. The foundation of politics is the act of saying no. Athenian antiquity understood well the power of this vote. It is time to say No to the administrative powers allowing this destruction in exchange for money. It is time to say no to each citizen, visitors and residents alike, who think it is acceptable to destroy through pollution and illegal acts. It is time to say no to allowing Porto Rafti to become a part of uncontrolled progress.

Fig.2.1. Birdseye view of Porto Rafti looking toward the North.



Chapter 2

PORTO RAFTI

HISTORY OF URBAN DEVELOPMENT



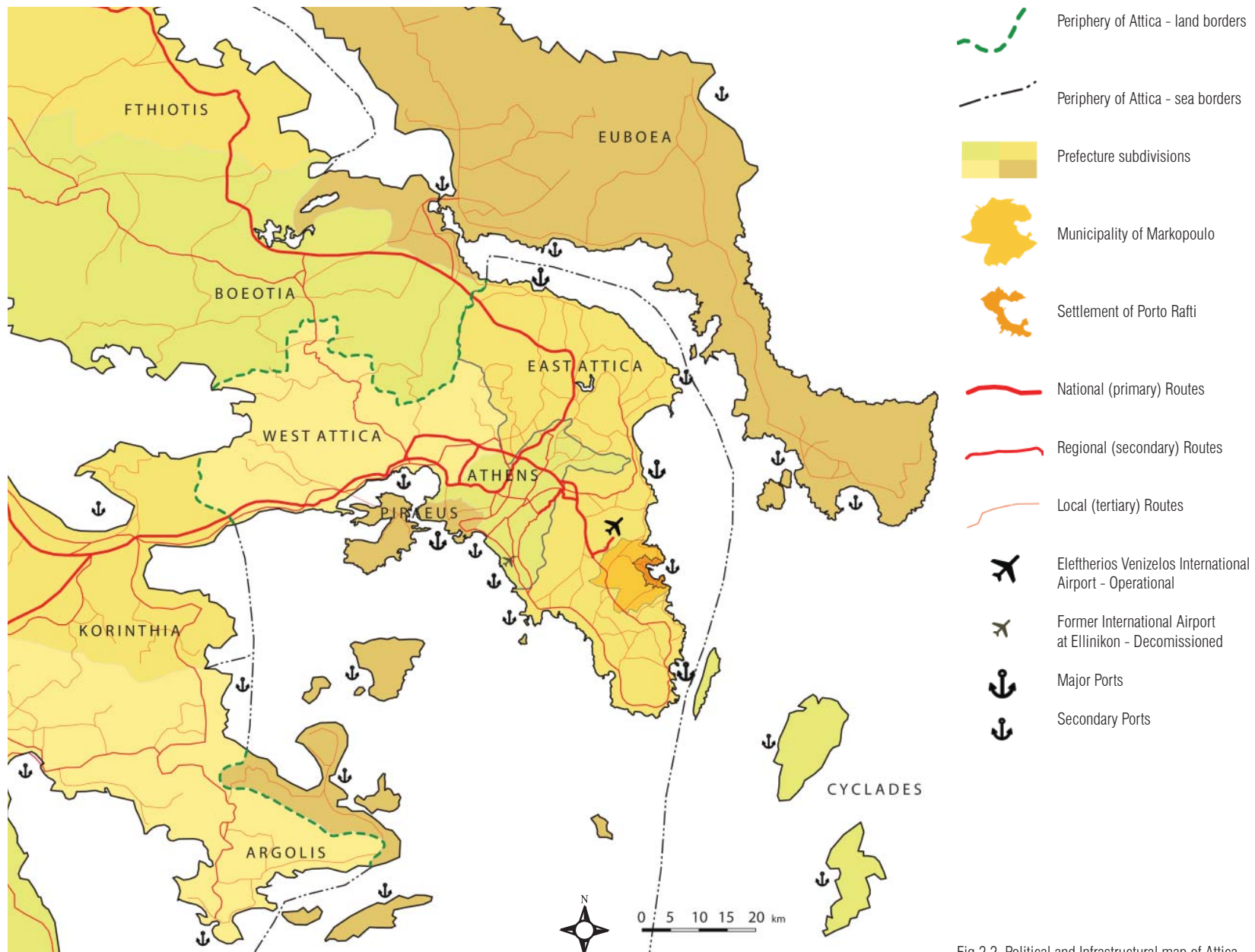


Fig.2.2. Political and Infrastructural map of Attica

SETTING

Since antiquity, the city of Athens has functioned as the economical, political and cultural nucleus of the region. This role has remained constant, and so has the sustaining role of the surrounding plains of the Attic peninsula. The expansion of the Athenian conglomeration onto the agricultural hinterland, however, renders this delicate relationship unsteady. While the 1900s have provided the framework for most of the changes in the region, the most dramatic progress has occurred in the latter half of the century.

Beyond the Hymettus mountain range flanking the east side of Athens lies the Mesogeia plain. Rich with springs, streams and seasonal watersheds descending from the surrounding mountains, the plains of this region have always been very fertile. Agriculture has historically dominated the landscape of the Mesogeia plain up until the onset of a capitalist society. In addition to the typical sustenance crops, the area has since antiquity been the primary vine growing region of Athens.



Fig. 2.5. View of farmland looking North East at Porto Rafti 1945.



Fig.2.3. Markopoulo Vine Harvest



Fig.2.4. Markopoulo Wheat Harvest

“All of the families would make wine and sell it. I remember my grandfather’s house still had a wine press, and during the war, my father would take wine to Athens in a horse drawn carriage to be sold. Most houses had stables, horses and other livestock. They planted vegetables, but mainly on a household scale. The vineyards were the mains source of income. It was a pre-capitalist society. Everything was produced at home.”¹



Fig. 2.6. View of farmland looking North at Porto Rafti (Prasiae) 1920.

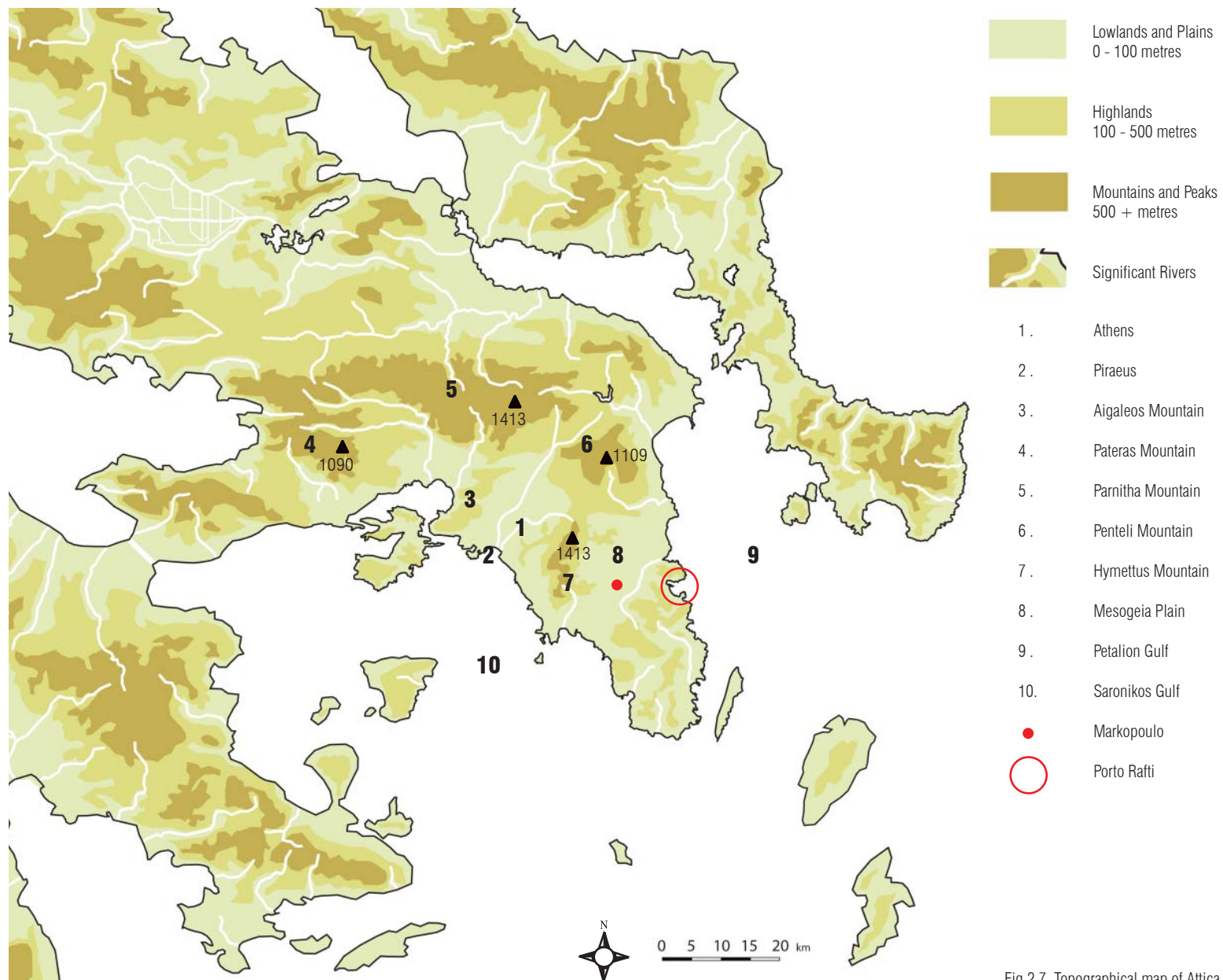


Fig.2.7. Topographical map of Attica

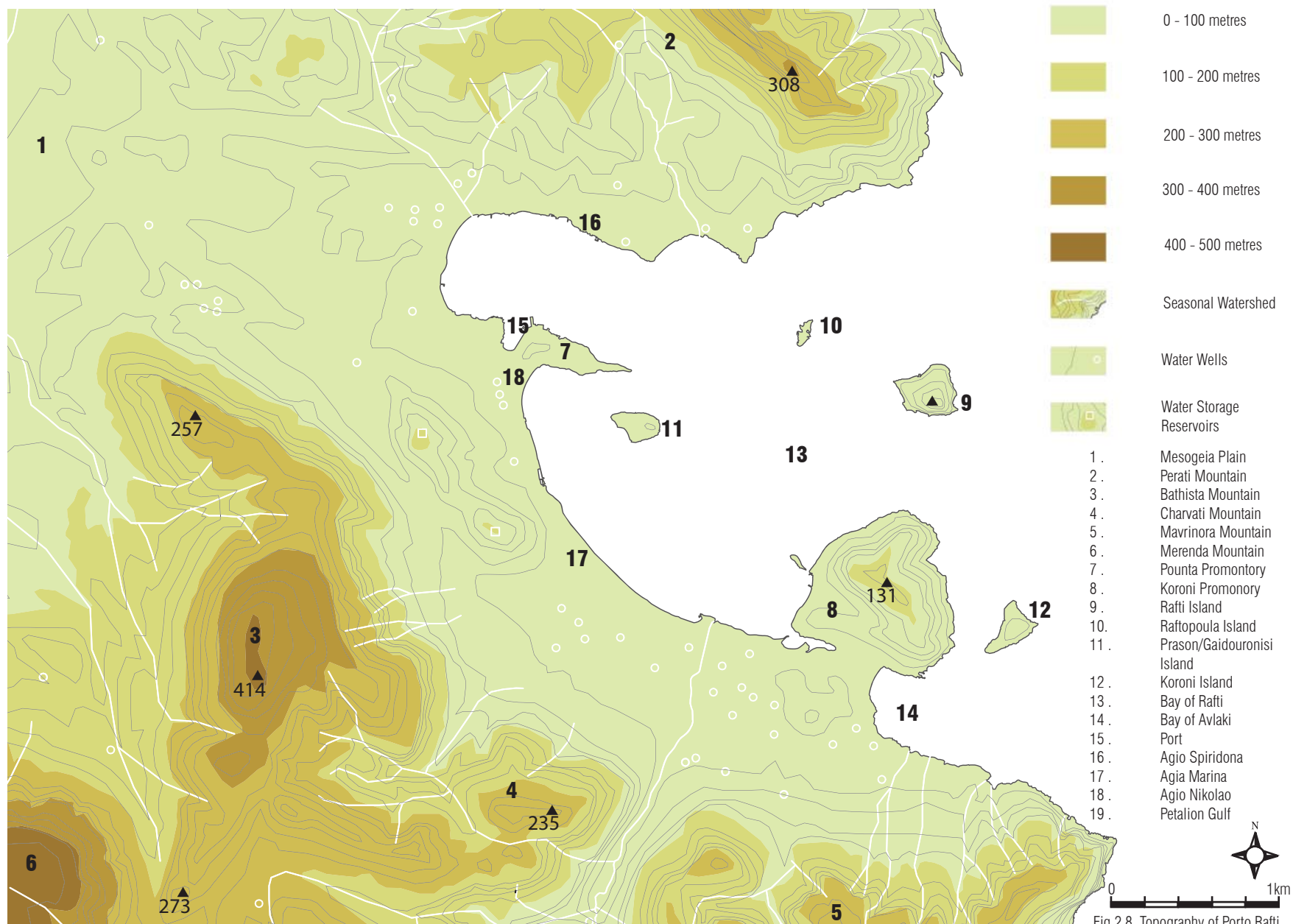
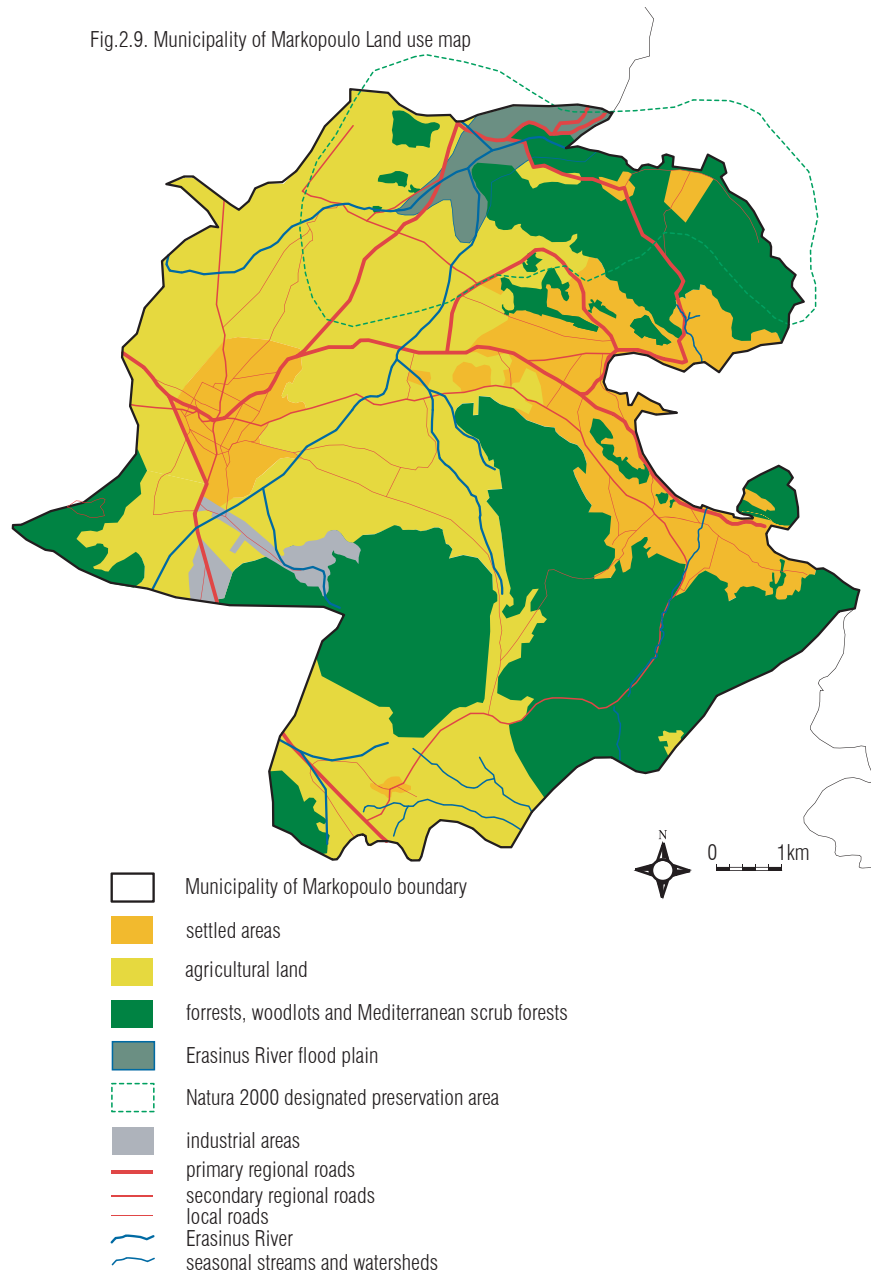


Fig.2.8. Topography of Porto Rafti

Fig.2.9. Municipality of Markopoulo Land use map



The town of Markopoulo is centrally located on the Mesogeia plain, within the greater metropolitan area of Athens, and is the administrative centre of the demos (municipality) of Markopoulo. Within its jurisdiction is Porto Rafti, a coastal settlement positioned on a bay just 7km to the east, surrounding the best natural harbor of the Attic peninsula. Porto Rafti surrounds a bay containing three islands known as Rafti, Raftopoula and Gaidouronisi and extends from the beaches of Erotospilia to Avlaki. The settlement is bound to the north by the mountain of Perati, to the east by the Petalion Gulf, to the south by the mountains of Charvati and Mavrinora, and to the west by the mountain of Bathista and the Mesogeia plain itself. The main bay is subdivided into two smaller bays by the Pounta peninsula on which the port is located². A third bay is separated from the first two by the promontory of Koroni.

HISTORICAL LAND USE

The town of Porto Rafti on the eastern coast of Attica has a long and rich history of inhabitation. It has been occupied since antiquity. The bay around which the settlement is built is considered to be the best natural port in all of Attica. For this reason, it was used for thousands of years as the main port for trade between Athens and the colonies of the western coast of the Greek mainland, the Aegean islands, and the colonies of Asia Minor and the Black Sea. In antiquity, Stireia and Prasiae, two of the numerous demoi of Athens were located on the bay³. Pausanias writes in his Description of Greece that Prasiae, on the southern shore of present day Porto Rafti, was the home to a temple of Apollo, to which the first fruits were brought, for the final stop of a religious procession through many foreign lands, en route to the temple of Apollo at Delos⁴. The bay at Porto Rafti and the surrounding plains of Mesogeia have since antiquity been the main vine production region of Athens. Mythologist and historian of religion Carl Kerényi speculates that Porto Rafti is the most likely point of ar-

rival of Dionysus in Attica. This is on account of the name of Prasiae, named as such for the demos' striking gardenlike vegetation. Another town named Prasiai existed in Laconia, known as the 'garden of Dionysus', a landing place of Dionysus in the Peloponese⁵. The theory seems plausible.

Being in such close proximity to the main body of the Mesogeia plains, Porto Rafti had all of the same agricultural endowments, producing ample quantities of vine and grain. This coastal settlement, however, is separated from the main body of the plains by the low-lying mountains, sheltering the community from the surrounding landscape. In antiquity, the port was managed by Prasiae and Stireia, two of the numerous demoi under the protection of Athens. The port was used for trade with the Aegean islands and the colonies of Asia Minor. Sharing the same fate with most demoi of Attica, Prasiae and Stireia began to decline during the Roman Era, only to be torn down completely by fanatic Christians during the years of the Byzantine Empire. With no powerful protector, the isolated bay area became a convenient point of entry for attacking armies and pirates. Most inhabitants, therefore, joined the settlements further inland (such as Markopoulo) for protection, and made the commute to tend to the crops near the bay.

Between the coast and the steeper inclines of the enclosing mountains lies a crescent of fertile land, gently sloping toward the shore. The valuable resources of Porto Rafti were never wasted by the residents of Markopoulo. During the 1800s, the bay area was sparsely populated. A tiny settlement of five or six houses stood at the port which provided accommodation to fishermen and port labourers. Few farm houses were scattered between Agio Spiridona and Avlaki, serving as seasonal accommodation for the farmers from Markopoulo and their livestock, who would remain in the bay area for the growing season and subsequently return to town in the winter⁶. During this

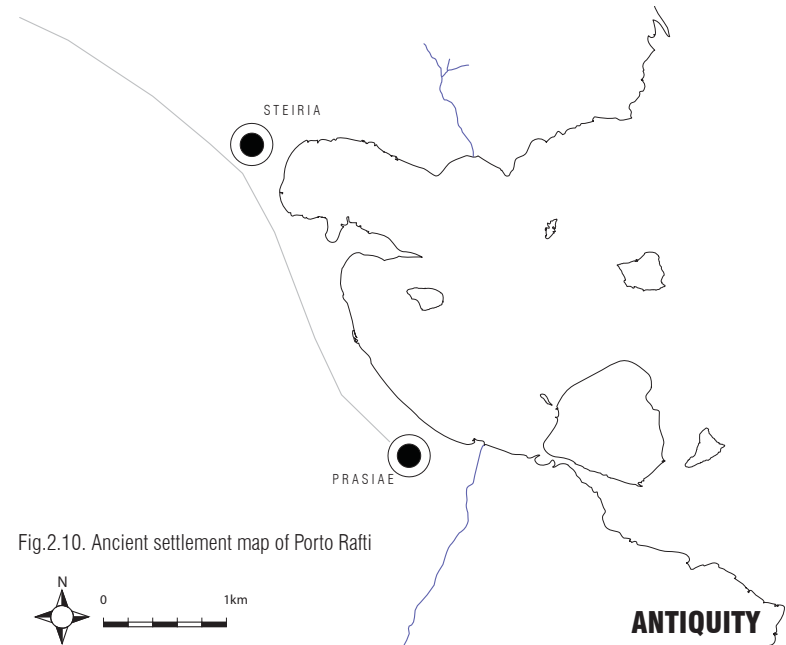


Fig.2.10. Ancient settlement map of Porto Rafti

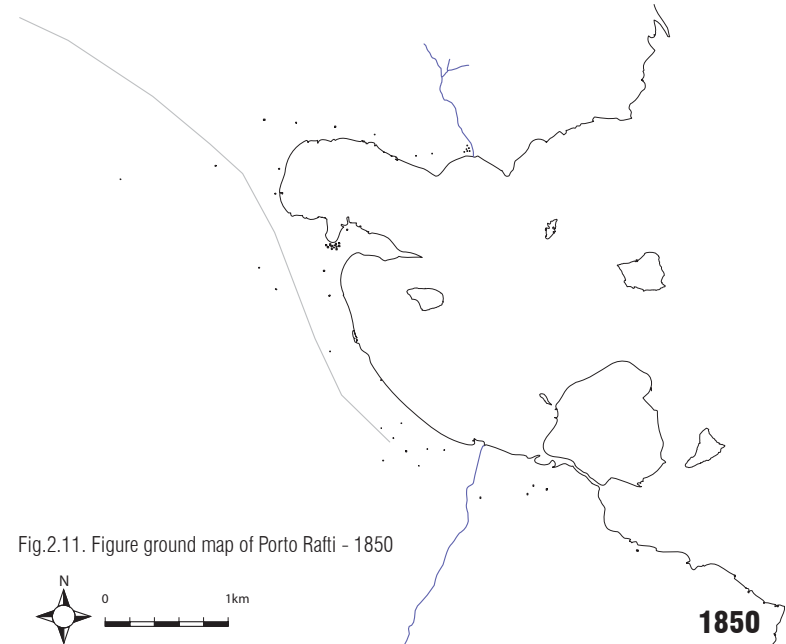
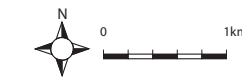


Fig.2.11. Figure ground map of Porto Rafti - 1850



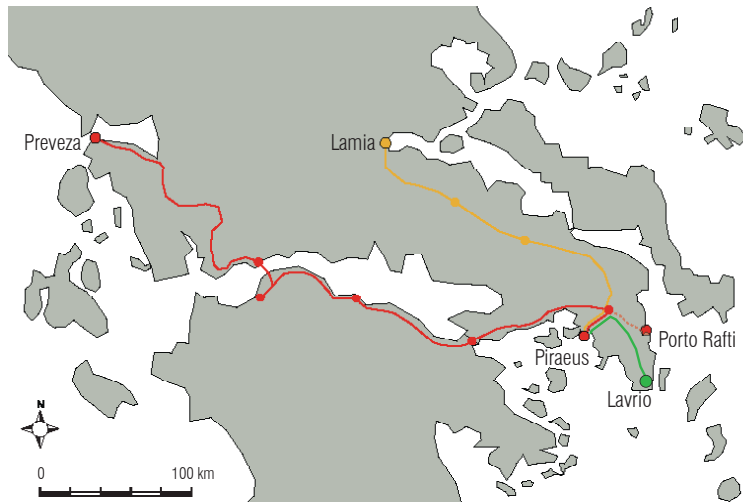


Fig.2.12. Map of Proposed versus Realised train routes in 1873. The train to Lavrio was built in 1884.



Fig.2.13. Steam train stationed at Markopoulo train station

era of agricultural economy, larger plots of land on the plains were imparted as inheritance to boys, to be farmed for the sustenance of their families. Alternatively, girls were given coastal properties as dowry since the land closer to the sea was rockier and less productive⁷. The crops, seafood and port taxes from Porto Rafti were all consigned to the sustenance and revenue of Markopoulo⁸.

POST OTTOMAN RECONSTRUCTION

During a period of ethnic reconstruction following the 1821 liberation from the Ottoman yoke, a plan to implement an organizational restoration within Greece was put forth. In 1873, two rail corridors were proposed to better serve land trade and to better connect the residents of the nation. At the time, the port of Porto Rafti was operating continuously, with important shipments passing through the harbor always increasing. The proposed lines were to extend from the port of Piraeus to Lamia in the prefecture of Phthiotis, and from the port of Porto Rafti to Preveza in the prefecture of Epirus. The latter route was ultimately changed to originate in Piraeus as well, as a result of the political influence of the politicians in Piraeus⁹. Meanwhile the abundant shipments passing through Porto Rafti were transported there on the ancient road that was slightly better than a footpath. By 1879 there was pressing need for improvements to this thoroughfare. It was not until 1915, however, that the Markopoulo-Porto Rafti road was paved¹⁰, marking the beginning of land based infrastructure linking this ancient port with the capital. By this time, the road leading from Athens to the town of Lavrio had long since (1881) been completed. All Attic midland towns and villages were thus connected to the capital. These roads significantly influenced the economic prosperity of these towns, allowing the more efficient transportation of goods and passengers between urban centres. The Athens – Lavrio rail line which was completed in 1884 further enhanced these connections¹¹.

The newly refurbished Markopoulo-Porto Rafti road was now properly equipped to handle the abundant shipments traversing its route. This also made the trip easier for the farmers of Markopoulo to travel to their properties on the coast. Having experienced the benefits of a proper thoroughfare, plans to extend the road to Porto Rafti along the north shore of the bay to Agio Spiridon and along the south shore to Prasiae were put into motion in 1918 to further facilitate crop transportation for the bay area farmers. With simplified access along the bay, vacationing by the sea became more popular than ever. In 1924, in efforts to promote tourism in Greece, the Ministry of National Economy began collecting information regarding vacation spots around the country. In a letter to the mayor of Markopoulo, the minister wrote: "It is known that your town Markopoulo and the site of Porto Rafti, are used during summer as a retreat for vacationing families from numerous areas"¹². It seems this was a popular spot for local vacationers. Several years prior, in 1921, the first proposal was put together for a vacation settlement on the Pounta peninsula. In the proposal, this was said to be the desire of all residents of Markopoulo, but this would have been impossible given that hundreds of able bodied men were away fighting the Greco-Turkish war in Asia Minor, significantly reducing agricultural productivity and subsequently the family income. The plan was nonetheless approved and properties were sold. Upon examination of a list of the purchasers, it was made clear that they were all wealthy businessmen of Markopoulo. Enraged, the farmers opposed the settlement as it expropriated agricultural land, and the settlement at Pounta was subsequently canceled. Given that hardship was typical of the agricultural community, it is safe to say that the vacationers were not living in vacation homes as the businessmen proposed to build. Rather, they assembled huts on the beach constructed of straw. This was a common vacationers' practice in Porto Rafti up until the 1960s.



Fig.2.14. Vacationers and beach huts at Avlaki beach.



Fig.2.15. A typical beach hut at Avlaki beach.

BALKAN AND ASIA MINOR WARS

The twentieth century brought on major world events which had a vast impact on international affairs. While the present description focuses upon the local development of Markopoulo and Porto Rafti, it is important to understand the global context which directly influenced the evolution of the site. Following the 1922 naturalization of the Asia Minor refugees and the repatriation of the soldiers who had been away at war for over a decade, Greece began a difficult period of healing. Many refugee families were separated in the traumatic deportations from Asia Minor. A large percentage of refugee men were never allowed to leave Turkey, and were sent to labour regiments where they ultimately died. Many of the retreating Greek soldiers were captured and suffered the same fate¹³. The first decade in Greece consisted of attempts to reunite broken families and reconciling new settlers with the local inhabitants and their new reality. The Greek state and other private initiatives helped the situation by building upward of 50 000 new homes for the refugees between 1923 and 1928¹⁴. While this allowed for a more comfortable transition into Greek society and citizenship, discrimination against the newcomers was common. Initially the newcomers were settled in refugee camps where disease and death was widespread. Housing estates were built around the city by the Refugee Settlement Commission, but as this housing was insufficient, these estates were surrounded by illegal housing clusters. These areas were ultimately turned into built up working class neighbourhoods in Athens¹⁵. Many villages were founded specifically for the settlement of the refugees, while others joined existing towns. When Markopoulo was asked by state how much they had spent in the aid of refugees in their town, they answered that there had not been any refugees¹⁶.

Although records indicate that there were no refugees settling in Markopoulo and its periphery, this information conflicts with testi-



Fig.2.16. Markopoulo soldier departing for Asia Minor. The banner behind him reads: "Union of Asia Minor, Ionia. Smyrna 1920"



Fig.2.17. Hundreds of Markopoulo residents took part in the Asia Minor war. Some of them never returned home.

mony given by local residents of Asia Minor descent. Local resident Sophia Tsirozidi recounts that her family settled in Markopoulo prior to her birth there in 1923, upon their 1917 expulsion from Pontos¹⁷. Such conflicting accounts give rise to various questions as to why refugees of the Asia Minor Catastrophe were not recorded as such. Is this because they may have settled at their final destination after passing through other towns in search of a permanent residence which in turn would classify them as migrants rather than refugees? Or is it perhaps because the family may have settled outside the town proper and was not considered as part of the community? Might they have been able to bring personal possessions with them therefore not requiring the help of the town? Perhaps discrimination can be blamed for the fact that they were not acknowledged. When asked why she had not taught the Pontic dialect to her grandchildren, Mrs. Tsirozidi lamented that they were persecuted when they spoke it. It seems they tried to hide the fact that they were refugees and tried to fit in with the locals. Many refugees from Asia Minor of Greek descent, after all, were either bilingual (speaking both Greek and Turkish languages) or spoke only the Turkish language. Did Markopoulo then not have any refugees because the newcomers did not declare themselves as such? The answers to such questions are unclear. What is certain, however, is that the sudden influx of population in Greek towns generated difficulties in dealing with local growth in the traditional manner.

When the surviving soldiers of Markopoulo had returned and the town had begun to regain its normal rhythm, the municipality began to reactivate their plans for urban development. In 1928 a second attempt was made to create a proposal for Porto Rafti. Once again, the plan was conceived as a vacation settlement, having carried out topographic analysis for 20 possible neighbourhoods between the churches of Agia Marina on the south side of the bay to Agio Spiridon on the north, 400m deep from the shore¹⁹. The proposal was

“We were kicked out as Greeks and were received as Turks.”¹⁸



Fig.2.18. Image of the Port of Porto Rafti taken in 1930 from the north shore of the bay facing South.



Fig.2.19. The church of Agia Marina in 1920



Fig.2.20. The church of Agia Marina in 2008



Fig.2.21. The church of Agio Spiridon maintains its original construction in 2008.

completed in 1929, but was rejected, as the town administration did not approve of the proposed areas to be settled²⁰. The work continued, and by 1931 when Markopoulo's urban plan began to be strictly enforced, the neighbourhoods of Ntivlas (in the location of the ancient demos of Stireia), Agio Nikolaou (in the vicinity of the port) and Agio Spiridon (at the easternmost limits of the north shore) were included in the plans. The first of these to be developed thereafter was Agio Spiridon²¹. In 1939 the ministry of Public Works completed the zoning regulations for Porto Rafti. The town census of 1940 counted 155 permanent residents in Porto Rafti out of the total Markopoulo population of 4642 inhabitants. At this time, there was one wine pressing factory for the bay area, one shop at Agio Spiridona and two shops at the port²².

SECOND WORLD WAR

In October of 1940, the Italian army attacked the northern frontier of Greece through Albania. The Second World War was now upon Greece. The war and its aftermath directly affected development in the municipality of Markopoulo and the rest of Greece, as it did in all of Europe. Once again, all development operations were halted in order to fund the national war efforts. Among these cancelled works was the road from the port to Agio Spiridon, begun in 1918, which was yet to be completed. The men went off to war, and along with them, all horses were recruited for military use²³. The train from Athens to Lavrio had been cancelled in 1936 due to the common preference of the speedy busses over sluggish rail travel²⁴. This meant that without the livestock, the significantly reduced agricultural yield could not be transported to Athens, resulting in reduced revenue for the Attica towns and widespread famine in the capital. The Germans arrived in Markopoulo in April of 1941²⁵, seizing control of the surrounding region and Porto Rafti. Trade through the port was not allowed, and the farmers were not permitted to farm the land in order

that they provide forced labour for the Germans during their stay in Porto Rafti. This further reduced Markopoulo's revenue while leading to famine with reduced crop yields. In 1943, the German army began to fortify the Greek coast in preparation for the allies' invasion which ultimately happened in Normandy. Among the affected areas were beaches and agricultural land from Vravrona to Avlaki²⁶. It was not until 1946, two years after the Greek liberation from the German army, that mines were removed from the beaches and farmland around Porto Rafti²⁷. Farming and trade could finally resume.

CIVIL WAR

During the war, King George the II of Greece and his government escaped to Egypt where they established a government in exile. They were unable, however, to have an influential effect on the nation's politics during their absence, rendering them irrelevant to many Greeks. The German occupation left a political void when they left, and the returning government was met with resistance. The long standing division in Greek society between right-wing monarchic supporters and left-wing republicans (communists) at this point reached its climax. The subsequent civil war which took place between 1946 and 1949 was a struggle for political power by the internationally recognized government and the Communist Party of Greece²⁸. So shortly after the end of the Second World War, Markopoulo once again sent off more men to fight on the government's side. The majority of the fighting, however, took place in the north of Greece, far away from Markopoulo²⁹. While funding for the war efforts initially postponed any public works in Markopoulo and Porto Rafti, the decision was made in 1948 to resume all development projects³⁰. The conflict left Greece in a horrible condition, with greater fiscal adversity than there had been following the German occupation. Greeks were divided for decades afterward. The current polarization of Greek politics is said to be the immediate result of sentiments and ideologies lingering



Fig.2.22. German bunker remaining in Porto Rafti today.



Fig.2.23. Greek officials posing for a photograph during the mine removal efforts in Porto Rafti at Avlaki beach in 1946.



Fig.2.24. A Cartoon appearing in *The Times* paints a fancy portrait:
 "The Phylloxera, a true gourmet, finds out the best vineyards and attaches itself to the best wines."

from the Civil War³¹.

Before the end of the civil war, Markopoulo experienced the first taste of agricultural decline in the region. In 1947 a cold snap destroyed 85% of the vine crops³². Crop losses due to frost provided a vision of what was yet to come. Phylloxera, an insect which establishes a parasitic relationship to vine roots, made its way through the vineyards of Europe before first appearing in the Mesogaea vineyards in 1948³³. This insect proved to be one of the main catalysts in the drastic change of the landscape of the Attic plains.

URBAN EXPLOSION

The explosive expansion of Athens after the inflow of refugees from Asia Minor in the form of refugee settlements had by the 1960s become built up neighbourhoods. As the government at the time of the migrations was bankrupt, the responsibility of establishing urban form lay on private enterprise. The refugee quarters were full of poorly constructed makeshift residences which in time, were replaced with single storey houses of a more permanent nature. After the civil war, a second period of migration was experienced in Athens, this time it consisted of an internal population flux. Architecture, Planning and Geography Scholar Lila Leontidou examines the forces driving urban sprawl in Attica.

Internal rural migrants motivated partly by the need to escape rural poverty and the 'civil war side-effects' in the closely controlled countryside, and driven by the search for jobs and a better life, 'invaded' Athens and colonized cheap suburban land near industrial plants in 1940-1971. In the emergent self-help illegal housing clusters (afthereta), people became rudimentary owner-occupiers. These areas were subsequently 'legalized' by being included into the 'insiders' of the official city plan, while new layers of illegal development were added around the initial nuclei, and so forth. The built up area of Athens was expanded without

planning, by successive 'legislations'... the whole process reversed the 'urban life cycle' models: popular suburbanization in the 1950s and 1960s preceded urbanization, which was caused by relaxations of land development controls in the 1970s during the military dictatorship³⁴.

Rural migrants continued to flock to Athens, and the demand for urban housing continued to increase. One by one, these single storey 'suburban' homes were transformed into multi storey residences by private investors. "During the three decades after World War 2, practically all the constructions were realized on the basis of the antiparochi system: the builder does, in exchange for the site, cede an agreed upon number of finished apartments to its former owner as a kind of legal 'barter', a money free exchange"³⁵. In this way, Athens sprawled and densified very quickly. The same pattern was experienced all over Greece, as the rural dwellers sought a better life. But this better life was indeed a life of urban hardships, and the migrants longed to be connected with nature and the countryside from whence they came. They began to desire rural vacation homes near the city. This phenomenon began to emerge concurrently with the agricultural destruction of the viticulture crops of Mesogeia.

TRANSFORMATION OF PORTO RAFTI

By the 1960s, Phylloxera had destroyed almost all of the vine crops of the Mesogeia region, which had since antiquity been the main wine source for Attica. This was a devastating blow to a region which sustained itself mainly through the production of wine. As there was no cure for this disease, the extremely costly venture of grafting the roots of immune American vine varieties onto the local Savvatiano variety proved to be too expensive for the farmers of the region. In order to cover the costs of saving part of their crops, they were forced to partition some of their land and sell it off³⁶. During the administration of the military junta (1967-1974) a law was passed that allowed



Fig.2.25. One of the remaining homes in Porto Rafti that grow vines and make wine. There still remain several such homes holding onto the viticultural tradition of the region. The sign reads "Wine sold by the barrel within".



Fig.2.26. A scientific drawing of the *Phylloxera vastatrix*.



Fig.2.27. Vine roots onto which the *Phylloxera* bug has laid her eggs.



Fig.2.28. Vine leaves infected with the *Phylloxera* bug.



Fig.2.29. An advertising pamphlet for the traditional local Savatiano grape variety from the Allagianis Winery, which has also been a leader in viticulture in Markopoulo for generations.

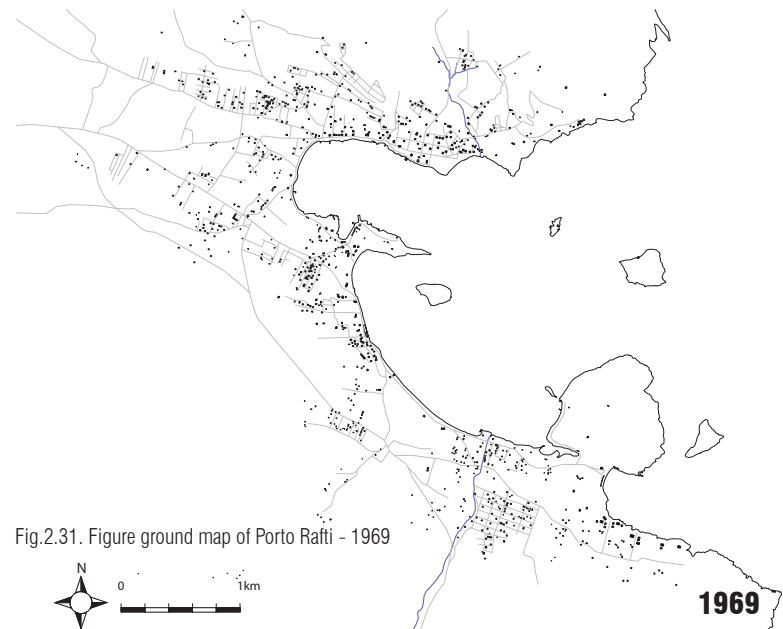
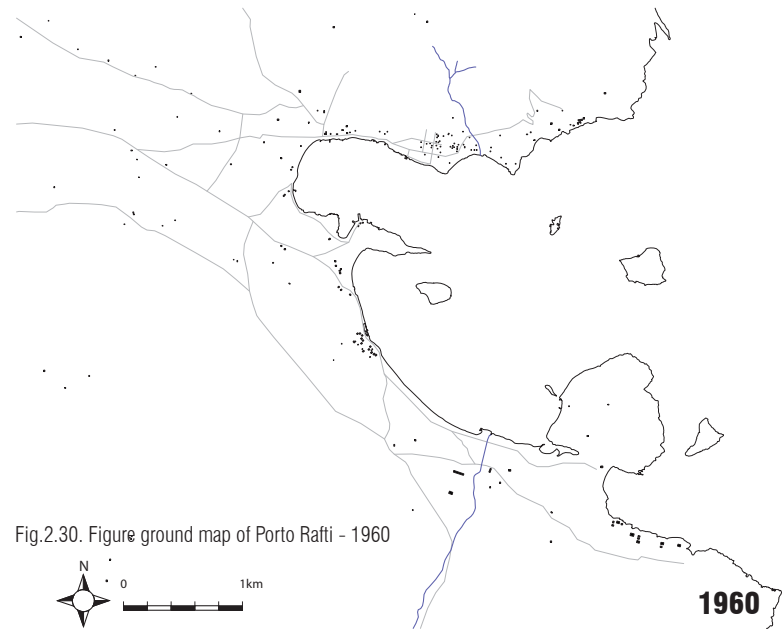
the subdivision and sale of large properties by landowners. Farmers subdivided their large lots into smaller land parcels as they saw fit. The roads, which typically followed existing footpaths and shortcuts through agricultural fields, were also laid out at the discretion of the owner. In keeping with the tradition of the erection of beach huts by vacationers, the new regulations relaxed land use laws and allowed for the purchase of these smaller properties by anyone, for the construction of temporary prefabricated shacks called *leiomena*. In Porto Rafti, citizens would purchase these small properties from the local farmers and obtain a permit for *leiomena* so that they might build a vacation residence near the ocean. A concrete base would be poured, upon which a metal or wooden frame was assembled. This structure would then be clad in aluminum siding. These small structures, by law, were to be temporary, but because the nature of the laws was informal, many vacationers decided to forego the licensing procedure altogether, setting up permanent constructions illegally. Soon enough, homes built entirely of concrete of about 50-60m2 began to emerge, which again, was outside the scope of the prescribed zoning laws for the area. The need for these vacation homes arose in parallel with the rapid development of Athens. The resulting urban morphology of Porto Rafti materialized by chance. There was absolutely no involvement from the government, and therefore it was not planned³⁷.

The financial needs of the agrarian community in Porto Rafti, paired with the desires of the Athenian population to escape the escalating urban chaos were the two factors contributing to the unplanned sprawling conditions of the bay area's present aesthetic. Indifference, therefore, on the part of the citizens and the government, was a destructive force in the area. Local architect Eleni Petouri states that "there was no plan, no substructure, no infrastructure... there was nothing to properly direct and assist the rapid development of the area toward the creation of a proper community"³⁸.

POLLUTION DRIVEN SPRAWL

The more Athens densified, the more pollution and traffic congestion began to take its toll on the urban residents. The middle class began to seek more serene living conditions, which they found in the peripheral “green villages” and in resort coastal towns situated far away from the congestion of the Athenian metropolis. Porto Rafti, along with the rest of the eastern coast of Attica, thus experienced its most abrupt densification during this pollution driven urban sprawl and suburbanization of the 1980s and 1990s. Throughout this period, settlement continued to take place illegally.³⁹

Beginning in 1985, a set of laws was passed which affected the construction industry. An architect and urban planner turned politician named Antonis Strintzis was responsible for influencing these important changes. Prior to his interventions, the only requirements for obtaining a building permit were one plan and one elevation drawing. It was a very casual process. Strintzis proposed a more extensive list of requirements for submittal to the urban planning authorities, he standardized construction documentation and their contents, he changed zoning regulations, he changed the drawing and building review process, and most importantly, he addressed the issue of illegal building. At the time, there was no way of cataloguing the illegal structures as there was no land registry. For the first time, the new laws in 1985 specified that any property that was not inspected and registered, would not be allowed to be legally sold or inherited by the descendants of the owners. Existing buildings prior to 1983 were registered with a small fee. Any illegal building constructed after 1983 was to be demolished. The intent was to put a stop to illegal building and the *afthereta* problem. Unfortunately, the casual disregard of regulations along with widespread corruption and bribery of government officials has resulted in the persistence of the aforementioned problem. In fact, the intense nationwide registra-



long overdue, facilitating transportation within the urban core and providing connections to peripheral Attic settlements. Leontidou explains, “Organized developers and public-private partnerships have penetrated certain sites of Attica, like Spata in the Mesogeia plain, where Athens airport (Eleftherios Venizelos) was built... These major works encourage land speculation by organized partnerships in localities where petty speculation and fragmentation used to thrive.”⁴²

These effects are clearly palpable within the municipality of Markopoulo as well. Two Olympic facilities were built within Markopoulo’s borders. According to the *Municipality of Markopoulo Operational Plan for the 2004 Olympic Games* by Information-Training-Regional Development S.A (ITRD), “the organization of the Olympic sports of Riding and Shooting in Markopoulo will positively affect the upgrading of the position of the municipality through the hyper-regional high quality athletic infrastructure that will be created.”⁴³ Not only has the municipality acquired world class athletic facilities, but along with these come augmented tourism and service industries. Infrastructure has been drastically improved, with the addition of new roads and the drastic improvement of old ones. The Athens-Lavrio road has been widened to a secondary highway from the end of the Attica highway down to Lavrio. There are plans for the suburban rail, which connects the Athens metro to the airport, to be extended toward Markopoulo by 2010⁴⁴. A later phase of the same project will connect Markopoulo to Lavrio at the southern tip of Attica as well as with the port of Rafina to the north⁴⁵. The position of Markopoulo adjacent to the new international airport continues to bring many changes to the area. Even before the airport had been completed, industry began to move into the adjacent towns of the Mesogeia plain in order to take advantage of the shipping capacities. The industrial sector along with the operation of the airport and the supporting services require a large workforce. By 2020, the population in the greater Mesogeia region is expected to explode to 415,000 residents from the current

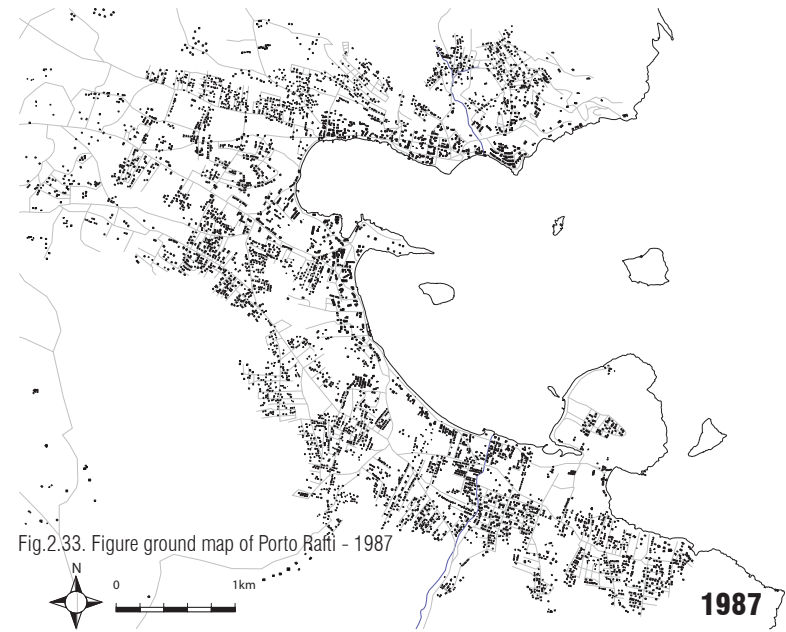


Fig.2.33. Figure ground map of Porto Rafi - 1987

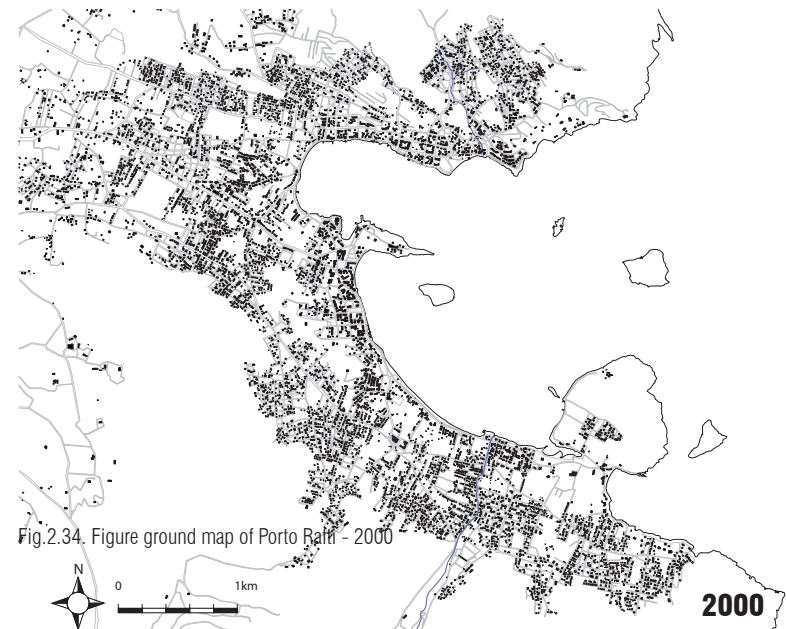


Fig.2.34. Figure ground map of Porto Rafi - 2000

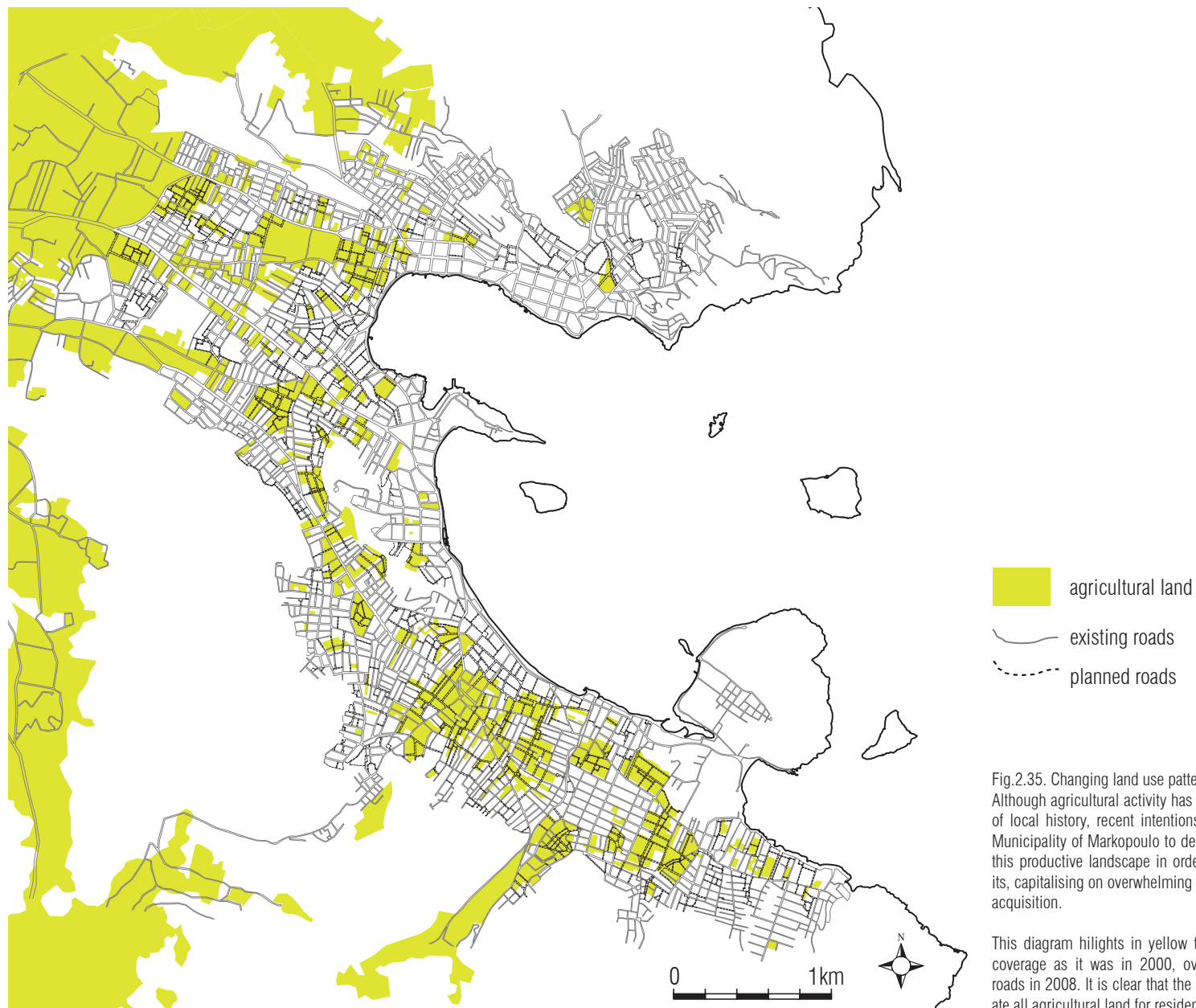


Fig.2.35. Changing land use patterns in Porto Rafti. Although agricultural activity has been a very big part of local history, recent intentions on the part of the Municipality of Markopoulo to densify the town target this productive landscape in order to maximise profits, capitalising on overwhelming demand for property acquisition.

This diagram highlights in yellow the agricultural land coverage as it was in 2000, overlaid with planned roads in 2008. It is clear that the intent is to expropriate all agricultural land for residential use.

93,000. Drastic land use and zoning changes are being planned for the Mesogeia region. The main goal of the Ministry for the Environment, Physical Planning and Public Works is the development and improvement of the region, as the changes due to the location of the airport are expected to be explosive, far different from the area's current identity⁴⁶. The future role of the Mesogeia region within the Attic Peninsula has therefore been determined. It will take on an industry and service oriented face; a role which threatens the enchanting character of the region altogether.

UNSTABLE URBANITY

Although Proto Rafti is a location to which Athens is expanding, it has begun to display the symptoms of a sprawling town all on its own. As a result of the fact that vacationers want to build their own homes on private property, the settlement resembles a suburb more than a coastal town. The density is relatively low, and with more and more buyers looking to invest in Porto Rafti, the ground plane is rapidly filling up. Very little agricultural land remains interspersed with the new housing. Now that properties to develop are becoming scarce, construction is being pushed up the sides of the surrounding mountains into the forested areas. The frequency of Mediterranean forest fires indicates that this is not the safest approach, not to mention the environmental implications of destroying forests in order to build. The most troublesome aspect is the layout of the town in itself. The majority of circulation occurs on the main road which is directly adjacent to the coast along the whole bay. As the paving of this road was completed just after World War II, the traffic at the time was scarce, leading to the creation of a road with barely enough space for one lane of traffic in each direction. All commercial and entertainment amenities occur strictly along this road, making congestion unbearable during the summer months. ITRD reports that "in 2001 the permanent population of the Municipality of Markopoulo amounted

to 15,500 residents, while the during the summer months, the population approached 150,000”⁴⁷. This increased summer population is concentrated on the coast. The main issue regarding the concentration of services on Porto Rafti’s coastal road, however, relate to the suburb like sprawl of homes behind it. The subdivision of large agricultural properties by the owner with no intervention by planning officials paired with the construction of illegal homes yields a poorly thought out settlement. There is no feeling of community or local amenity that characterizes a typical town. ITRD confirms this. “The lack of the civic space is especially pronounced in the coastal settlements of the municipality, since these were developed illegally.”⁴⁸

Negative effects of unplanned growth are already evident in Porto Rafti. With the recent explosive growth and predictions of change for the Mesogeia region, it is clear that Porto Rafti will soon become a city. The problem, however, is that thus far, there is no social realm. The bay area continues to densify at an unprecedented rate. Current road conditions prove to be inadequate for summer traffic loads. These chaotic conditions foreshadow what might happen year round if the town expands to become a city. More importantly, current development initiatives focus on personal profit rather than social benefit. The indifference for the social realm will lead to a sprawling and populous town with no civic space for public interaction. The lack of spaces which support public life leads to increasing disconnection between citizens themselves as well as the landscape they inhabit. This is a dangerous notion for any city, but for coastal towns in particular. The very reason for the existence of Porto Rafti is the bay itself. The unplanned densification around the sea puts more pressure on the aquatic realm. In order create a healthy coastal settlement both for its inhabitants and the wildlife that inhabit it, measures need to be taken to properly plan the development of the urban realm. If no immediate action is taken for the remediation of Porto Rafti, the city which is growing here is destined to fail.

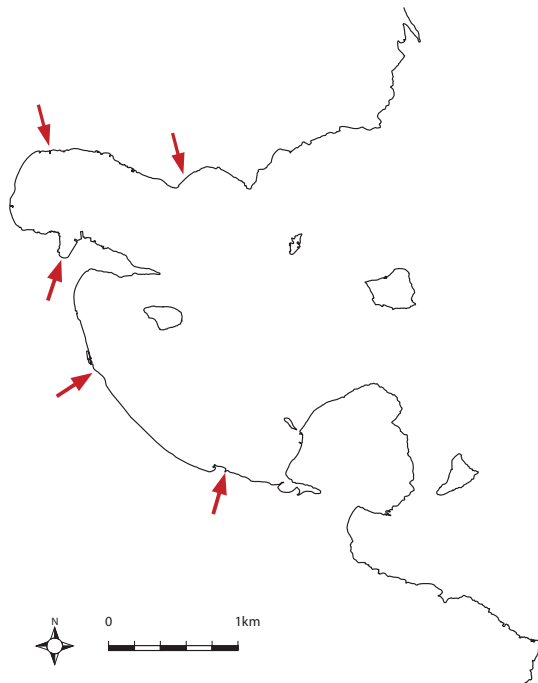


Fig.2.36. development puts pressure on the coast and aquatic realm of Porto Rafti

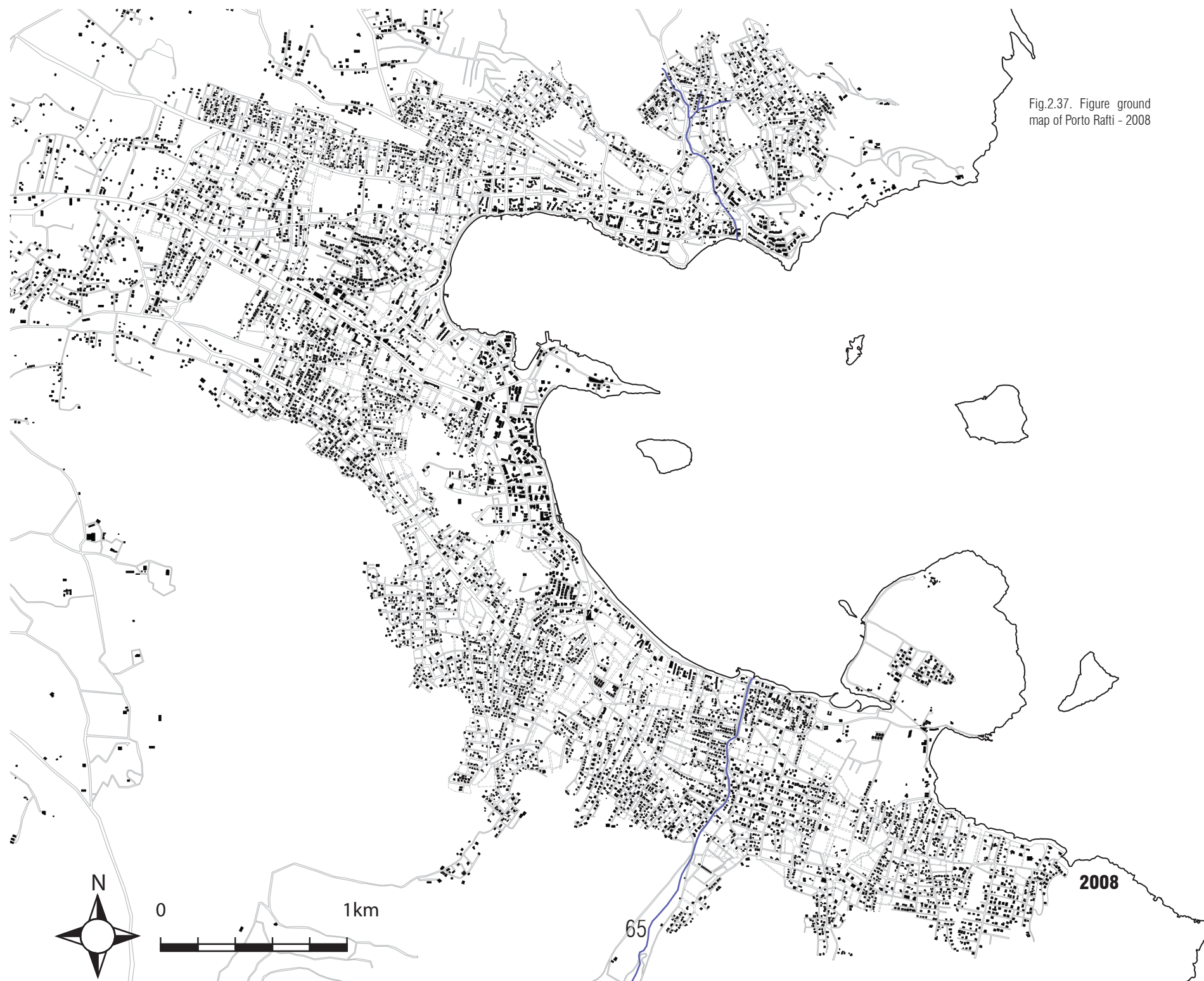


Fig.2.37. Figure ground map of Porto Rafti - 2008



Chapter 3

LIKE FROGS AROUND A POND

PRESSURES AFFECTING THE
MORPHOLOGY OF PORTO RAFTI

Fig.3.1. Crowded beach at Porto Rafti



Fig.3.2. Photograph taken in Thessaloniki in 1970 by architecture student Stergios Tsioumas for a photo essay entitled «Μια Ανήσυχη Βόλτα», or “An Alarming Walk”. The image features a human scale public space with its surrounding abandoned shops in the foreground, and the *polikatoikies* transformed by *antiparochi* development in the background. This scene is typical of the smothering of traditional community constructions by the fast paced urban development experienced throughout Greece.



Fig.3.3. A typical urban situation reclaiming even the smallest unused space for public use. Here, this crevice between buildings in Athens is used as a refuge for shopping and cafe space.

In the modern Greek city, and particularly in the continuously sprawling and densifying region of the Athenian capital, the overdevelopment of the ground plane poses a serious problem, not only for the natural environment, but also for the vitality of the public realm. With such large numbers of migrating populations in to Athens over the last century, the city grew faster than it could be planned. This unplanned growth continues into the Attic countryside around Athens to this day. The illegitimate single storey self help homes of the Asia Minor refugees were the foundation upon which the density problem was built. The haphazardly constructed homes of the refugee communities were built close to one another on narrow land plots. As a result of the subsequent unrelenting migration to the city due to agricultural poverty and post war hardships in provincial Greece, the demand for housing in Athens continued to rise. Larger often agricultural land plots on the frontier of the urban agglomeration were partitioned into smaller, more affordable properties. Single storey homes throughout the city began to be developed with private capital, through the *antiparochi* system, into multi storey apartment buildings, in Greek named the *polykatoikia*. Infrastructure, services and legalization were an afterthought. Not only was the ground plane fragmented because of the very small properties, but the small properties themselves were further divided in the vertical dimension through the creation of the condominium unit. Danish architect and architectural Professor Karin Skousbøll writes: “The *polykatoikias* and *antiparochi* systems and their economic and structural impact on the character of the urban landscape are of course decisive. In principle it makes every tiny site a possible object of exploitation and does therefore leave relatively little space available for public use.”¹ In the scramble to provide housing to the ever increasing population of Athens, the public realm was, and continues to be, neglected. The urban realm, even the neighbourhoods which can be classified as suburb, are quite dense. In their book *The Contemporary Greek City*, architect Yiannis Aesopos and architectural critic Yiorgos Simeof-

ridis comment on the nature of public space in Greece:

In the Greek city, with few exceptions, there are no designed public spaces. Public spaces are the residue of the built, based on their programmatic density and not on a design. Appropriated streets, non-designed public spaces, urban beaches, open air markets and cinemas, expansions of streets, 'strange' non-designed spaces unsuitable, in conventional terms, for social usage, constitute the public space of the Greek city. It also means that the existence of such spaces is vulnerable to abolition.²

Such comments reinforce the argument that the fragmentation of the ground plane by virtue of the property borderline separates men from each other in the absence of sufficient and appropriate public space. The overdevelopment of private properties blanketing the ground plane leaves no room for civic space and public interaction. Instead, citizens must resort to brief interaction in temporarily appropriated spaces. The absence of the common citizen from the organized public realm, and by extension the eradication of public speech and action, renders the common citizen powerless within an alienated society. With the advent of urban sprawl, the former agricultural landscape has begun to fragment as well, becoming subdivided for private development. Both in the urban and urbanizing rural context, so many people living in such close proximity, with no public realm in which to act and interact, generates a society of people living in isolation from one another. The result is the confusion and decline of what traditionally constitutes the public and private realms and by extension alienation through the decline of political life.

EXTENSIONS

The polis of antiquity was inconceivable without its hinterland which sustained it. It was for this reason that the governing body of the Athenian polis consisted of members from the *demoi* scattered throughout this hinterland along with those from the urban conglomeration.



Fig.3.4. Open air cinema 1946



Fig.3.5. Open air cinema 2008



Fig.3.6. An open air cinema which appropriates the schoolyard of an Elementary school in the *demoi* of Cholargos in Athens.



Fig.3.7. and Fig.3.8. Ad-hoc Neighbourhood street markets emerge in urban quarters, taking over the same street in each neighbourhood once per week.



Fig.3.9. Similar occupation of streets adjacent churches occurs during celebrations for Saints' feast days where markets spring up as part of the festivities.



Fig.3.10. An open air cafe in the Thiseio quarter of Central Athens with a view to the Acropolis.



Fig.3.11. A pedestrian street in the Thiseio district lined with open air cafes.



Fig.3.12. A photographer sneakily snaps a shot of two elderly women gossiping from their respective balconies. He too is in on the conversation, albeit unnoticed. The dense neighbourhoods of Athens make such exchanges and connections possible.

Modern Athens has outgrown the carrying capacity of its hinterland. The constant migrations from the Greek provinces continuously increase the demand for accommodations. The already dense Athens is forced to sprawl into its hinterland. The agricultural yield of Attica is now far outweighed by the population of the region, which it can no longer sustain. As the urban mass of Athens continues to eat away at the surrounding fertile plains, this phenomenon worsens.

The ancient tradition of life in the open air holds firmly to this day. While the ancient gods are no longer present, the connection to the landscape to which they were once linked remains potent. Coupled with this is the distinctly Greek need to interact with each other. Greeks are very social beings, as can be attested by the fact that they extend their lives into the outdoors at every opportunity. Outside, not only are they in direct relation to nature, but they can find themselves within view or audible range of their fellow citizens. Even in dense residential neighbourhoods, a step onto the balcony is one step closer to a feeling of community; a community which is hard to come by in the scarce public spaces of the dense city. Although the desire exists among citizens for interaction and makeshift public spaces of exchange continue to emerge, they do not meet the criteria necessary in order to be considered part of a public realm. As such, these spaces do not suffice to generate effective political discussion and action. Greek architect, professor and architectural critic Yiorgos Tzirtzilakis, comments on the Greek tendency to extend life into the open air. "We all have the tendency to extend into the landscape, into the public space of the city, to go outside. We tend to sprawl into the countryside, to experience nature. The way we use our yards and our balconies at every opportunity; it is a condition which speaks of circumstances of constant extension"³. In much the same spirit, the residential balcony can be seen as an outstretched arm to one's fellow citizens. In his introduction to the Greek edition of *Modern Architecture: A Critical History*, Kenneth Frampton addresses the pe-

culiarity of the Greek *polykatoikia*. The Greek apartment building, he says, reproduces the fractured mosaic model of settlements on the Aegean Islands within the urban context. These dense yet extroverted conglomerations promote relations between residents, unlike the introverted model of northern and North American nations⁴. Unfortunately, Modern Greek suburbs have lost this characteristic, as the trend of urban sprawl and the emergence of the suburban villa home in Greece have developed according to the North American tradition, seeking isolation and privacy.

As the ground plane of the Greek capital began to densify, its inhabitants developed feelings of uneasiness, a certain separation anxiety from the natural setting which was beginning to disappear behind more and more buildings. With every tiny site falling victim to development and no formal space of public interaction, an escape to nature promised the opportunity to reconnect with nature as well as one's fellow man. Country and coastal areas which were formerly productive were by the 1960s being conceived in the spirit of "*sk-hole*" (freedom from political activity akin to the Latin '*otium*'), or vacationing, in order to escape the stresses of life in the city. The first Athens international airport, located at Ellinikon on the western coast of Attica just south of Athens, was a catalyst to the change and development of the western coast of Attica. With an influx of native and foreign tourism in Greece after World War 2, the resulting tourist oriented landscape came to be known as the popular Apollo Coast, or the Attic Riviera. This was the first holiday destination within a short drive from Athens. Soon enough, with the increasing popularity of the vacation home among Athenians, the Attic Riviera densified to such an extent that it now presents itself as a linear extension of the city along the coast. Around the same time the countryside and coastline of the eastern coast of Attica slowly began to acquire vacation homes of the few who wanted complete isolation from the crowds. The eastern coast developed at a far slower rate than did

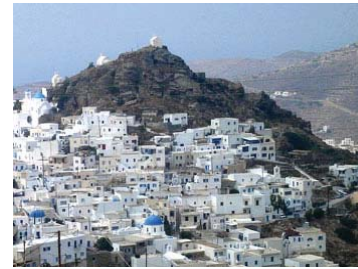


Fig.3.13. The urban realm of Ios Island,



Fig.3.14. The urban realm of Santorini Island.

As the Greek islands are typically mountainous, their topography supports a fractured urban fabric where interaction between inhabitants is simultaneously facilitated and encouraged.



Fig.3.15. Astir Beach and Resort, Glyfada, Athens (1957-59)



Fig.3.16. Megali Akti Beach, Vouliagmeni, Athens (1958-1962)



Fig.3.17. An aerial photograph looking down on sprawling Athens and the now densely developed Apollo Coast. The now decommissioned Ellinikon Airport is seen located centrally on the coast.



Fig.3.18. An aerial photograph over the bay of Porto Rafti with the New Eleftherios Venizelos airport clearly visible in the distance. The transplantation of the airport places more pressure on the settlements of the East coast.

the west coast on account of the distance from the capital and the transportation difficulty to arrive there. It is only in the last decade that the eastern coast has experienced explosive development. With the relocation of the airport from Ellinikon to the Mesogeia plain in 2001, and the subsequent completion of the Attica highway that extends from Markopoulo to Elefsina's industrial port in 2004, it has become much easier and faster to travel from the city centre to the settlements on the coast of eastern Attica.

Country and coastal settlements on the Mesogeia plain and east coast of Attica are now quickly densifying with the relentless development of an expanding capital. On account of the unbearable congestion in the city, the vacationing country and coastal settlements have become a permanent 'escape'. Families with vacation homes in rural areas are now choosing to live here permanently and commute to the city for work. This was impossible prior to the completion of the Attica highway and the improvement and expansion of connecting rural roads. With more people migrating to Athens for work, there is a constant demand for more rural residences in formerly tourism driven developments. The relocated airport generates powerful development impetus for the region. With such a dense urban realm in the capital, decentralization is central to the future success of the Greek economy. The Mesogeia region is planned as the new regional transport hub, linking highway, suburban rail, airport and marine ports. While this decentralizing effort is welcome in the interests of reducing congestion in Athens, the Mesogeian hub, once complete, will remain too close to the capital to have any effect on easing population congestion in the city. Contrarily, its proximity to the capital will most likely generate further increases in the population of Attica. With such drastically changing land uses, the densifying 'green' villages of Attic country and coast are quickly turning into urban environments themselves.

GREEK REAL ESTATE

Up until the twentieth century, life in Greece was typically rural, with most citizens living for generations in their respective villages. Political unrest during most of the twentieth century caused mass migrations for ethnic Greeks, both into and out of Greece. Internal migrations were equally common, as citizens escaped economic hardship in order to find more stable work. The last half century has been plagued by the constant migration of agricultural refugees from provincial Greece to the big cities, as well as to foreign lands. These migrations are responsible for the sudden urban bloom of the Attic territory. Greece has been principally an agricultural society up until the very recent abrupt jump to a post industrial situation. This sudden transformation, from small town to dense city, in the absence of planned urban development, makes the agglomeration of Athens, with its sprawling annexed demoi, a post metropolis.

Greeks thus experienced a very hasty urbanization. Local wealth accumulation patterns remain typical of a former agricultural society on account of this post urban status. In an agricultural society, sustenance and wealth are jointly understood in the framework of a family's place on their owned land. According to Hannah Arendt,

up to the beginning of the modern age, this kind of property [property for the sake of wealth accumulation rather than for sustenance and citizenship] had never been held to be sacred, and only where wealth as the source of income coincided with the piece of land on which a family was located, that is an essentially agricultural society, could these two types of property coincide to such an extent that all property assumed the character of sacredness.⁵

With the dissolution of the private realm into the social, land acquisition no longer holds a strictly private character. Rather, it has taken on the qualities of fluid wealth, as property and wealth are now



Figs.3.19 to 3.23. "Maisonettes for Sale": Development company advertisements in Porto Rafti. These have become an increasingly common sight, occupying unused, naturally overgrown and fallow agricultural land throughout the bay area. They feature renderings of the finished design, but designs are depicted completely out of context, disregarding completely the effect of the design on the finished neighbourhood.



Fig.3.24. The Diners Club credit card was first available in the 1960s to select members of the wealthy community. It became available to the general public around 1980 as seen in this advertisement. Another ten years would pass until credit cards became generally accepted by the public.

considered one and the same. As the Greek economy is still weak relative to global markets, land property remains the most reliable investment, yet it is treated as if it were fluid wealth. While the investment patterns of modern Greeks now match those of their global contemporaries, the subconscious correlation of private property with the sacred remains very much alive. The contemporary Greek society is one which measures its prosperity through immobile property acquisition. Despite the fact that livelihood is no longer derived from the land as it was only one or two generations prior, Greeks continue to strive for the acquisition of several land properties. Each citizen ventures to own at least one vacation residence in addition to their urban dwelling in order to be able to escape the pressures of city life. Wealthier citizens often get involved with land development projects, of various uses. The most common, of course, are vacation developments. As the Greek economy is still relatively weak, land property is treated as if it were fluid wealth. Land is bought, sold and traded, often illegally, in order to fatten the wallets of the fortunate few who can afford to fund the development. The Greek landscape is thus being consumed at an unprecedented rate for the fiscal benefit of the citizens.

LAND EXPROPRIATION

Preoccupation with real estate investment amid the general population emerged as a trend in parallel with remarkably easy to obtain credit and loans offered by Greek banks. This practice was uncharacteristic in Greece until the mid 1990s, when preparations for the 2004 Athens summer Olympics were being initiated. With new European Union subsidies flowing into Greek coffers, the stock exchange experienced vast gains as the Olympics approached, prompting consumers to presumptuously indulge in a binge of material purchases⁶. While property acquisition and development was popular long before, the newly popular credit craze encouraged a new generation of



Fig.3.26. Social unrest culminating in widespread riots in Athens and other cities throughout Greece in December of 2008. Riots first broke out in protest against the killing of a fifteen year old boy by the police. With fresh memories of police brutality against student uprisings during the military junta of the 1970s, Greeks continue to distrust the police. With fears of a return to martial law, the youth's death was taken as a starting point from which many issues troubling contemporary Greek life were brought to the surface. Issues of unstable security, economic inactivity, rising poverty, widespread corruption, and a troubled education system, fuelled the protests against the government. The riots revealed a widespread feeling that Greeks have been neglected by a government they consider corrupt. The shortage of public gathering places in the city alienates citizens from one another and inhibits the development of a common voice. Citizens are rendered powerless to act constructively in their own best interests.

Fig.2.25. Graffiti appearing throughout Athens during the riots of December 2008



city dwellers, marred by social and economic hardship, to increase their assets with the purchase of new land, homes, and vacationing properties that they could not afford without borrowed funds. Looming globalization, multiplying illegal immigrants and a surge in black market activity have wreaked their havoc on the Greek economy. But for a society consisting mostly of rural dwellers until the fall of the junta in the 1970s, this economic situation has proven to be too much too fast. Corruption in government, leftover from the national schism of the civil war and junta regime, renders the government inflexible by insular partisan politics and pervasive nepotism. As a result, legislative and economic progress is deplorably slow, causing further unrest among destitute citizens and ongoing widespread unlawful behavior.

The phenomenon of socially confusing urbanization paired with a hard hit economy wreaks havoc on the public realm. Citizens greedily amass material possessions and real estate on borrowed funds in order to prove their social status. Even those who can actually afford it tend to hoard as much real estate as possible to increase their personal worth. As the most common and secure business enterprise, land development threatens both public urban space and rural agricultural and natural lands. Such property acquisitions, however, often occur illegally, discounting environmental protection laws. Corruption scandals are constantly uncovered with relation to illegal land expropriation. These lands are supposedly protected under Greek and European law but there always seems to be a way to covertly and illegally expropriate the land, mostly for the tourism industry. These offences occur regularly all over Greece.

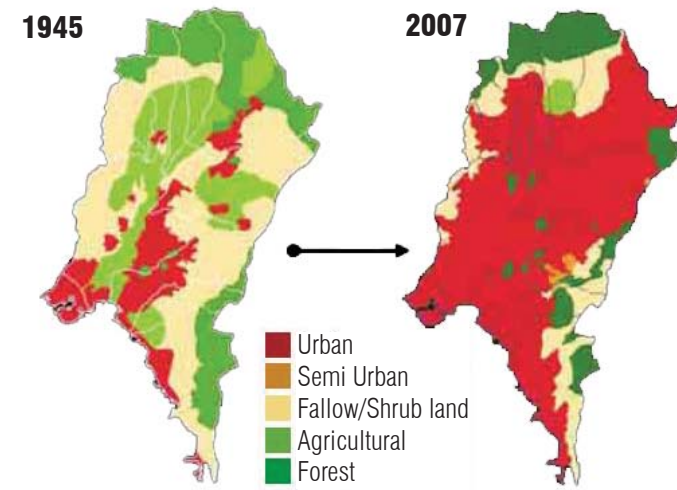


Fig.3.27. LAND USE CHANGE (From 1945 to the present)
On the Athenian plain, the urbanised land area increased by 287.8% over the last sixty years, while forested areas have been reduced by 30.85%



Fig.3.28. The new settlement of Kamari, built between 1956-1960 in Santorini. The expropriation of agricultural land for the construction of the village is blatantly evident. Settlements and hotel resorts built in unspoilt settings was a popular during the 1950s to create the infrastructure to accommodate the Greek tourism industry



Fig.3.29. A formerly forested area devastated by fire on the coast of Attica near Rafina.



Fig.3.30 Mt Parnonas Peloponnese one year after the fire.

In both cases, the rejuvenating effects of fire are seen in the new growth below the charred trees.

EXPROPRIATION BY FIRE

One such example, which occurs on a regular basis throughout the country, is the expropriation of Mediterranean forest and scrub ecosystems by fire. It is widely known that the hot dry summers of the Mediterranean climate leave the local natural biotopes subject to forest fire. In fact, the health of the ecosystem depends on rejuvenation by fire. These fires, however, are not supervised by the Forestry Protection Service as they should be. The problem arises when citizens take advantage of the regions predisposition to fire and purposely ignite certain natural habitats in order to expropriate the property in question for use in land development enterprises.

According to Article 24 in the National Constitution of Greece, the natural realm is to be protected at all costs.

The protection of the natural and cultural environment constitutes a duty of the State. The State is bound to adopt special preventive or repressive measures for the preservation of the environment. Matters pertaining to the protection of forests and forest expanses in general shall be regulated by law. Alteration of the use of state forests and state forest expanses is prohibited, except where agricultural development or other uses imposed for the public interest prevail for the benefit of the national economy.⁷

The vague wording of the constitution is clearly open to interpretation. While the state is legally bound to the protection of the natural realm, this very same natural realm may be subject to destruction in the interests of the benefit of the public. As it has been proven time and time again, the interest of the public can be easily manipulated by the right amount of money offered to the appropriate parties in public office. Often, the benefiting parties are few, and the benefit is mostly financial. The unfortunate lack of a comprehensive land registry in Greece has severe consequences. The inability to prove the



Fig.3.31. An advertisement in 2007 indicating the first cities and neighbourhoods to be registered in the National Land Registry of Greece in order of importance.

ownership of land by private citizens or the state leads to constant conflict. Trespassing and illegal building are a common occurrence in absence of a complete national cadastre. The documentation of protected forested land is yet incomplete. Although many land areas have been declared ecologically sensitive and worthy of protection under various international biotope protection laws, the fragmented yet hierarchical structure of the Greek political system makes it extremely difficult to implement such protection. The Organization for Economic Co-operation and Development outlines the problem precisely:

The degree of horizontal co-ordination among government departments could be significantly improved. The relatively large number of government agencies with environmental responsibilities, the dearth of formal co-ordination mechanisms and the traditionally hierarchical nature of Greek public administration make it difficult to formulate and implement integrated environmental policies. A special effort should be made to develop a culture of joint problem solving.⁸

Problems in environmental protection and policy implementation due to the political structure create ample opportunities for corruption and exploitation of vague and incomplete laws, both on the part of the common citizens and the public servants. Both current and previous government administrations are regularly accused of tolerance for commercialization of land which has been burned⁹. Lack of proper legislation, funding, staff, training and co-ordination between levels of government means that it is in fact easier to bribe municipal officials to turn a blind eye to illegal building on burnt forest land than to protect and reforest these areas. Eventually, the illegally built developments are legalized, and the cycle of natural ecosystem commercialization is complete. Thus the built environment sprawls into Greece's diverse and sensitive natural environment.



Fig.3.32. A comic appearing on a Greek blog commenting on land expropriation practices in Greece, linking arson to the creation of the National Land Registry. The caption reads "τρέχει να προλάβει τις προθεσμίες ο Έλληνας..." (Greeks rush to meet the deadlines)



Fig.3.33. Graffiti on the streets of Athens. The artist has taken the liberty of expressing to us the thoughts of the tree. It reads "Burn down the casino and the Parliament", protesting the government's role in the creation of tourism endeavours destructive to the environment.



Fig.3.35. Fire barrels down a hillside in Ilia, Peloponnese



Fig.3.34. Helpless villagers in the Peloponnese watch the fire approach



Fig.3.36. Many villages like Livadeiki (350 km sw of Athens) were destroyed.



Fig.3.37. A farmer stomping out the fire in north-Epirus province



Fig.3.38. hopelessly smothering the fire using a shovel and soil.



The lack of firefighting personnel and equipment left most fire victims trying to ward off the fire with whatever means they had available to them, usually in vain.

Fig.3.39. Villagers use garden hoses to put out the encroaching fires.

This phenomenon was unmistakably palpable during the crisis of forest and wild fires in the summer of 2007. More than 3,000 fires were recorded throughout the country¹⁰, claiming a total of 84 lives¹¹ by the end of the summer. While many of the fires were attributed to extremely hot and dry weather conditions combined with strong winds¹², fire officials in Greece were investigating arson as possible cause of many of the fires which broke out over the course of the season¹³. The European Commission reports that “the total burnt area in 2007 amounts to 268,834 hectares, of which 180,000 burnt between the 24 and 30 August 2007”¹⁴. It is highly unlikely that the unusually abundant August fires, plaguing mostly the Peloponnese, were coincidental. Once again, the link to illegal expropriation has been made.

Strong financial interests pressuring the development of the area have been cited by many as possible cause for suspicion. The Ionia highway, conceived in 1996 but postponed due to the 2004 Olympics, was planned along the west coast of the Peloponnese. The project was brought to life once more in July of 2007, with plans to be complete by 2011. The region is dense with sensitive forest ecosystems and a strong agricultural sector. The construction path of the Ionia highway was set to pass right through the most sensitive of these areas, including Lake Kaiafa and its Zacharo area hinterland. Environmental activists and the local population were opposed to this and lobbied for a diversion of the road, which would have ended up costing much more. One month after the decision to divert the road, the area around Lake Kaiafa was completely burned. It is most likely not a coincidence either that the centres of the Peloponnesian fires correspond perfectly with the initially planned course for the Ionian highway. Powerful investors and offshore multinational companies have had their eyes on the Peloponnesian coast for quite some time. Even Lake Kaiafa was at risk of being declassified as an environmentally protected site back in 2003 so that it could be developed into

hotel complexes and golf courses. Now that there is no ecological value, the development will meet with little resistance¹⁵.

As with all natural territories boasting supreme ecological splendor, it is the natural beauty which draws attention and pressure for touristic development. Many other sites both along the Peloponnesian Ionian highway route and throughout the rest of Greece are at risk of destruction by unsustainable touristic development as well. The Messinia region in South-Western Peloponnese alone is scheduled to receive upwards on one billion Euros worth of development funds to build 11 five star hotels, luxurious vacation homes, spa facilities and four large golf courses. Plans to increase golf course development along the west coast are a major cause for environmental concern. The use of noxious fertilizers will cause certain ecological damage and the excess amounts of water required for lawn irrigation will take up a major portion of water that Greece (with many regions facing desertification) cannot spare. Large amounts of agricultural land in the heart of this Olive cultivation territory have been acquired, often without the consent of the owners, for the purpose of such touristic development. Katakolo in the Elea district, and even the region around ancient Olympia are under pressure for similar development. Not surprisingly, all of these areas were burned. While the Greek government is required under Article 24 constitution to protect ecologically sensitive ecosystems, the investors of the western Peloponnesian region, shipping tycoon V. Konstantakopoulos and his offshore multinational partners, have managed to secure 45% subsidization by the state after a meeting with Prime Minister Kostas Karamanlis in 2005. Taygetos and Parionas mountains in south central Peloponnese, under pressure of mountain and ski resort development were also burned. The interests of large scale investors, both local and foreign, seem to constantly take precedence over the needs of the indigenous population and the welfare of the local environment. Perhaps the state administration, constantly accused of incompe-



Fig.3.40 Satellite image of fires burning around the Peloponnese
The 2007 fires and the path of the Ionian Highway are strikingly coincident.



Fig.3.41. Indicated in red is the proposed route of the Ionian Highway



Fig.3.42. Parionas Mountain before the fires.



Fig.3.43 Taygetos Mountain before the fires.

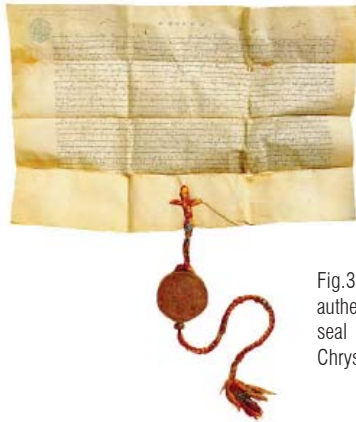


Fig.3.45. A Byzantine decree authenticated by the golden seal attached to it known as a Chrysobull.



Fig.3.44. The Monastery of Vatopedi.



Fig.3.46. The wetland biotope typical of the lake of Vistonida in the northern Greek province of Thrace.

tence in dealing with such pressing issues, is not incompetent at all. The personal involvement of countless influential ministers in such investment schemes indicates that they stand to lose a lot financially if they were to actually protect the interests of their land and their people¹⁶. Contrary to the supposed intentions of such development touted by politicians, the devastation caused by the fires to primarily agricultural economies send the local inhabitants to big cities in search for work, placing further pressure on already overpopulated urban agglomerations. Rather than supporting decentralization, such corrupt developments further contribute to urbanization.

CORRUPTION AND EXPROPRIATION SCANDALS

Covert real estate land deals compound the illegal land expropriation problem and are deplorably common. The most recent real estate scandal involves the Mount Athos Monastery of Vatopedi located on the easternmost leg of the Chalkidiki peninsula of northern Greece. The revelations have enraged the Greek population on account of the exposed influential protagonists of political and monastic communities and their financial interests. By presenting Byzantine Chrysobulls (sealed decrees issued by Byzantine Emperors) dating to 1080, 1320 and 1357 as proof of the monastery's ownership of the lands in question, the National Council of Public Estate awarded legal land titles of all properties around the lake of Vistonida (as well as the lake itself) in Thrace to the Vatopedi monastery in 2002. All citizens holding the land titles to the agricultural and grazing lands of the region lost their properties overnight. Three years later in 2005, the Legal Council of Greece passed a decision allowing the Ministry of Rural Development to authorize estate property exchanges with the National Estate Company. Following a severe miscalculation of property value, the Minister of Rural Development and the Vice Minister of Economy authorized the National Estate Company to exchange state owned properties (real estate built during Athens Olympics) for

the lake of Vistonida and the surrounding properties owned by the Monastery of Vatopedi. Once the exchange was complete in 2007, the monastery ended up with very valuable properties, obtained at a fantastic bargain which they then sold at a much higher price to off shore companies from Cyprus¹⁷.

After an investigation into the suspicious land deals, the Public Prosecutor of the Aeropagus, Giorgos Sanidas, has revealed that the exchanges took place illegally. According to the results of the investigation, those held responsible for the fraudulent exchange are many. The Monks of the monastery are accused of fraudulently pursuing land titles for properties which did not legally belong to them. Although they cited the Chrysobulls as proof, the original documents in question were never provided. Konstantinos Tsouris, archaeology professor of the Democritus University of Thrace and curator of the 12th Ephoreia of Byzantine Antiquities of Kavala testifies that “according to scientific assessment, the Vatopedi Monastery is not supported by legally valid evidence to claim any land in the region.”¹⁸ The National Council of Public Estate is held accountable for their advice which led to disproportionate property gains by the monastery. The Greek Legal Council is held responsible for advising in favour of the land trade, and the Land appraisers (who were sworn by oath to be truthful) are accused for severely undervaluing the Athenian Olympic properties. The most curious of all is that every politician involved is found innocent, yet it seems illogical to assume that the wool was so successfully pulled over their eyes. It seems more likely that the politicians in question were indeed involved. The strong relationships maintained between the officials and churchmen breed suspicions that laws were manipulated to make the deals possible, but were found innocent in order to avoid the dissolution of the New Democracy government. The final result was that the Greek state, and ultimately the Greek citizens, was defrauded of approximately 100 million Euros, with profits filling the coffers of the Vatopedi Monas-



Fig.3.47 Close relations between top politicians and monks breed suspicions of the implication of top politicians in the Vatopedi scandal. Seen here, Prime Minister Kostas Karamanlis, Arch-abbot Efraim of Vatopedi, and former Press Minister Theodoros Roussopoulos enjoy a friendly afternoon together.

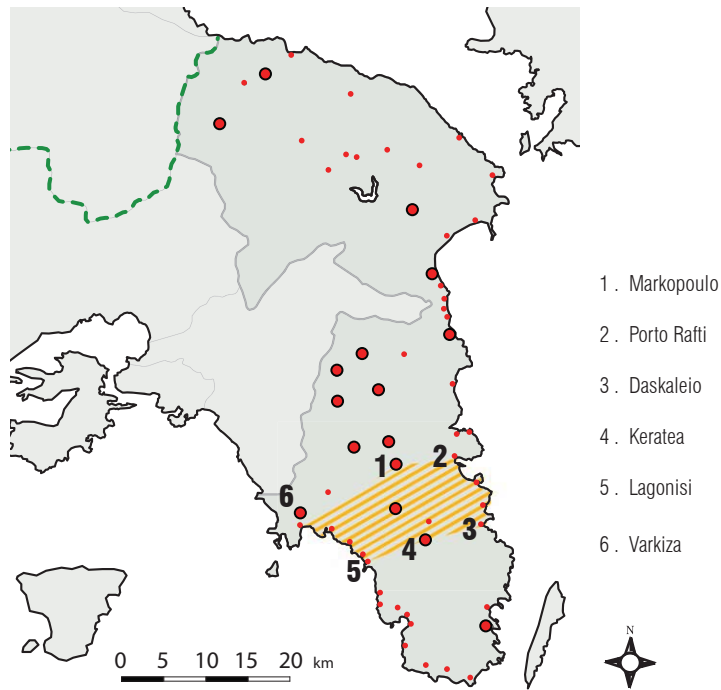


Fig.3.48. Map indicating the towns between which land was taken in the land grab scandal



Fig.3.49. The Monastery of Kouvaras near Porto Rafti from which land was taken in the recently uncovered land grab scandal.

tery and those of its accomplices¹⁹.

A similar story emerges once again in the Eastern Attica region with the misappropriation of approximately 20 000 hectares of land between the areas of Markopoulo, Porto Rafti, Daskaleio, Keratea, Lagonissi and Varkiza²⁰. In the 1960s, a retired air force officer and a businessman conspired to illicitly take over state owned forested land and properties belonging to the Church of Greece. Forged documents dating back to 1870 were used to claim the land which was then sold. The officer was subsequently apprehended under land grabbing charges. Prior to his death in 1976, the titles of the embezzled properties were transferred into the name of the businessman who later perished in prison in 2007. Regardless of the incarceration of the initial perpetrators, the sale of the illegally expropriated properties was resumed in 2004 by a gang of five people. It seems unbelievable that such activity could be rekindled undetected by the state authorities²¹. In light of the ease with which illegally claimed land is sold and traded, it is blatantly clear that the completion of the National Land Registry becomes increasingly urgent. As Giorgos Tzirtzilakis asserts, “the Greek urban condition is shaped more through the void in legislation than by the laws themselves”²².

PORTO RAFTI – REGIONAL INFLUENCES

Over the last century, there have been many changes in the wider Mesogeia region, which have all made significant imprints on the natural environment, the local trade and the settled areas alike. The current state of rapid development and the plans for the future expansion of Mesogeia present critical concerns for the health of the landscape and its inhabitants. Poorly thought out action-reaction developments of the past, based upon short term pressing needs, result in later problems for natural and urban systems, leaving them in crisis. Many of the interventions on the Mesogeian landscape,

while necessary and helpful to the economy of the nation on the one hand, have not been properly thought through. “Studies too often focus on remediation rather than on finding solutions that prevent environmental harm”²³. Legislative attempts to remediate the damage done to communities and the surrounding natural and agricultural realm offer incomplete solutions which generally accomplish too little too late. Porto Rafti is one of these vacation settlements which are quickly falling victim to unplanned overdevelopment. In order to properly plan out healthy development for Porto Rafti and the peripheral region, the crises threatening the region must be clearly examined, and the implications distinctly understood.

AIRPORT RELOCATION

On the scale of the wider environment, one of the most potent influences on the natural environment of the area is the new Eleftherios Venizelos International Airport completed in 2001. Prior to its construction, the Athens international airport was located at Ellinikon on the western coast of Attica just south of Athens. Just like its successor on the east coast, the airport at Ellinikon was a catalyst to the change and development of the western coast of Attica. With an influx of tourism in Greece after World War 2, the resulting tourist oriented landscape came to be known as the popular Apollo Coast, or the Attic Riviera. The vacation settlements were densified soon enough, transforming the South-Western coast of Attica into a linear extension of the Athenian urban core. It was the 1976 variation of the Athens master plan that placed the airport on the plain of Mesogeia between the towns of Spata and Markopoulo. Reports of the resistance to the relocation of the airport to the plain by the residents of Spata exist from as early as 1957²⁴. It is clear that plans to relocate the airport had been a topic of contention for fifty years prior to their realization.

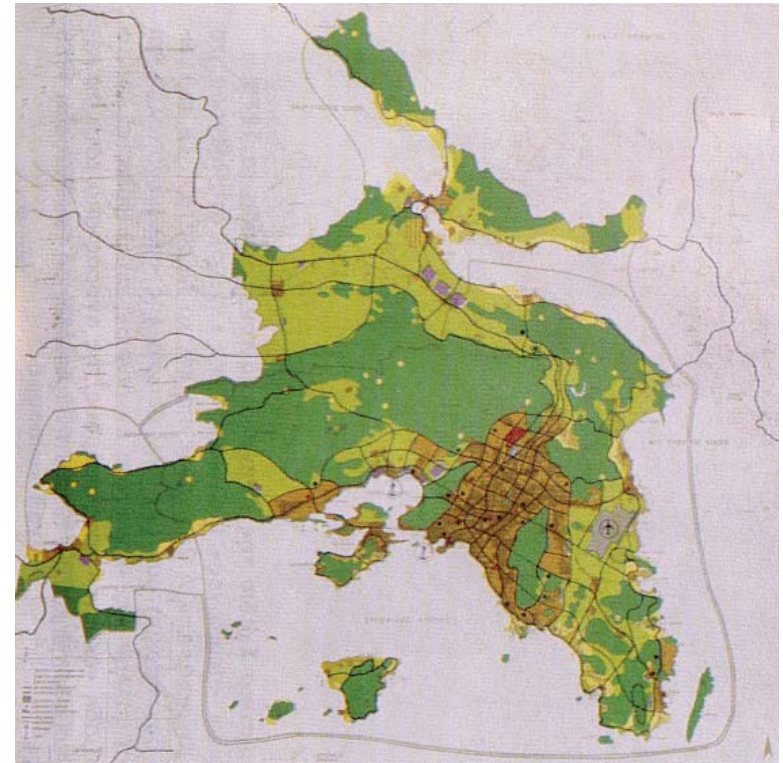


Fig.3.50. Attica Development plan of 1976 by architect Constantine Doxiadis, the first document indicating the future Airport location on the Mesogeia Plain.

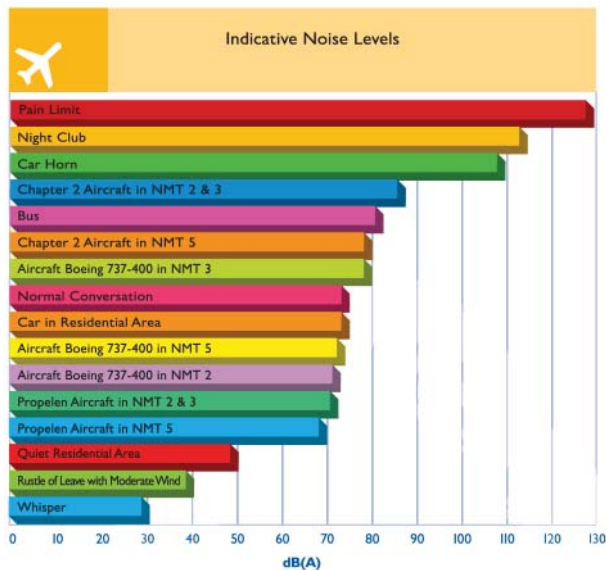


Fig.3.51. A noise level chart indicating relative decibel levels published by the Environmental Services department of the Eleftherios Venizelos International Airport. Among these figures are the decibel levels of airplanes which just exceed acceptable noise levels for residential areas.

Arguably the most influential driving force of change in the region, the relocation of the international airport onto the Mesogeia plain has resulted in serious environmental damage to the surrounding agricultural and natural environments. Regardless of the best efforts of the airport's environmental services department, the impact stretches much further than the frontier of the airport's property. Along with the accompanying Attica highway, without which the airport could not be serviced, developmental and environmental pressures take their toll on the developing Mesogeia region. In the same way that the Ellinikon Airport stimulated the development of the Apollo coast, the Eleftherios Venizelos airport is rapidly transforming its surrounding areas. The Mesogeia region is rapidly being transformed into a transportation and industrial nucleus for Athens. This fact supports the influx in permanent residents in the area, effectively contributing to the reduction of densification pressures from the Athenian city centre. Unfortunately, these promising opportunities for growth face challenges, as did Athens during its period of rapid development.

NOISE POLLUTION

One of the most obvious changes in the region since the operation of the Eleftherios Venizelos International Airport on the Mesogeian plain is the sudden increase in noise pollution. Not only does the constant passage of aircraft contribute to a new reality of the region, but significantly augmented road traffic on the Attica highway raises noise levels as well. In many areas near the airport, sound recording stations have registered noise levels which reach and even exceed the legal limit of 70db(A)²⁵. According to the European Commission, the stress associated with living near an airport is considered a risk factor for coronary heart disease and stroke, as increased blood pressure from noise pollution can trigger serious illnesses²⁶. As a result of sudden development and neighbourhood densification, traffic noise levels have drastically increased in the settled areas as

well. These factors have made a big difference to quality of life in the region, which once enjoyed peace and quiet. The most troublesome phenomena, however, involve environmental changes due to the noise increases. In the same way augmented noise levels affect human wellbeing, the health of wild animals are seriously affected as well. While further research is needed to clarify the effects, the evidence thus far indicates that traffic noise has adverse effects on the hunting, feeding, breeding and lifestyle behavior of both marine and land animals²⁷. Fewer fish have been observed in the Markopoulo's coastal areas, indicating an escape to quieter waters found at greater distances from densely occupied coasts. Aircraft flight paths can be considered one of the culprits. The same cause can be cited for the reduction in land wildlife in the region. Changes to animal behavior affect the food chain as well as the healthy function of the ecosystem in its entirety.

AIR POLLUTION

It is widely known that air pollution can have harmful effects on human health, living organisms and ecosystems. Air pollution plays a protagonistic role in the environmental problems plaguing the Mesogeia plain. Several contributors accept this responsibility. Chemicals from the burning of aircraft fuel pollute the air above the plain, although these pollutants are typically maintained below the maximum allowable levels²⁸.

The largest culprits of the air pollution in the region are road transportation and the illegal operation of marble quarries. According to the OECD, road transport accounted for 64% of transport in the year 2000 while air accounted for 19% and public transport for 13% of passenger kilometers. The number of passenger vehicles increased by 48% between 1990 and 2000²⁹, while total road traffic increased a shocking 154% from 1980 to 1996³⁰. With the trend of material



Fig.3.52. The newly constructed Attica highway, completed in 2004, acts as a transportation corridor carrying automobiles and the suburban rail train between the airport at Markopoulo and the industrial port of Elefsina



Fig.3.53. The Merenda Marble Quarry on Merenda Mountain south-west of Porto Rafti. As the mine continues to expand, it devours precious forest, scarring the land and turning a formerly beautiful geographic feature into a ghastly eyesore.



Fig.3.54. The particulate matter hovering in the air over the Mesogeia plain is clearly visible in this image of the Merenda Marble Quarry.



Fig.3.55 Vine crops on the Mesogeia plain near Markopoulo with the illegally operating marble quarry and its dust filled air clearly visible in the background.

acquisition reaching unprecedented levels within the last decade, it is safe to estimate that a similar if not a greater increase in the circulation of personal vehicles has been attained since 2000. The recent infrastructural developments in eastern Attica on account of the new airport are manifest primarily as roadway improvements. This allows access to a greater population wanting to live in the urban periphery while commuting to the city to work. Thus, since the completion of the Attica highway, a much larger traffic load traverses the Mesogeia plain, adding to the air pollution through vehicular exhausts.

The operation of Marble quarries in the periphery of Markopoulo is a significant environmental problem. There are two operational quarries in the southeastern part of the municipality which have been in operation for the last forty years³¹. One exists within the archaeological precinct of Merenda, and the other on Strongili hill. While the quarries were founded legally, they began to illegitimately take over forest territory during the 1970s and 1980s³². This means that the operation of the quarries has been operating illegally without permits from the government and forestry authorities since that time. With successive land grabs in the absence of a complete national cadastre, the Merenda mine has overtaken so much additional land that the quarry activities have come to within 200m of the Hellenistic fortress at the peak of Merenda Mountain, thereby threatening its security. Regardless of repeated prosecution of the quarry operators by the archaeological society, the excavation continues³³. This illicit operation threatens the health of the area residents as it discharges harmful particulate matter. In addition to these already unhealthy breathing conditions, the lack of proper solid waste disposal has led to the recent use of the quarry as an illegal garbage dump³⁴. The president of the Merenda Environmental Group of Markopoulo, Leonidas Kamitsis, comments on the critical nature of the illicit quarry activities:

The issue goes much further than the clouds of dust, the deafening sound of transport trucks, the broken water mains, the crumbling roads, the mud, and the dumping of garbage. The big problem involves the protection of our health. We have in our hands studies which show that the residents of the region face serious respiratory problems. Our vision is affected as a result of the airborne particulate matter which gets into our eyes. The crops are sickly. There is even fear for the water because they have excavated to such a depth that they have found water. These pits now serve as garbage dumps, and we have even received reports that hospital waste has ended up here.³⁵

SURFACE WATER RUNOFF

The manifestation of air pollution has more profound consequences for the residents of the Mesogeia plain than the noticeably widespread respiratory problems that are observed. Noxious particles that are released into the air eventually come down on the plain in the form of acid rain. The crops of the region are therefore affected. The geomorphology of the region, that which once made Mesogeia a fertile agricultural landscape, is the very feature which spreads contaminants throughout the region. The Mesogeia plain is the natural watershed for the region which empties out into the Erasinos River to the north of Porto Rafti. When it rains, all surface runoff flows off of all of the surrounding mountains and ultimately ends up in the sea. As if the air pollution from the burning of aircraft and automobile fuel mixed in with quarry particulate matter were not bad enough, the airport is placed right in the path of the runoff toward the sea. This means that any runoff from the airport which escapes the onsite water treatment facilities (a common occurrence in the event of torrential rain and flooding) naturally flows toward the Erasinos. Environmental equilibrium in the river as well as on the agricultural land of its flood-plain is severely compromised. It is easy to see that any agricultural land around the Erasinos becomes infertile due to the pollutants. As the river pours out into the Petalies gulf just north of Porto Rafti, the polluted surface water becomes one more of the many contributing

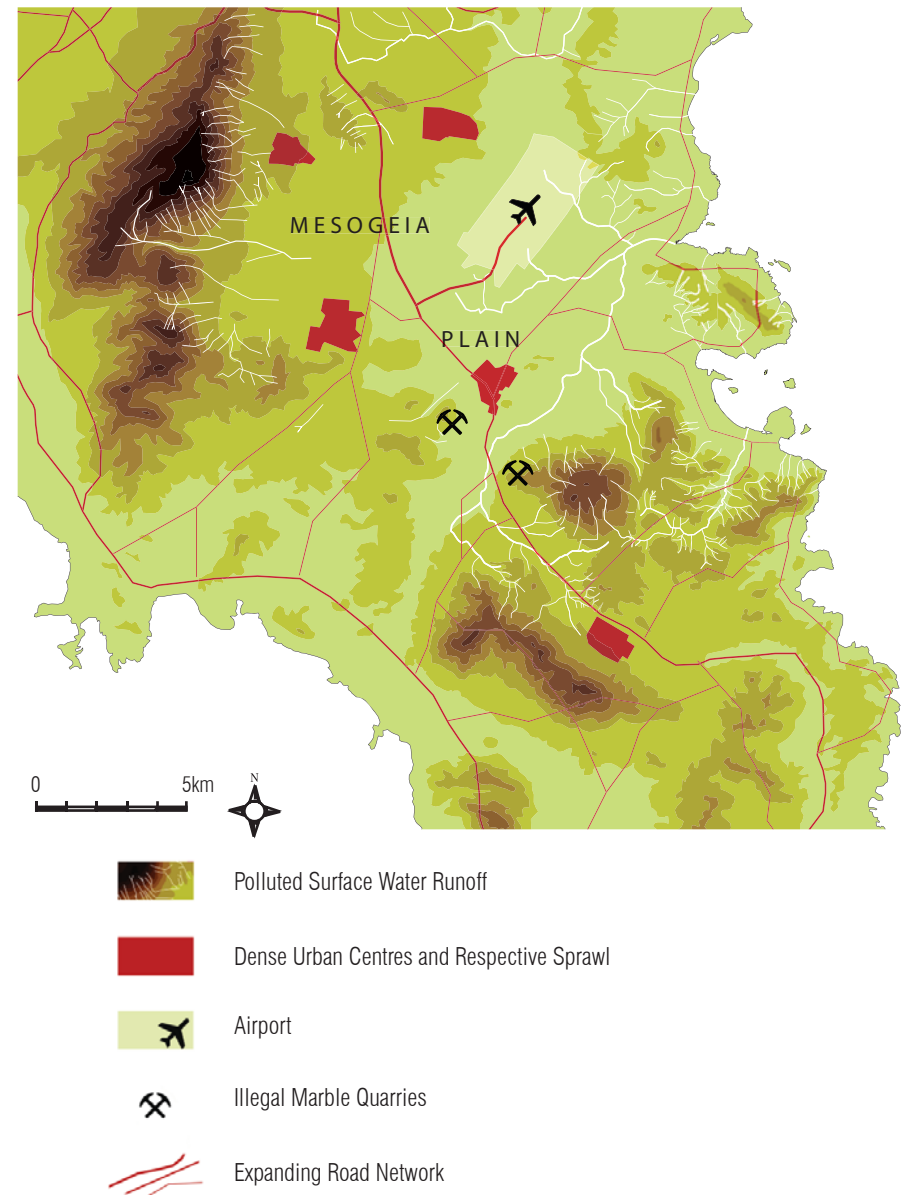


Fig.3.56. Regional Pollutants affecting the local environment of Porto Rafti



Fig.3.57. The Temple of Artemis Vravronias located on the flood plain of the Erasinos River, which can be seen in the foreground.



Fig.3.58 The same temple after the flooding of the Erasinos. Poor runoff control infrastructure results in damage to the ruins and surrounding agricultural and natural systems.



Fig.3.59. - Fig.3.61. Coastal ecosystems neglected and used as garbage dumps. From left to right at Vravra in Attica, Kamatero in Salamina, and at Pachi in Megara.



Fig.3.62. - Fig.3.64. More pollution contributing to Marine ecosystem damage. From left to right at the Peace and Friendship stadium in Athens, in the bay of Elefsina, and at Vasilika in Salamina.

factors causing severe pollution of the Aegean sea³⁶. The currents along the coast bring the polluted runoff water directly into the bay at Porto Rafti.

ATTICA PARK

The Erasinos river basin and wetland is an extremely ecologically sensitive biotope, having been designated a Site of Community Importance within the European Ecological NATURA 2000 network. "Natura 2000 is the EU-wide network of nature conservation areas set up to ensure the survival of Europe's most valuable species and habitats. It is not restricted to nature reserves, but based on a much broader principle of conservation and sustainable use, where people and wildlife can live together in harmony"³⁷. The Erasinos river valley with its adjacent natural biotope and agricultural lands has remained ecologically constant throughout the ages. Since antiquity, the site of Vravra was a very lush natural biotope with rich biodiversity. The local ecosystem has remained relatively stable on account of the temple and sanctuary of Artemis Vravronias at the ancient settlement of Vravra just inland from the swampy Erasinos river delta. Following the desertion of the sanctuary, the fertile lands surrounding the river were farmed and tended by the monks of the Penteli Monastery. As a result of the centuries of monastic farming the agricultural activity that took place on the Vravra farms was typically traditional in methodology, and continues thus until the present as an example of organic farming practice. The Natura 2000 conservation site, therefore, attempts to preserve the rich biodiversity, the traditional and organic farming of customary local crops, and most importantly, the extremely important archeological site of Artemis Vravronias. The culturally significant Attic Park of Vravra, as it is called, preserves and displays for the public the local tradition and heritage. Unfortunately for the 2669.24 hectares³⁸ of protected parkland at Vravra, there is no evidence whatsoever that the legislation

regarding the protection and cleaning up of the Vravrona park is being enforced. Polluted runoff from the Mesogeia plain and airport still finds its way into the Erasinos river. The length of the river, its delta and the beach are littered with garbage and construction waste³⁹. The OECD comments that “a number of coastal wetlands and other special ecosystems are designated as protected areas, though actual protection is weak because of lack of staff, limited enforcement and underdevelopment of management plans” and “implementing action is often lacking for years after the adoption of the law⁴⁰. While the state administration crawls through bureaucratic hurdles, the nation’s sensitive biotopes continue to be neglected and abused. Attica Park is protected in name alone. It seems that everything the Natura 2000 legislation is attempting to protect may be gone by the time the state is prepared to act.

MEDITERRANEAN MARINE POLLUTION

The effects of anthropocentric development are evident the world over, and the collective damage is inflicted on the world’s marine biotopes. Global pollution and changing climate patterns have caused major damage to aquatic ecosystems, but the ‘out of sight out of mind’ mentality persists in the name of economic gain. This phenomenon is manifest in Hellenic waters as well. On account of its shape and the abundance of islands, marine surface area far outnumbers the nation’s land area. Effectively protecting the 13 700km of Greek coastline poses many challenges, as the small nation’s economy is principally focused toward the sea. Tourism, fishing and transportation industries, while at the core of the Greek identity, are the main polluters of the marine realm. Unprocessed sewage, industrial effluents and agricultural activities all contribute to this pollution. Accidental oil spills and operational discharges from marine vessels are other noteworthy contributors to marine pollution⁴¹. Land based pollution ultimately finds its way to the sea in the absence of



Fig.3.65. Volunteers cleaning up garbage at the Vravrona wetlands



Fig.3.66. and Fig 3.67. Industrial activity along the Asopos River in Boeotia dumps effluents directly into the River. The river looks black from the pollutants. To the right, the ecological destruction is evident at the point of discharge. Such activity and lack of law enforcement is typical in Greece.



Fig.3.68 The Sea Diamond sinks off the coast of Santorini while rescued passengers look on.



Fig.3.69. Clean up the oil discharged from the Sea Diamond. The ship itself remains in the sea to this day.

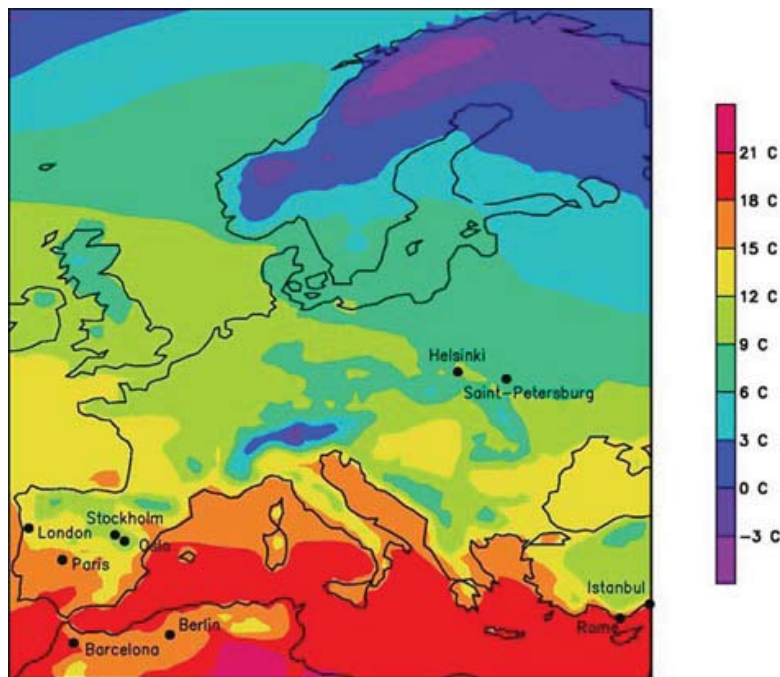


Fig.3.70. This climate map predicts regional climates in Europe in the year 2071. The map shows that London will have the climate of Lisbon, Portugal; Berlin will have the climate of northern Algeria; Oslo will feel like Barcelona (and so on). Athens is not indicated, but it is clear to see that the climate will resemble that of the Sahara Desert.

sufficient legislation and infrastructure. Increasing global temperatures drive coastal aquatic species to deeper, cooler waters. This generates difficulties for the fishing industry. Foreign invasive algae and coral species have been observed in Greek waters on account of increasing water temperatures, disrupting Mediterranean aquatic biodiversity. While international climate models vary in the specifics of their predictions, a similar future is forecast for the Mediterranean region. By the end of the century, summer might become too hot for tourists to sun on Mediterranean beaches. Heat waves will become routine, and the scarcity of water will only be amplified. It will be too dry for many crops now grown there⁴². In short, the Mediterranean lifestyle will be completely changed. Life in Greece as it is known today will surely no longer exist.

PORTO RAFTI – LOCAL CONDITIONS

On the local scale, Porto Rafti is highly underdeveloped to handle the current increased population loads, not to mention the predicted population increase that will result from the redevelopment of the Mesogeia area around the airport as a transportation and industrial hub. The concentration of traffic and construction developments as close as possible to the seashore puts immeasurable stress on the marine ecosystems. Poorly developed infrastructure results in an inability to properly monitor and control the influence of human activities on environmental systems. This lack of proper development, therefore, contributes heavily to both land and marine pollution.

TRANSPORTATION NETWORK

The absence of a comprehensive urban development plan has been detrimental to the transportation network of Porto Rafti. Rapid development and continuing uninhibited construction in the bay area leave little room for transportation activities. Since the operation of

the new airport on the Mesogeia plain and the Attica highway which connects it to the capital, it has become enormously easier to travel to Porto Rafti. As such, it has become one of the most popular tourist destinations in the Attic peninsula. With such high demand for development property in the area, little land has been left for vehicular traffic.

The road network leaves much to be desired. Little thought has gone in to the planning of traffic flow, and as a result the few narrow roads are overcrowded during peak tourist season. The parking capacity of existing lots is decent, but the two lots are perched on the coast, unmistakably the most ecologically sensitive areas of the town. As the highway brings more tourists each season, the problem of insufficient parking is displayed along the roads. The coastal avenue is typically lined in both directions with parked cars, and traffic flow is challenged. When the main arteries are insufficient to host the visiting vehicles, parking spills onto the smaller residential lanes which are often wide enough for one car to begin with. Double parked cars are an unfortunate reality at the busiest of times. Parking enforcement is nonexistent.

Public transportation in Porto Rafti has yet to experience and upgrade since its inception. The increased demand for rapid quality service to multiple coastal destinations has not yet influenced an increase in frequency. While the Suburban rail line from Athens reaches the airport, the plans to extend the line to Markopoulo and on to Lavrio have yet to be realized. As such, the simplest way to arrive in Porto Rafti by public transit is by means of the KTEL bus (freely translated this means “Common Accountancy of Bus Entrepreneurs”) which leaves Athens every hour. This is not a local transportation service and is insufficient to meet the local public transport needs. Public transport throughout Porto Rafti is impossible.



Fig.3.71. Homes at Panorama (L) and Avlaki (R) beaches. While the law indicates construction is legal 50m from the shoreline, these buildings are between 5 to 10m from the shore.



Fig.3.72. Homes built on the coast of Koroni hill at the wetlands in Porto Rafti. These buildings are a maximum of 5m from the coast.



Fig.3.73. A car parked on one of Porto Rafti's narrow and unfinished roads.



Fig.3.74. Parked cars line both sides of the coastal road in Porto Rafti.



Fig.3.75. The KTEL bus which provides insufficient service between Athens and Porto Rafti.

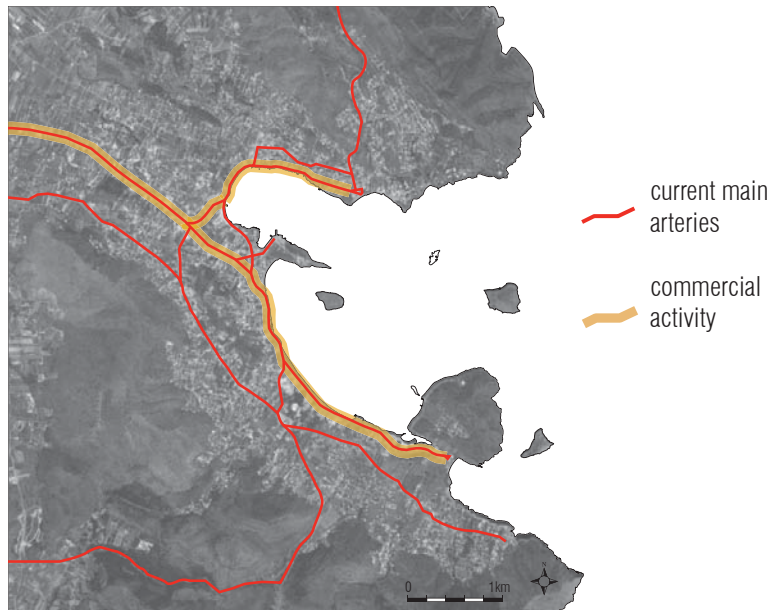


Fig.3.76. Diagram showing current main arteries in Porto Rafti along with the concentration of commercial activity along the coast. Land use throughout the rest of the town is dominated by private residences.



Fig.3.77. One of Porto Rafti's ad-hoc public spaces created and maintained by the local residents of the neighbourhood.

POLITICAL AND SOCIAL NETWORKS

With land at a premium, little thought has been dedicated to the creation of a public realm. Public squares and civic gathering spaces do not exist in Porto Rafti. The current situation consists of the coastal road acting as the main artery in the settlement. As such, all mercantile and entertainment facilities are located here, with most of the town's traffic concentrated along this thoroughfare. The waterfront currently acts as a default public space, but the fact that this realm must be shared with intense road traffic severely reduces its effectiveness as a gathering space. Inland from the coast where residential growth is continuous, property development is taking over all (formerly agricultural) vacant land. The municipal authorities have the power to reserve such properties in suitable locations as future public squares or parks, yet they are being sold off in the name of profit. The absence of the public realm reduces opportunities for local community gathering and exchange. Local public spaces would allow for the development of centres of mercantile and amenity activities further inland in the case of future densification, providing local work prospects and effectively relieving the pressure on the coast. A network of public squares in each neighborhood would make for a town friendlier to its users. Parks and sports facilities are similarly sparse. Sports facilities are located on the coast and are concentrated near the Avlaki parking lot. The rare green space parks are poorly lit, unkempt and abandoned. Sadly, these empty pockets in the residential areas are often used as garbage dumping grounds. Pedestrian networks are desperately needed, as streets are currently dedicated solely to automobile traffic. Parks and sports facilities should be available within walking distance in any given neighbourhood so as to reduce the need to travel by car to access these. Civic gathering spaces and institutional amenities likewise do not exist in Porto Rafti. Cultural facilities would foster pride for the community and, more importantly, public action through the creation

of facilities such as tourist information centres, libraries, museums and community theatres. No plan currently exists to develop such facilities in Porto Rafti.

INFRASTRUCTURAL NETWORKS

The result of rapid mostly illegal development in Porto Rafti over the last two decades has been the lack of accompanying infrastructural growth. When homes are built outside the scope of the town plan, this means that the necessary services typically provided by the municipality are not put into place for the use by the public. This is a typical issue in urban development throughout Greece, and especially characteristic of the rapid neighbourhood development in the Athens area. An adequate road network is one issue which has already been addressed, but the most critical issues are those affecting the health of the local environment and by consequence, the wellbeing of the citizens.

The most critical issue is that of a central sewage system. While larger hotels and resorts in the municipality operate on site water and sewage treatment facilities, the treated water is ultimately output into the sea⁴³. Homes in Porto Rafti deal with their sewage by means of onsite septic systems. This is hazardous to human health in many ways. Septic systems are at risk of allowing direct contact of pollutants with ground water and natural aquifers, especially given the seismic frequency of the region. Seepage into the sea is inevitable. A state and EU partnership is funding the planning and construction of the local sewage system, but the construction has yet to begin⁴⁴.

Storm water management is equally lacking. The natural topography of the area collects ground and storm water in gullies and seasonal streams which empty out into the sea. Agricultural activity in the area and the use of fertilizers contributes to the pollution of the ground



Fig.3.78. The athletic facility at Avlaki, Porto Rafti, hosting one soccer field, four tennis courts, two basketball courts and the sailing club.



Fig.3.79. Signage announcing the partnership between the EU and the Greek state to construct a central sewage system in Porto Rafti. The project has yet to begin.



Fig.3.80. Natural watershed where it meets the sea. Image taken from the waterfront avenue bridge over the gully looking north.



Fig.3.81. Looking south from the waterfront avenue bridge to the dry storm water gully. During seasonal torrential rain, this gully transforms into a powerful stream.

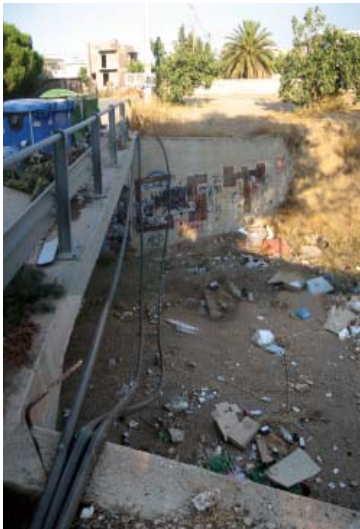


Fig.3.82. Further upstream the gully is littered with garbage which ultimately ends up in the sea.



Fig.3.83. Uncollected garbage due to sporadic collection and shortage of staff.



Fig.3.84. Garbage slowly decomposes in the waters at Avlaki's wetland.

water runoff. Gullies are ill maintained, and often treated by local residents as a garbage dump. Torrential rains during the winter months wash all of this garbage and effluent into the sea. Everything from old toilets, washing machines and used tires have been found in the sea just beyond the outlet of the gullies, a clear indication of the amount and force of the storm water passing through. The ecological damage to marine life is obvious.

Water availability for drinking and irrigation purposes is insufficient in the Municipality of Markopoulo. Water is currently supplied to 80% of the municipality, whether buildings fall within or outside the official town plan. Particularly during peak tourist season, when the demand for water is many times higher, there exist shortages which result in water outages. The reason for these shortages is once again cited as the rapid development of the area, and the inability of public works department to keep up⁴⁵.

Insufficient and disorganized solid waste management are a tangible issue. Collection is sporadic, with overflowing garbage bins and heaps of waste left on unused lots and street corners. This can be attributed mainly to the shortage of waste collection staff. Upon collection of waste, the disposal is not satisfactory given the shortage of incinerators and compost facilities. Landfill disposal in Greece handles 91% of national municipal waste, but a large percentage of this waste ends up in uncontrolled and unsanitary, illegal landfills, such as the one at the Merenda quarry. It must be mentioned, however that sanitary landfills are progressively being made available. An effort is being made to implement a recycling programme, but it is being met with little success.⁴⁶ Citizens are not well informed regarding recycling procedure, and the sporadic collection leads to frustration and confusion with refuse material. Recycling receptacles are sparse, and are often not accompanied with garbage bins, in which case recycling bins are utilized for garbage disposal. Many

willing citizens are frustrated with the immature recycling program and find little use in even making an effort when the poorly developed program seems futile.

PRIVATE CITIZENS AND MARINE DEVASTATION

While insufficient infrastructure pollutes the landscape on the municipal level, it is most troublesome to witness the indifference of some citizens. Many bathers seem to think it is acceptable to refrain from picking up after themselves, leaving their garbage lying around on the beach or rock cliffs. Others simply add to an existing pile of garbage and convince themselves that they are not responsible. The expectation seems to be that it is the municipality's responsibility to clean up after them. Boaters also seem to think it normal to dispose of any garbage in the sea, assuming that any and all garbage will biodegrade or erode in the sea. Whether thrown into the sea or left on the shore, this refuse ends up damaging the local ecosystem.

Illegal fishing is a major culprit of ecosystem damage in Greek waters. While these practices are common the world over, existing marine pollution and warming temperatures cause problems for those who make a living from fishing. Desperate for a good catch, many fishermen resort to consciously illegal methods to secure their income. When they experience the ease with which they are able to succeed, greed sets in and they begin to exploit the sea. Blast fishing is a common yet devastating method for fish harvesting. Explosives are used to shock or kill schools of fish for easy collection. This practice is illegal in Greece as it destroys the underlying marine habitat. This technique kills more species than the fisherman is looking to harvest, leaving the sea bed at the site of the blast completely barren. Trawl fishing accomplishes the same thing. Bottom trawling involves towing fishing nets with heavy fishing gear over the seabed. While this produces desirable results for the fisherman, the



Fig.3.85. Blast fishing above

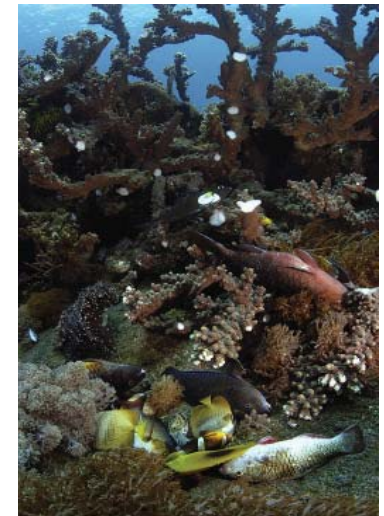


Fig.3.86. The results of blast fishing, right.



Fig.3.87. Sea floor before bottom trawling.



Fig.3.88. Sea floor after bottom trawling.



Fig.3.89. A spear fisherman with his oxygen tanks and his massive catch.



Fig.3.90. A leftover self built shack in Porto Rafti surrounded by newer homes and apartment buildings.



Fig.3.91. A self built shelter in Porto Rafti, no more than ten m² in area, outfitted with a water heater.



Fig.3.92. A self built home in Porto Rafti with its larger replacement on the left.



Fig.3.93. An old home in Porto Rafti with two maisonettes under construction on the same property for the owner's children.

consequences for the marine biotope are less so. Coral is crushed, seaweed uprooted, and species diversity is decreased. A third illegal fishing method includes spear fishing paired with scuba gear. Spear fishing is a free-diving hobby sport with laws in place to protect fish populations. With the use of oxygen tanks, fisherman can swim to greater depths and can stay in the water longer, targeting far more fish than free diving subsistence spear fishermen do. While private citizens are quick to place the blame on the state's inability to enforce protection measures, they are just as guilty in contributing to marine devastation.

PORTO RAFTI – BUILDING SCALE

Hardship has defined the bulk of urbanization in Greece. Illegal homes, known as *afthereta*, are a significant social dilemma which has shaped much of the built landscape in by the lack of a specific planning legislation and by the need for citizens to obtain a home for their families. Such development was tolerated during the military dictatorship when relaxed land development controls allowed for permit free construction. While this was vital to the resolution of the housing problem at the time, the lack of planning regulations was a hindrance to the development of properly planned neighbourhoods. A substantial portion of residential fabric in Porto Rafti was established during this period of informal construction. Unsuitably high densities in this rural coastal setting as a result of poorly controlled development are a stress on the surrounding natural environment. Buildings built without permits continue to plague the Greek system while the unfinished Land Registry makes it even easier to furtively construct a dwelling outside the officially planned urban realm on unauthorized land. Sadly, a culture of “squatting” leftover from the days of the refugee self help housing persists to this day. While the problem of *afthereta* will soon (theoretically) be a thing of the past, the reality of implementation will surely be challenged by the short-

age of municipal staff and the profits gained by all state and private accomplices to building offenses. Ongoing unlawful construction is thus encouraged.

When the General Building Code (ΓΟΚ) was introduced in 1985, it took into account ancient building traditions and lifestyle habits of the Greek people. Due to the favourable climate in Greece, it is possible to spend most of the year working outdoors. The ancient courtyard house is testament to the importance of this intimate exchange of interior and exterior spaces of the household. As such, the code allows for semi-exterior spaces. According to the building code, a semi-exterior space is described as a covered exterior space akin to a balcony where at least one side is open to the outdoors. In comparison, a balcony is defined as an uncovered horizontal extension of the floor plate⁴⁷. Of the overall allowable coverage of a building, only a certain amount can be built as a semi-exterior space and is not counted toward the overall GFA of the building since it is not enclosed. Insufficient building inspection due to shortage of staff leads to violations of the code. The only inspection occurs after the concrete frame of the building is in place. The building inspector provides the go-ahead, after which alterations to the approved floor area takes place. It has now become the rule rather than the exception that areas defined as semi-enclosed on drawings provided to the planning department for approval are subsequently enclosed (easily enough since they have a roof). In this manner, while contemporary buildings are typically legal in the sense that they have a building permit, the final enlarged outcome is considered unlawful, as it consists of a greater GFA than that which was approved⁴⁸. The built environment in Porto Rafti matches exactly the situation which afflicts the rest of the country.



Fig.3.94. Concrete frames of new constructions in Porto Rafti. It is at this point that the buildings are inspected by planning officials. The walls are subsequently filled in using brick. It is unclear which spaces will be enclosed, semi-exterior or balcony spaces. It is therefore very easy for builders to increase the final gross floor area of the building to yield more profit.



Fig.3.95. A sketch depicting the enclosure of the semi-exterior space, thus increasing urban density.



Fig.3.96. One of the newest constructions in Porto Rafti. This Neo-Byzantine palace has gone way over the allowable GFA for its property size by taking advantage of the semi-exterior space loopholes in the building code. This results in a monstrous addition to the neighbourhood which seems out of context and excessive for its location.

This phenomenon is typical of the rapidly changing social and physical landscape in Greece. The conditions which allowed for the creation of the traditional outdoor living have now changed. On account of rapid urban growth and consequential congestion, a new compact model for the urban home has transplanted the exterior spaces of the home from the centre to the periphery. The yard is treated as a decorative skin rather than as the heart of home life. Only the new building code of 1985 made it possible for citizens to reclaim this critical outdoor living room. Such spaces in a dense urban situation, however, are less enjoyable on account of air and noise pollution. Thus they become more susceptible to transformation. With space at a premium, these important and necessary spaces for Mediterranean living have come to be viewed as quantitative rather than qualitative features of the home. Contractors enclose the spaces, making extra profit on the sale of more square footage to perspective buyers. The state which allows this illegal activity to occur essentially takes advantage of the citizens as it collects more money over time in taxes and fines⁴⁹. Tassis Papaioannou, Architecture professor at the National Technical University of Athens, outlines the consequences astutely. "Perhaps everyone perceives individual gains, but we are all tragically at a loss. The urban environment which we have created over the years, and which we continue to create, as another mirror of our lives, is anarchic, distasteful, unfamiliar, and unlivable."⁵⁰ Such is the case with many of the new structures in Porto Rafti, and the consequences for the built landscape are palpable. As each individual building fills in its semi-exterior spaces, ground coverage expands and less ground is left uncovered. Building density thus rises and the land available to the public realm is reduced. In the end, citizens increasingly isolate themselves in their houses which no longer connect them to their surrounding environments and public life suffers as a result.

SELF DESTRUCTION

Many factors come together to stress both the natural and built environments of Porto Rafti and its greater region. The continuation of illegal and negligent behaviour on the part both of residents and officials generate ominous implications. With continuing developmental pressure in Porto Rafti, from vacationing as well as new regional pressures, it is unreasonable to assume that this development will slow down any time soon. On the contrary, Porto Rafti is sure to develop into a city in its own right. It would be tragic, however, for this very same pressure to destroy the very feature which attracts so many. Both land and aquatic ecosystems face deterioration, but so does the political realm through the omission of spaces in which people can meet, interact, and act together for the sustenance of society and humanity. In many places but in Greece especially, the landscape is intimately connected with national identity and refuge therein bestows psychological wellbeing. This is the basis upon which recreation and tourism industries are built. It is not an option to simply halt further development in Porto Rafti. If ongoing development continues along its current path, however, it is sure to be short lived. While seaside vacationing is what lures visitors here, Porto Rafti cannot maintain its insular growth strategy and expect to survive the destructive development pressures. Uncontrolled development has adverse effects on both the natural realm and the built environment. The public realm is neglected through the transfer of all available land to private development. A healthy political life in the absence of public space is therefore not accessible to the residents of the town. As a result, alienation from one's surroundings and from fellow citizens is inevitable. The extent of environmental damage bred of indifference and misinformation is a testament to the importance of communication and joint action in the public realm.

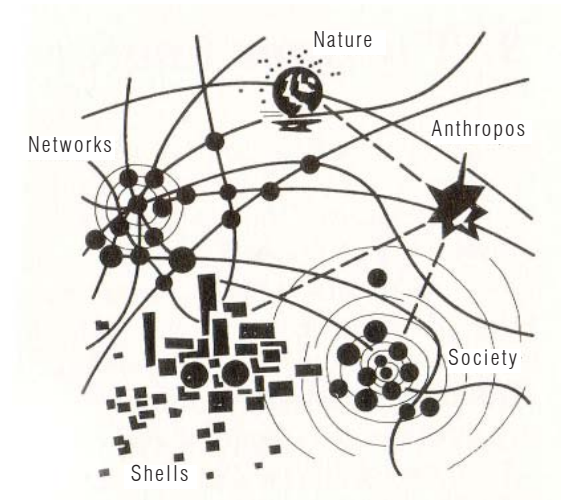


Fig.3.97. Diagram by Constantinos Doxiadis indicating that the 5 elements of human settlements are unbalanced.

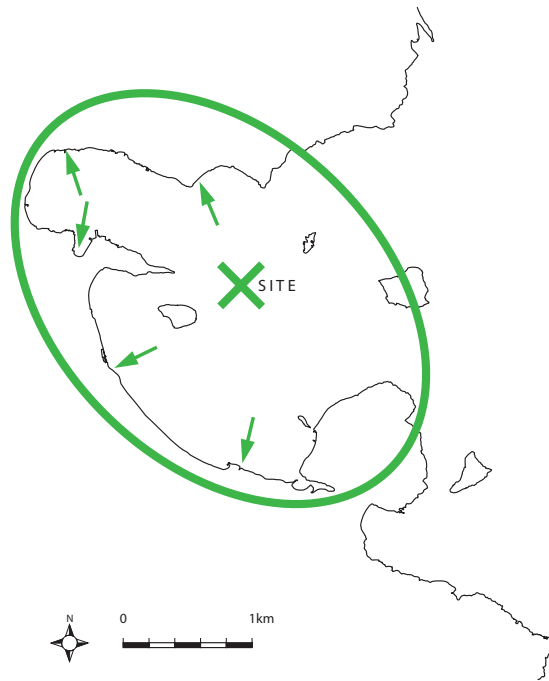


Fig.3.98. Diagram of the site conception of Porto Rafti. By shifting the focus of development from the land to the centre of the bay, the aquatic realm is brought into the consciousness of the public realm.

In the case of Porto Rafti, self destruction will come through the damage of the land and aquatic ecosystems. Allowing Porto Rafti's natural environment to decompose would bring on the destruction of the industries that built it and which keep it alive. The health of these realms ensures the prosperity of the town. A potent civic realm can rekindle relations between men and can influence co-operation and action toward reaching this goal of a healthy living environment. Only action, as opposed to the current indifference, can save the polis from self destruction. The question remains, is it possible to harness the force of development that is being placed on Porto Rafti, and use it to clean up the environment? Perhaps it should be stated differently. Is it possible to use environmental awareness and clean up as a driving force to stimulate urban development? Given that the visual focus of Porto Rafti is the bay, and the developmental focus is on land, by linking the prosperity of the town to the health of its natural surroundings, it is possible to drive urban development by stimulating awareness of the marine condition as it relates to human wellbeing.

Fig.4.1. New ferry dock along proposed coastal recreational park



Chapter 4

HARMONY

ENVISIONING A VITAL PUBLIC
REALM IN PORTO RAFTI





Fig.4.2. The sculpture of a decapitated female figure on Rafti Island.

LESSONS FROM ANTIQUITY

Given the longstanding enjoyment derived from the beauty and restorative qualities of Porto Rafti, its development into one of Attica's most frequented tourist destinations is understandable. The overdevelopment currently underway poses a palpable threat to both public life and the health of local biotopes. In order to come to a sensible and sustainable development strategy for this delicate waterfront site, an approach aimed at balancing the natural and the manmade is in order. Inspiration for the restoration of this balance can be drawn from natural forces of made manifest in the earliest built form and uses of the site.

Among the most obvious influences driving development around the bay at Porto Rafti is the sea itself. The use of the bay as Athens' main trade port with the colonies of Asia Minor and the Black sea is testament to the fact that the sea has always been the lifeblood of the Greek people. For survival the Mediterranean shores were colonized for trade. As Plato mused, his people had settled its shores 'like frogs around a pond'. As such, arrival in any city was experienced from the water looking back onto the land. It was not until the twentieth century that land based infrastructure replaced sea routes as the main mode of transport in the Greek world. The importance of the marine realm was always widely understood.

As the fabled point of arrival of Dionysus in Attica, and a key ritual site in the worship of Apollo, Porto Rafti serves to illuminate the imbalanced nature of recent development. Alive with mythologies, temples and festivals, it is a meeting point of qualities invoked by Apollo and Dionysus. This is clear upon the realization that Apollo and Dionysus represent opposite sides of the same coin. The Apollonian borderline separates mankind from the unknown darkness of wilderness and death, while Dionysian nature embraces man's place in the natural hierarchy. They are shadows of each other, constantly

wrestling for supremacy. They represent the eternal cosmic dance of life and death which mankind perpetually strives to reconcile.

It was understood in antiquity that a balance between the polis and nature was necessary for survival. The Apollonian borderline, which brought men together in actions which strove for immortality through democracy, has changed into something which separates men from each other. The moment private property ceased to be a religious domain and became a transferable object for the propagation of personal wealth, it began to serve the function of alienation. In our contemporary society, the landscape is so fragmented in the interests of consumption that it has been disconnected from the physical world. The cosmic relationship through an axis mundi inherent in the ownership of private property has been shattered in our modern understanding of the urban entity by our loss of concern with immortality and eternity. We are now not only alienated from our natural environment, but from each other through our destruction of the public realm in which we used to come together as a community to ensure our survival.

The balance between the Apollonian and Dionysian has been tipped. The property line which once ensured human survival now threatens it. It is crucial to become aware of the influence of our actions on the natural world. Harmony with our natural surroundings and our fellow citizens becomes a prerequisite for our survival. In a symbolic sense, this calls for reconstructions of the temple of Apollo and the dance floor of Dionysus. We have lost sight that these are one and the same place. In Porto Rafti, a place of recreation and renewal rapidly developing into a soulless suburb, the public realm must be restored to offer an appropriate place of exchange while offering a realm conducive to play, relaxation, and entertainment. In a coastal city, we must learn to enjoy the waterfront while respecting its delicacy. It is possible to embrace urban growth while protecting the lifeblood of the town. After all, without the sea, there would be no Porto Rafti.



Fig.4.3. Symbolic drawing by author of the destruction of Porto Rafti by means of overdevelopment of the ground plane for private residences and the isolation of residents from one another in the absence of public space.

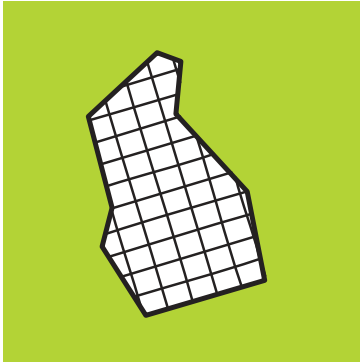


Fig.4.4. The city is built right up to the boundary walls, keeping the wilderness at bay.

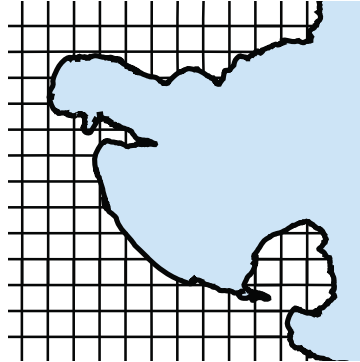


Fig.4.5. Coastal cities build right up to the natural boundary of the coastline in much the same way.

THE PROPOSAL

Since antiquity, the city has been considered the natural place for man to live and grow. While this initially implied a symbiotic relationship with the natural realm, the defensive wall around the city became a line drawn against nature. Coastal cities, once driven by commerce and exchange, have grown to take on the modern role of touristic consumption. In the context of urban fragmentation and desires for personal wealth propagation, the coastline is now treated as the natural “wall” of the city to which development is extended in order to maximize land use and profits. All too often, this sensitive boundary is surpassed, with artificial land extensions built into the sea. Such gluttonous development is harmful to the natural environment, and by a process of elimination, hinders our understanding (through interaction with them) of the coastal systems essential to both land and aquatic ecologies.

The proposal for the rehabilitation of the public and natural realms of Porto Raffi begins with the conceptual reorientation of land based development to the centre of the bay. By conceiving the bay as the site of remediation rather than the peripheral land, we can appropriately consider the implications of land based interventions within the aquatic ecosystem. Educating both residents and visitors about marine conditions and the effects of human actions upon them will influence a culture of responsible urban development.

The scheme considers three scales in the aim to relieve development and pollution pressures on the aquatic realm. At the scale of the town, the infrastructural networks are more carefully arranged to facilitate movement and the provision of services throughout the settlement. At the scale of the coast, a pedestrian recreational park corridor pulls urban pressures off of the shoreline, allowing for the

restoration of natural biotope conditions in the delicate littoral zone. Ferry docks serving the marine public transportation line provide a site of essential infrastructure linking the marine spirit of the town to the ongoing urban development. By defining the three ferry stops as pivotal nodes upon which the future development of Porto Rafti hinge, supporting services placed further inland encourage development to grow away from the coast rather than drawing development pressure to it.

The reorganization of urban networks and reclamation of delicate natural features of Porto Rafti provide the opportunity to reconnect to the important history of the region based on the health of its ecological systems. Rather than turning a blind eye to the historical lifeblood of the bay, the proposal incorporates remaining forest, wetland, agricultural and coastal ecologies into the public recreational spaces of the town. As the successful city thrives on the balance and symbiosis of natural and manmade realms, the proposal aims to encourage ecological awareness and responsibility through the weaving of recreational and public realms to provide places of gathering conducive to exchange, play, relaxation, and entertainment.

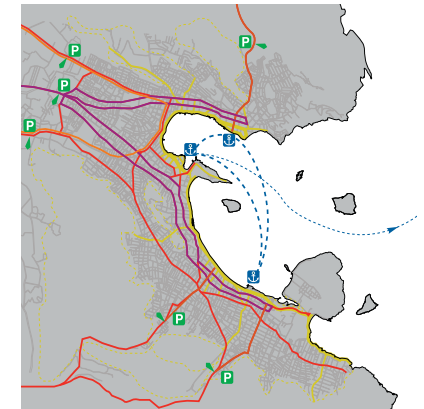


Fig.4.6. GRID : Proposed infrastructural networks at the scale of the town facilitate mobility and establish new paths for urban development away from the coast.



Fig.4.7. LINE : Proposed pedestrian recreational park reclaims the coast from urban pressures.

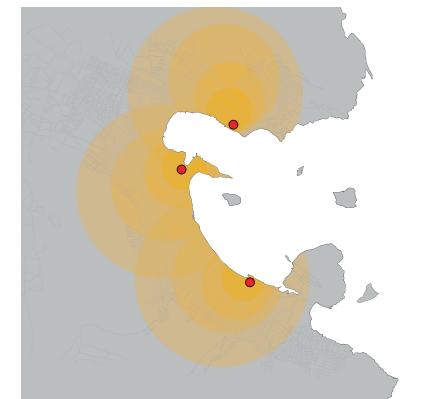


Fig.4.8. POINT : Proposed ferry docks as sites of essential infrastructure in the reconception of Porto Rafti's urban development.

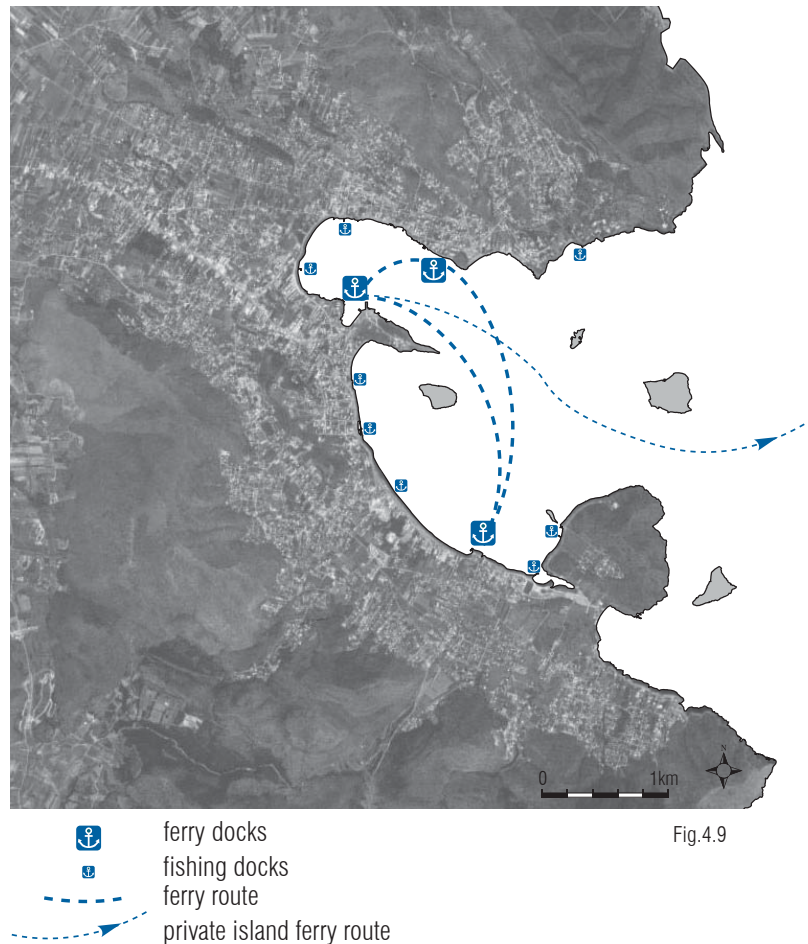


Fig.4.9

MARINE TRANSPORT NETWORK

The ferry routes provide the primary layer of public infrastructure, central to the public transportation network of Porto Rafti. The aim of the ferries is to provide another (more enjoyable) option for public transport around the bay, further reducing traffic congestion on local roads. Marine transportation and the traditional sense of arrival by sea are thus restored to the public. Three ferry stops around the bay become focal points of seaside activity and serve as catalysts for development, driving urban development inland and away from the coast.

The main port on the Pounta peninsula presently serves as a departure point for privately operated island cruises to nearby islands. It will continue to serve this function at its current limited capacity in order to maintain a connection with the wider network of the Aegean archipelago.



Small existing docks around the bay will continue to serve the needs of the local fishing industry and private recreational boating.

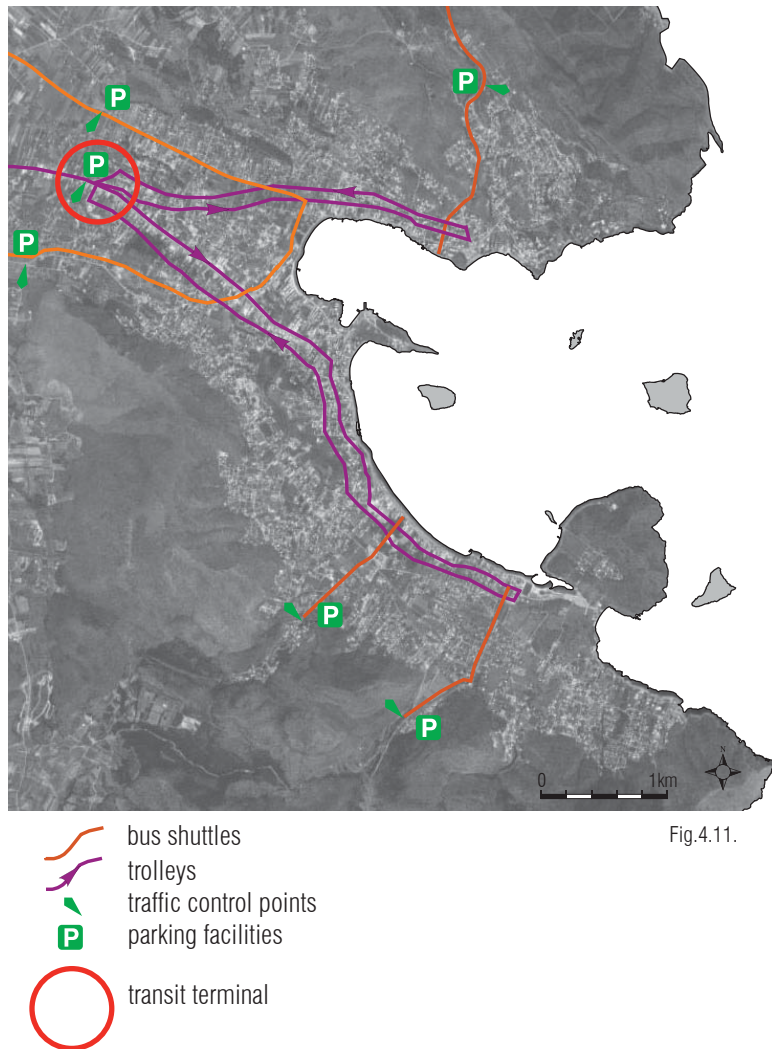
ARTERIAL ROAD NETWORK

In an effort to relieve ecological pressure from the coast of Porto Rafti, one of the key moves is to reconfigure traffic patterns which have evolved out of necessity in the absence of proper planning. Thus, it becomes possible to completely remove road traffic from the stressed waterfront roadway. The main circulation route will be removed from the coast where it is presently situated and will be pushed further inland. The traffic of the main coastal route will be dispersed through the implementation of one way streets parallel to the coast which will be shared with the trolley system. Existing secondary routes will be widened and traffic will be intensified in order to reduce traffic loads on previously overcrowded streets. Such changes in roadway usage will allow for commercial and public activity to emerge along new routes within the town, reducing the need for automobile use to access more urban amenities. This traffic re-configuration will therefore assist in the overall traffic load reduction of Porto Rafti.



Fig.4.10.

-  rerouted arterial roads
-  rerouted one way arterial roads



LAND BASED PUBLIC TRANSPORTATION

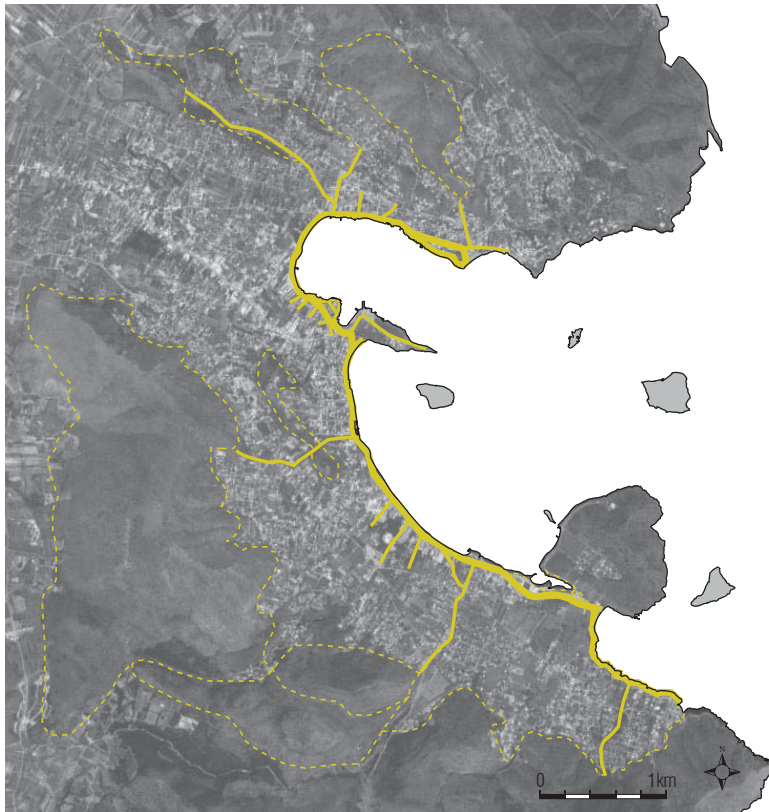
The main objective for the establishment of a public transportation network in Porto Rafti is the reduction of automobile traffic pressure on the town and especially on the coast. The proposal assumes the completion of the Athens - Lavrio suburban rail line, with a stop in Markopoulo. A trolley route will depart from the Markopoulo train station and provide quick and frequent service to Porto Rafti. As part of the same system, localized trolleys will serve the Porto Rafti bay area for efficient land based transportation year round.

At present, an insufficient road network cannot support the road traffic of the town. As such, an effort will also be made to drastically reduce the traffic loads. In order to achieve this, the first step is to implement a series of traffic control points at all entrance points to the town. Only residents of the settlement will be allowed to enter the road network of Porto Rafti. All visitors will be required to leave their vehicles at the provided parking facilities where they will connect to the bus shuttles or trolleys that will transport them to their desired destination.

Local bus and trolleys will operate on renewable energy.

Fig.4.12. North - South section of the eastbound one way road traffic and trolley street. Mixed use zoning allows for an active street life








-  waterfront cycle / pedestrian park
-  cycle / pedestrian connections
-  cycle / pedestrian nature trails

Fig.4.13.

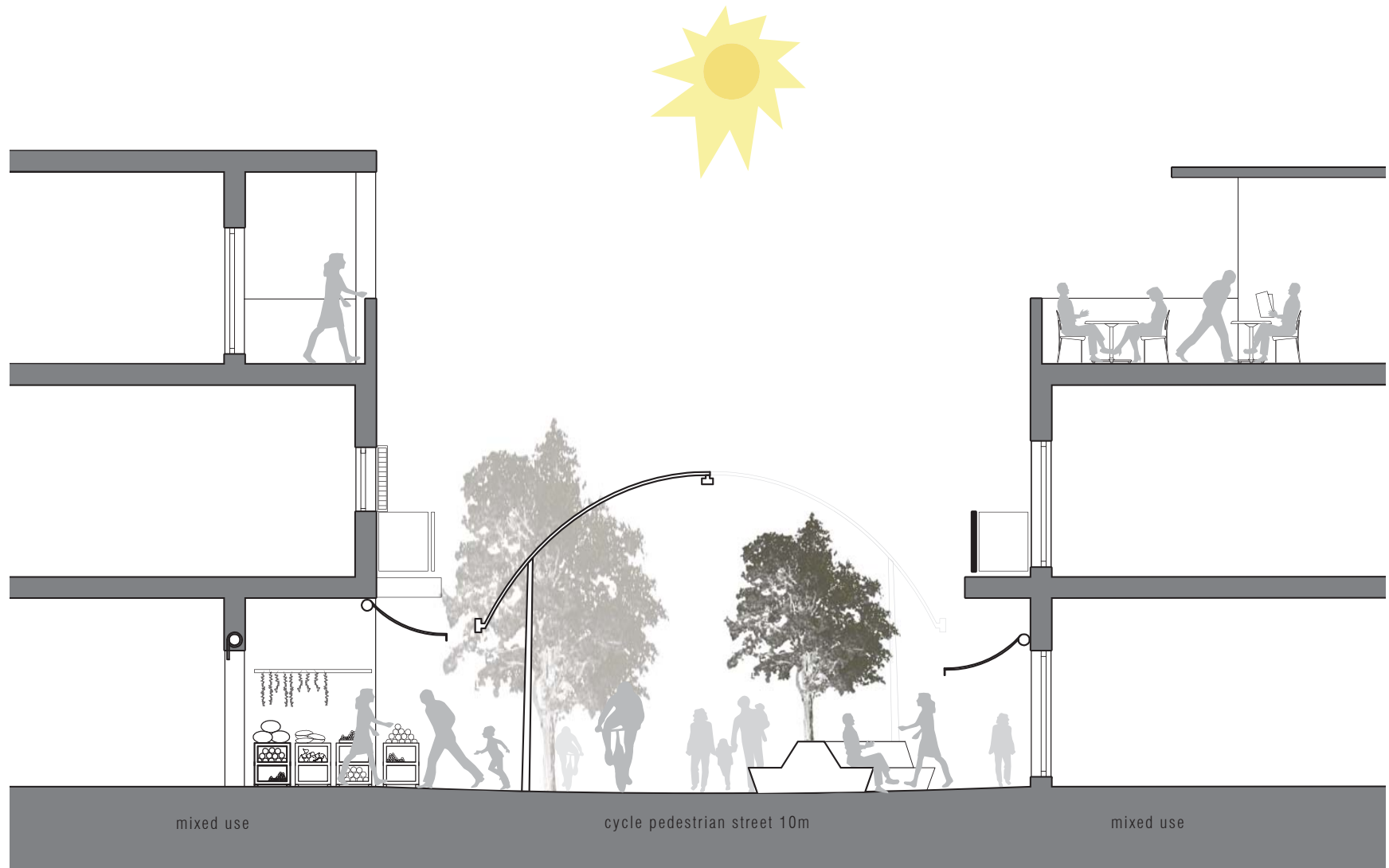
BICYCLE AND PEDESTRIAN NETWORK

In order to rehabilitate the waterfront, and in turn make it a more vital part of the public realm, the entire length of the coastline will be given over to a pedestrian and bicycle recreation zone. Made possible by a stepping back of vehicular traffic, a more gradual transition from the coastline to urban form can therefore be accommodated, allowing for the growth and restoration of the coastline's natural condition. Noise and air pollution are no longer directly adjacent to the coastal recreation area, thus making the seaside experience more relaxing and more enjoyable.

In the denser more urbanized nodes, pedestrian streets extend perpendicular to the waterfront route providing safer access to commercial and residential areas which become more conducive to public gathering.

Other perpendicular routes link the coastline to the nature trails in the surrounding mountains in an effort to provide the infrastructure to support increasing environmental awareness in the area through eco tourism.

Fig.4.14. East - West section of an urban cycle and pedestrian street.



SUSTAINABLE INFRASTRUCTURE

Sustainable technologies are sparsely used in Porto Rafti on account of the rapid development. City services are basic and sporadic. The scheme envisions the relief of developmental pressures through the growth of sustainable urban infrastructure. By taking advantage of local environmental endowments, low impact services can be developed. Most obvious is the use of solar cells. By fitting all homes with solar panels, the potential exists for the city and citizens to profit by selling electricity back to the grid. A central sewage system currently does not exist. Solid waste disposal also poses a problem. Local waste processing plants can use biomass along with the incineration of solid waste under controlled conditions to generate electricity. The provision of water to the residents of Porto Rafti is problematic during peak season and must be treated as a valuable resource. Rainwater can be harvested and greywater recycled where possible to minimize demand on the potable supply. Storm water sewers transport runoff to filtration plants. Treated water is then filtered again through the preserved local marshland parks before being output to sea. Natural processes can thus be reclaimed and reconciled with the social life of the city through its public parkland. Agriculture, at risk of being stamped out by development can be salvaged through the creation of urban agriculture parks, educational farming laboratories and eco-tourism initiatives. These strategies serve to make sustainable public services a part of the consciousness of the town.

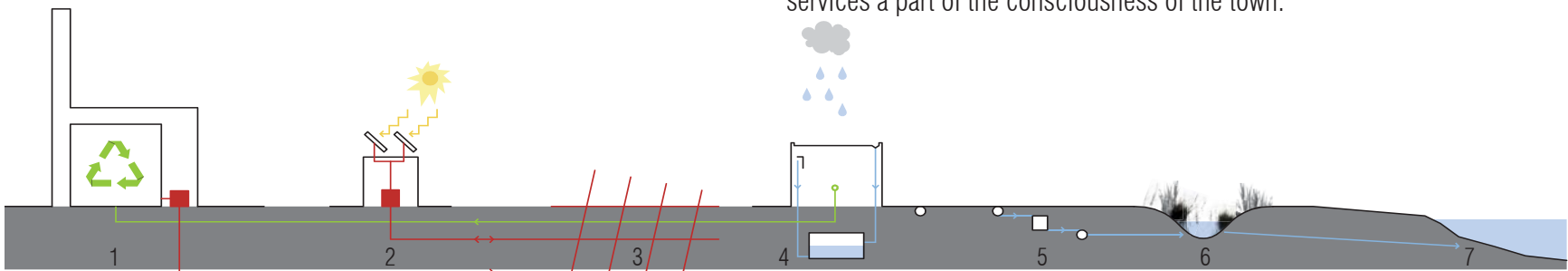
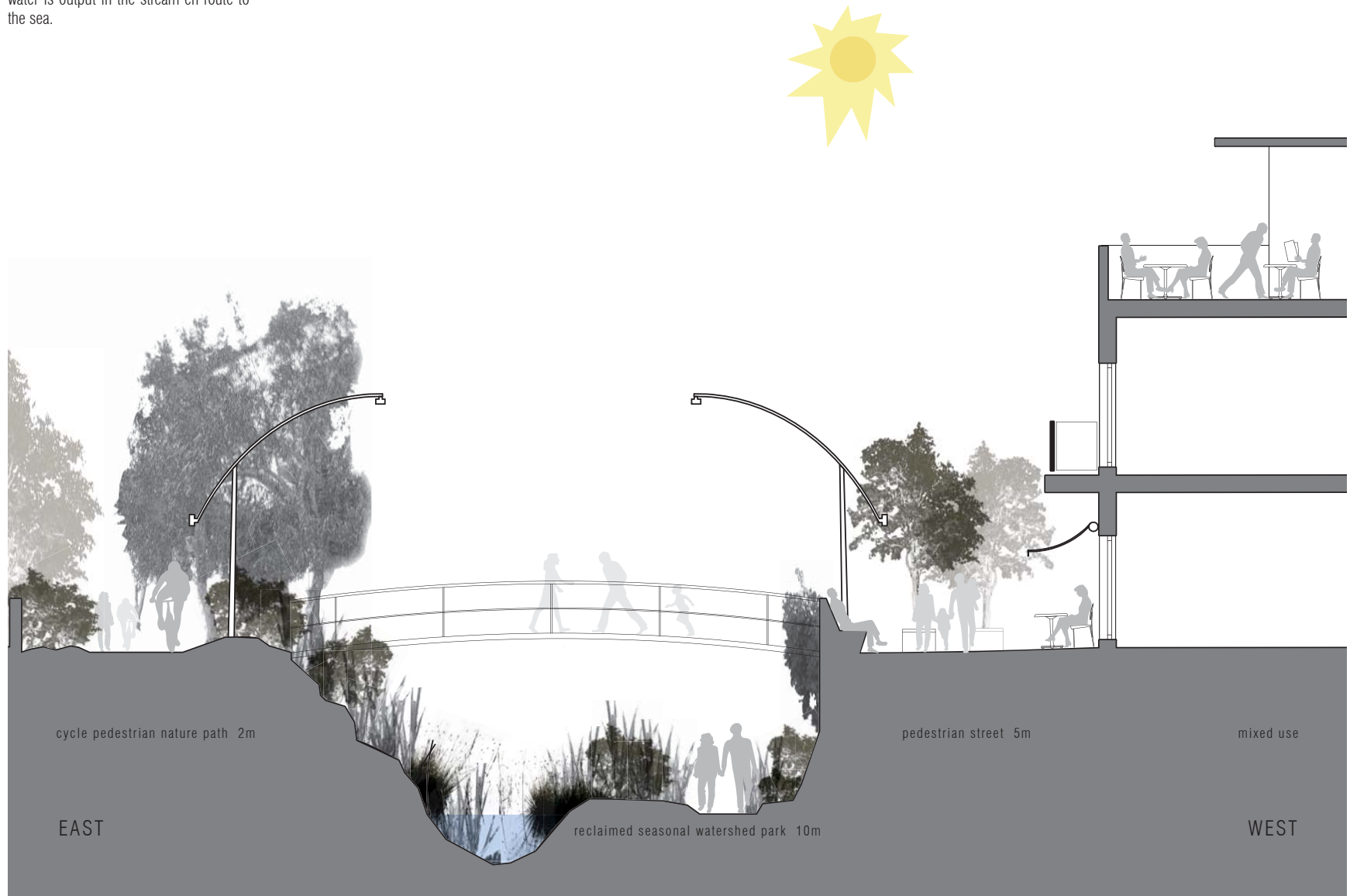
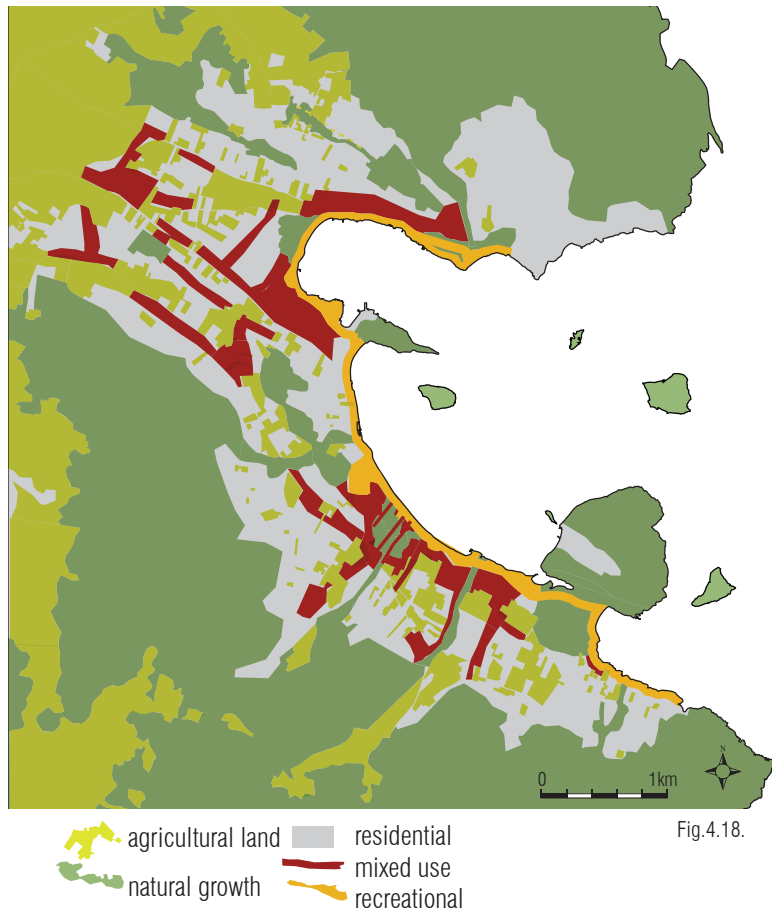


Fig.4.16. Diagram of sustainable strategies: 1.waste to power plant 2.solar power 3.power grid 4.rainwater harvesting / greywater recycling 5.stormwater filtration 6.marshland filtration 7.clean water output to sea

Fig.4.17. East - West section through the pedestrian corridor along the reclaimed seasonal watershed park. Filtered storm-water is output in the stream en route to the sea.





LINE : PORTO RAFTI'S COASTAL RECREATION PARK

The waterfront is the natural congregation space of the town, yet is interrupted by the congested roadway, creating a noisy and stressful beach experience. While zoning laws specify a fifty metre setback from the coastline, the roadway adjacency attracts development within the restricted zone. Reconfiguring the circulation network facilitates the reclamation of the coast. An expanded realm for pedestrian and cyclists takes its place beside the beach. This allows for the restoration of delicate littoral ecology of the coast. The coastal recreational corridor is a fluid undulating zone responding to its varying adjacencies along its length. The program hosts a variety of leisure activities along its path. Where existing built form approaches the boardwalk, buildings are inhabited with café, bar and restaurant facilities. Land currently enclosed as garden space for existing residential towers will be reclaimed as part of the public park condition adjacent to the path. Naturally occurring wetlands dispersed along the coast will be retained as public nature observatory parks. They are accessed from the boardwalk and weave through the urban condition further inland. Former coastal traffic intersections become pedestrian public spaces hosting gathering, market, and institutional program. Unused open spaces are used for beach sport facilities. Finally, ferry docks reintroduce to the town a sense of arrival by sea while educating the public on marine environmental conditions and ongoing rehabilitation efforts. Similar programs are linked by the boardwalk, creating a varied coastal experience and a lively public space.

“The path is not simply a facility, it is not just a corridor, a road connecting two spaces. ... it is a cultural object; it carries with its fabric a commentary about contemporary architecture, life, and society. ...[It is] a protest against the destruction of community, the splitting of human associations, the dissolution of human contact, the turning of meeting into transaction”¹

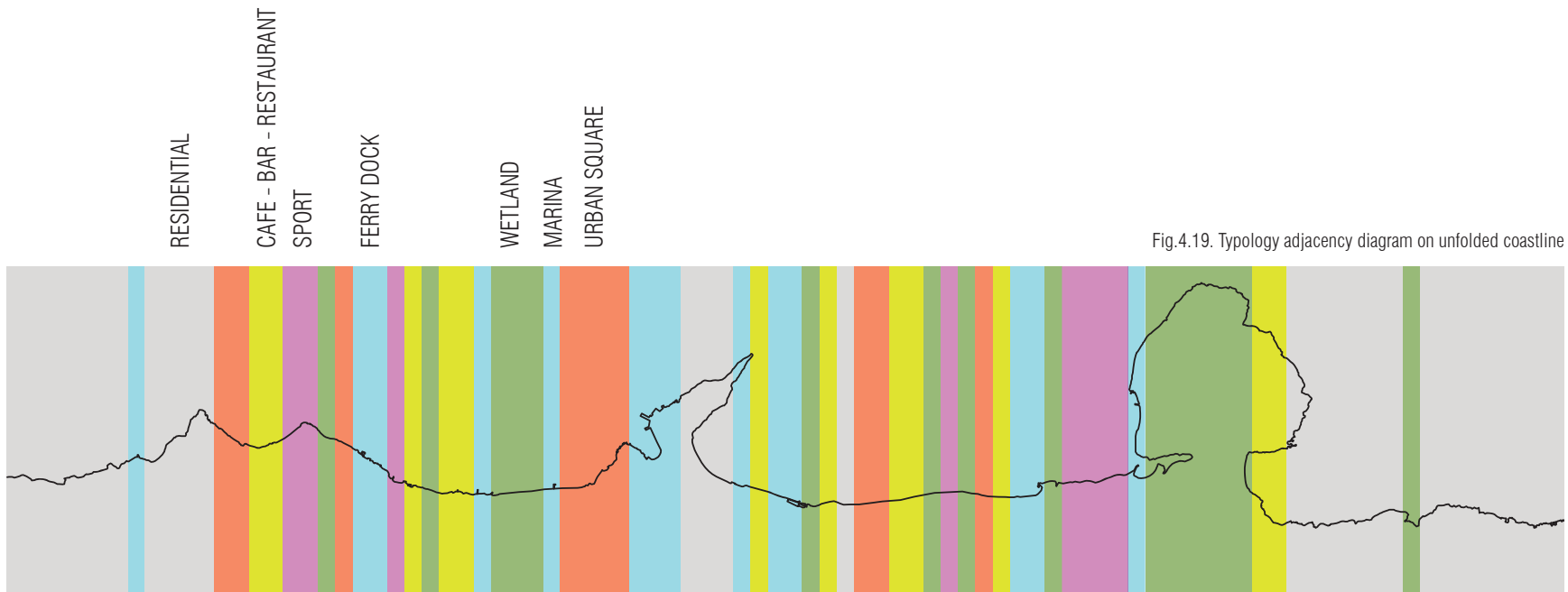


Fig.4.19. Typology adjacency diagram on unfolded coastline

CAFÉ - MIXED USE

Where the boardwalk meets bar, café and restaurant program, the path expands to incorporate the wide terraced decks which occupy the space between the building and the thoroughfare. Tables are set up on the terraces, but also on the outermost edge of the boardwalk closest to the shore, creating a charged standing zone in the intermittent space. At night, these areas are used as dance floors. Built form is located inland to meet the coastal setback requirements. The buildings housing this program are mixed use, at times residential, hotel, or even a vertical extension of the café itself on the upper levels. Between the boardwalk and the beach, low dunes are restored and planted with native littoral zone vegetation. The boardwalk is raised to encourage the proliferation of underbrush vegetation and insect habitats.

Fig.4.20. Locations of Cafe, Bar, Restaurant program along Porto Rafti coastline.



Fig.4.20. Collage of Bar, Cafe Restaurant program along the coastal boardwalk.





Fig.4.21. Section through Cafe, Bar, Restaurant program along the coastal boardwalk





Fig.4.22. Existing parking lot over the former canal and marsh condition.



Fig.4.23. Proposal to reclaim and restore the Avlaki canal and marshland park.

MARSHLAND OBSERVATORY

Rampant development throughout Porto Rafti puts natural ecologies and agricultural systems at risk of obliteration. Where the boardwalk intersects with existing marshlands, the preserved native marshes will serve as public parkland observatories. Nature education centres, children's playgrounds and open marshes can be found adjacent to the boardwalk at these conditions. Groupings of public benches on the walkway serve as meeting points, or places to watch over the children as they play. Restored planted sand dunes once again flank the raised path on the coastal side, providing a continuous natural connection from the inland marsh park to the littoral zone of the beach. As visitors engage the park, the native ecology is discovered and understood. Porto Rafti's natural conditions are thus reincorporated into the consciousness of the town.

Fig.4.24. Locations of Wetland and Park program along Porto Rafti coastline.

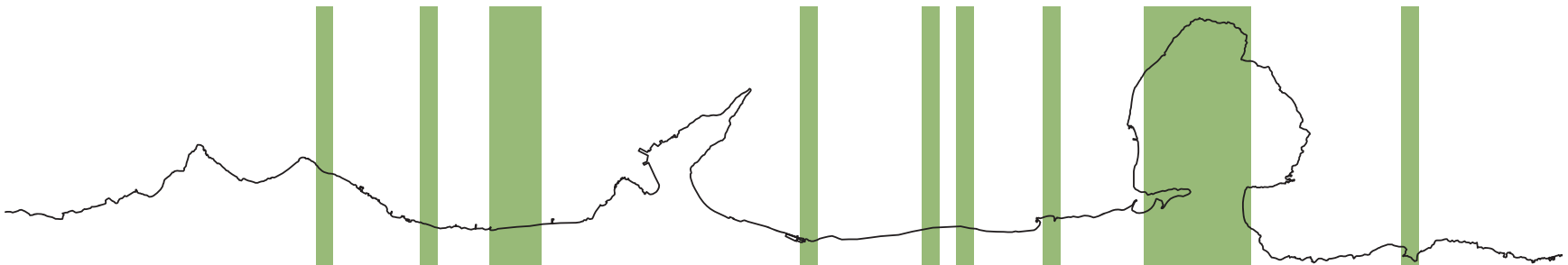


Fig.4.25. Collage of Wetland program along the coastal boardwalk.





Fig.4.26. Section through Wetland program along the coastal boardwalk.



AGORA

The centre of vitality of the polis has for centuries existed in the agora. Such public gathering spaces have been overlooked in Porto Rafti due to the rapid residential development. With the removal of vehicular circulation from the waterfront, the existing space previously allotted to streets can now be reconfigured. As the boardwalk approaches former traffic intersections along the coast, large areas become available for reuse as pedestrian public spaces. These large scale gathering spaces become centres of institutional amenity. Program such as churches, schools, libraries and open air theatres can occupy these spaces. Large open paved areas make it possible to host religious festivals, produce markets, and large scale public gatherings. These spaces are alternatively used as open playgrounds by cyclists, skateboarders, and children of all ages. Urban furniture is arranged in various groupings conducive to hosting intimate discussion, quiet contemplation or small informal gatherings with friends. In order to ensure social sustainability and a vigorous public realm, such gathering spaces need to be incorporated to the developing urban fabric. Without them, there would be no place for citizens to come together for action and discussion, essential to the healthy evolution of any city.

Fig.4.27. Locations of public square program along Porto Rafti coastline.



Fig.4.28. Collage of Public Square program along the coastal boardwalk.



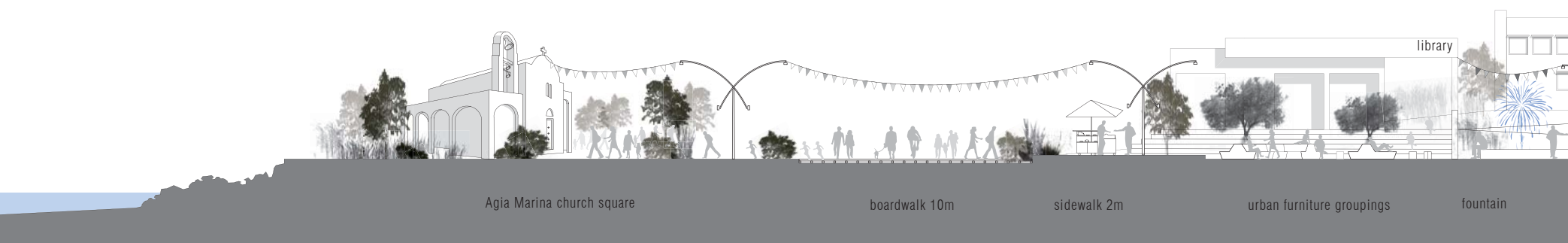


Fig.4.29. Section through Public Square program along the coastal boardwalk.

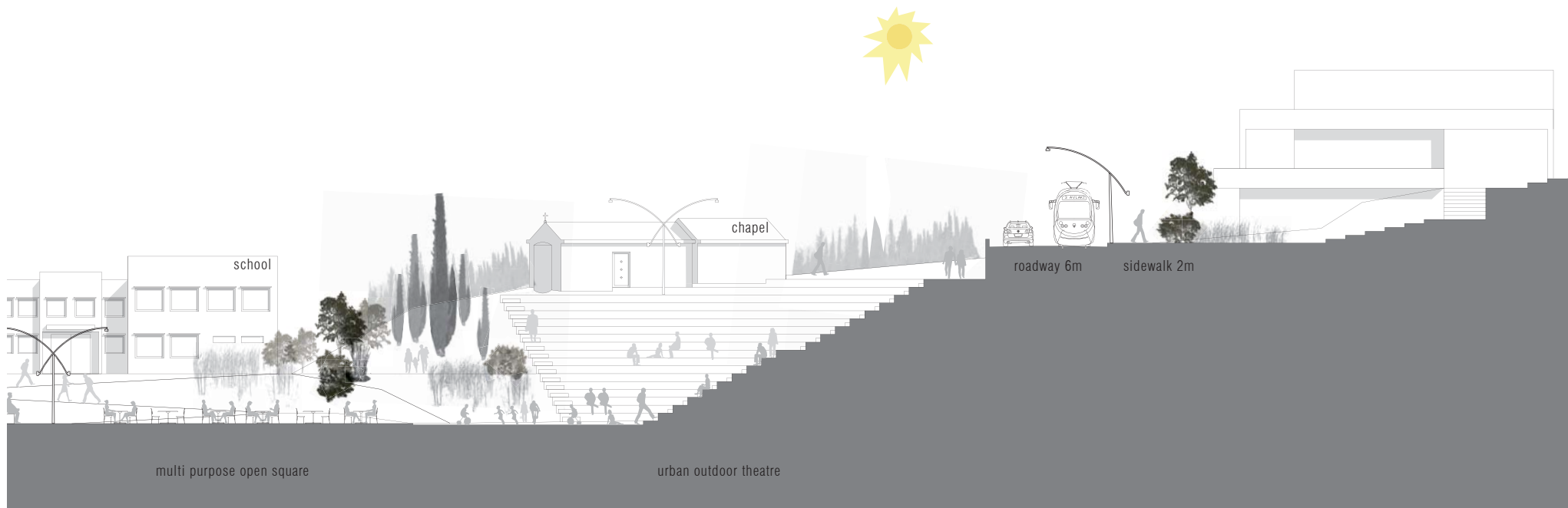




Fig.4.20. Collage of new ferry dock along proposed coastal recreational park .
See figure 4.1 for larger view

DOCK POINT

The docks are sites of essential infrastructure along the coastal recreation park. Three ferry docks are placed at key destinations around the bay, and are the intersection of marine routes with the coastal walkway. The provision of this mode of transport physically brings passengers to the bay's centre, restoring a physical alteration in point of view of the town, which indicates the importance of the sea to the life of the town. The marine routes are traversed using solar and wind powered ferries. Upon arrival at port, the priorities of Porto Rafti are clearly stated. The three ferry stops will additionally serve as marine health education centres. Local aquatic conditions will be monitored by smart buoys located in the centre of the bay. Digital readings will be broadcast in real time to the public through interactive displays. This ongoing exhibition will include information regarding the implications of changing marine conditions for the local ecosystem. The information stations will bring local aquatic conditions to the forefront of the local consciousness, thereby encouraging environmental awareness and stewardship and creating a sense of personal responsibility in the future of the local marine life. The dock itself is built up using native aquatic rocks, creating habitats within the crevices for coastal marine life. The docks will also serve as gathering spaces for public environmental cleanup efforts in the bay area. The dock area includes ticket booths for the ferry, tourist information stations, public washrooms, recycling pavilions, and a refreshment kiosk.

Fig.4.30. Locations of Ferry dock and Marina program along Porto Rafti coastline.



Fig.4.31. Collage of Ferry Dock program at Avlaki along the coastal boardwalk.



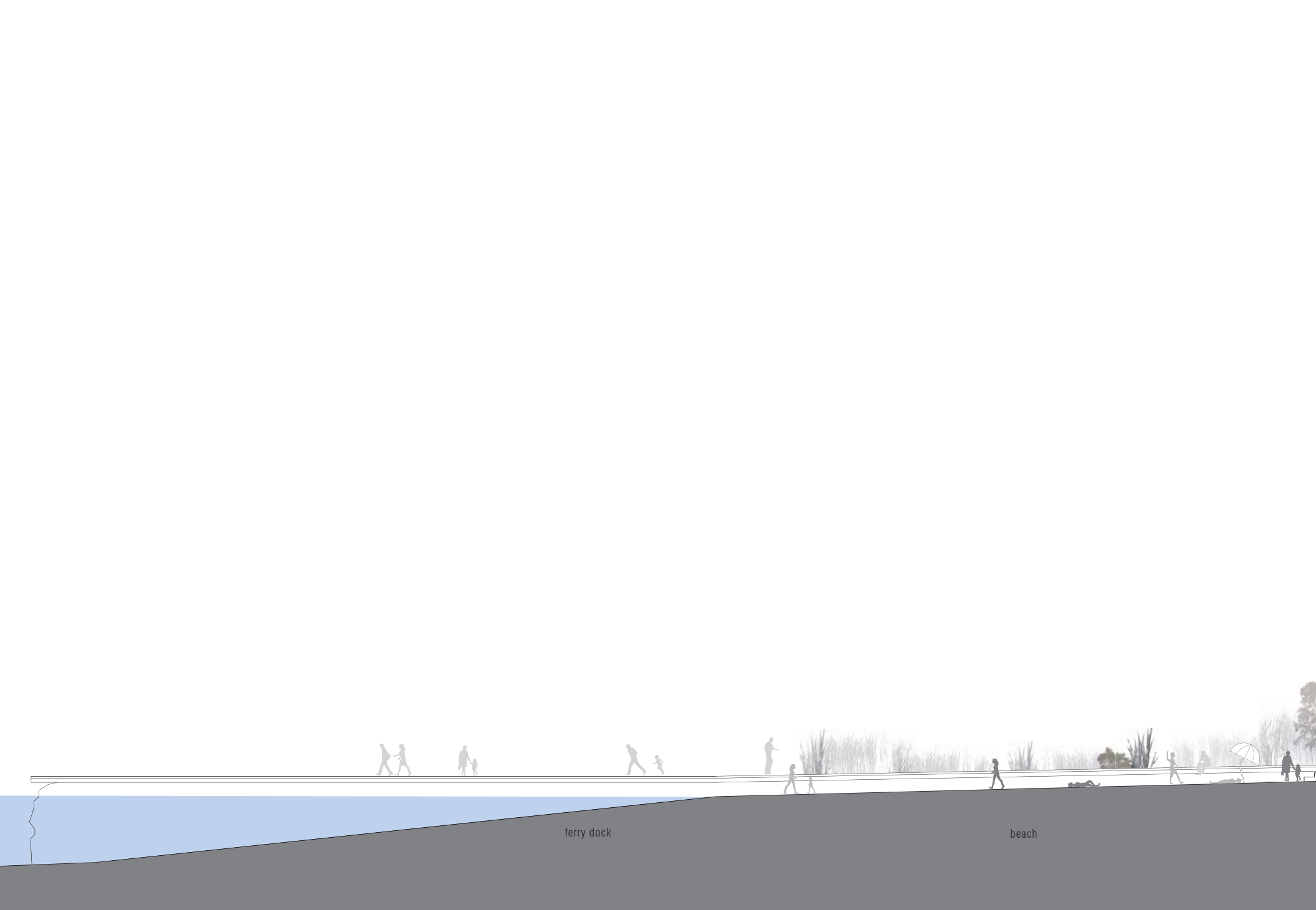
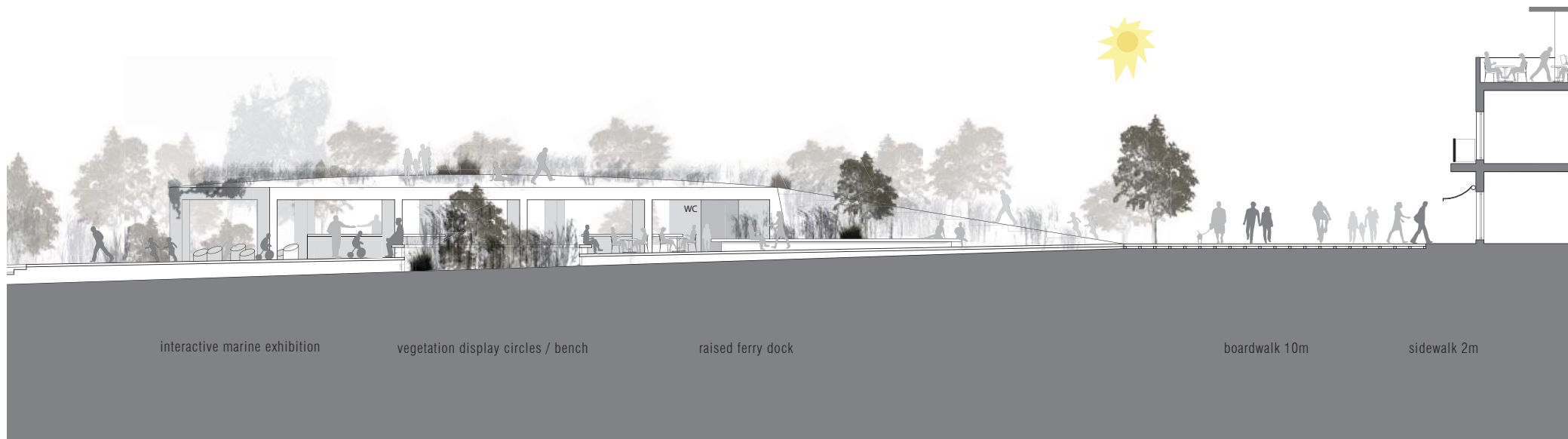


Fig.4.32. Section through Ferry Dock program along the coastal boardwalk.



The landscape of Attica suffers rapidly expanding urban sprawl in a culture of selfish consumption. In the absence of proper legislation and poor implementation of existing laws, the consequences of allowing unplanned settlements to emerge unhindered in Athens and its periphery are now palpable and irreversible. This thesis has illustrated that the continuous fragmentation of the ground plane into easily consumable land for private development does not bring about social progress, as is advocated by its proponents. The unregulated contemporary consumptive way of life essentially leads directly to the collapse of civil society through the silencing of the public voice in the propagation of settlements devoid of both natural and urban public space. Mankind's consumption of natural resources at an unsustainable rate pollutes and destroys the delicate balance of the world's ecosystems generating a situation of crisis which simply feeds the cycle of urbanization.

This thesis has presented a critical examination of the unique conditions affecting the development of Athens and its periphery, and the resulting ecological and social pressures in order to establish a case for a socially and environmentally sustainable urban intensification and the creation of vital public spaces. A paradigmatic vision was presented for the rapidly developing ecologically sensitive coastal town of Porto Rafti, based on restoring a harmonious coexistence of natural and urban realms.

Greece's political history has led to development patterns unlike those of western nations. Since the Roman era, it has been a colonial annex to a succession of conquering nations. Liberation from Ottoman occupation in 1830 is recognized as the birth the modern Greek nation. The sudden increase in the population of Greece on account of the crisis in Asia Minor began a trend of rapid urbanization after 1922 which continues into the present day. Ongoing political

CONCLUSION

troubles kept Greece in an unsteady state up until the 1980s. For this reason, progress at the rate experienced in the western world was not feasible until then. In spite of much progress over the last thirty years, neighbourhoods continue to develop illegally on formerly undeveloped land. This typically happens before municipal services and urban amenities can be properly planned, creating settlements with a suburban quality, and no social infrastructure for public life.

Through the study of classical Athens and its democratic legacy, the importance of public gathering spaces in the city was made clear. Democracy was conceived in order to facilitate a connection to cosmic eternity through symbolic immortality. This understanding of humanity's place in the natural hierarchy empowered the citizens of Athens to influence their future through communal public life. Through the examination of the physical development of modern Athens, the absence of public space in contemporary Greek urban development and the complete disregard for natural environments are revealed as key problems contributing to the alienation and social unrest of local populations. The continuing obliteration of the natural condition and disregard for the importance of urban gathering spaces in the context of over-privatization reduces natural and social public amenity which is essential for humanity's spiritual well-being.

An analysis of Porto Rafti as the site for recalibrating the balance between natural and manmade realms was examined at various scales in order to determine opportunities for an alternative direction of growth. The developmental history of Porto Rafti was explored and understood in the context of the development of Athens. Lying directly in the path of Athens' urban sprawl, the rapidly changing settlement and land use patterns of the Mesogeia plain and East Attica coast are intensified here on account of the new airport, highway, industry, and tourist amenities present in the immediate area.

Rampant tourist development continues to devour all available land in Porto Rafti, overtaking natural and agricultural land, and leaving out places of social gathering. The site's location relative to the new industrial and transportation hub of the Mesogeia plain, as well as its natural and touristic seaside amenities offered important design direction for the proposed urban vision.

A careful exploration of environmental pressures through current events and cultural trends in Greece were cross referenced with ecological destruction on the national, regional and local scale of Porto Rafti. In this way, the connection between our consumptive relationship to the landscape and the decline of social, political, and ecological systems in Greece was clearly understood. It became obvious that there is a pressing need to defend existing nature and ecosystems and that the tourism industry needs to be reassessed to accommodate increasing demand while preserving the landscape. The local ecological pressures of Porto Rafti helped to inform the program and approach of the design proposal.

The synthesis of the urban historical legacy of the Attica landscape, the local urban development in Porto Rafti along with social, political and ecological implications of consumptive urban growth, led to the proposal of a set of urban development strategies to restore a balance between the natural and the manmade. In a society plagued with trends of over-privatization of the landscape through built form, the urban condition of Porto Rafti is developing hastily in order to meet the demands of a growing resident and tourist population. As a case study for a wider Greek phenomenon, the continued neglect of the natural features attracting people to Porto Rafti, and the exclusion of public amenity is a short-sighted development strategy for such an historically and ecologically layered site. In order to ascertain a successful future for such tourism driven settlements as Porto Rafti,

whose main attraction are the natural attributes of the site, a balanced development strategy is essential for its ongoing vitality.

The proposed intervention is the first step to resisting over-privatization and ecological destruction by means of a simple re-organization of municipal services. At the scale of the town, a careful arrangement of infrastructural networks was proposed to facilitate movement and the provision of services throughout the settlement. This allowed for the zoning of land uses throughout the town to create a balanced and healthy living environment. By removing the focus on private transportation, valuable areas were liberated for use as public pedestrian routes and natural recreational zones. Streets accommodating different modes of transport were zoned to develop appropriate urban amenity away from the coast. Natural and agricultural land provide opportunities for a more engaged diversity in the tourism industry. By deliberately weaving natural and agricultural amenity with the urban realm and public spaces, natural processes are reconciled into the consciousness and social life of the city, thus enriching public life. At the scale of the coast, a pedestrian recreational park corridor removed urban pressures from the shoreline, allowing for the restoration of naturally occurring littoral conditions. Different program types along the length of the coast were thus connected into a diverse recreational experience accessible to the pedestrian. Finally, the ferry docks serving the local marine transportation line were conceived as sites of essential infrastructure, providing a framework for future development in Porto Rafti. By shifting the conceptual focus of development from the land to the centre of the bay, the aquatic realm is brought into the consciousness of the public realm as a natural condition to be protected and rehabilitated to ensure the health and future success of the town. The traditional sense of arrival by sea is restored to the public while physically bringing passengers to the centre of the bay. This reinstates a physical alteration in point of view

in the town, emphasizing the importance of the sea to the life of the town. As sites for marine education through public interactive exhibits the ferry docks were conceived as proponents of environmental awareness and stewardship with the aim of creating a sense of personal responsibility in the future of the town. In concert with the rest of public transportation infrastructure, the ferry docks serve as catalysts driving urban development inland and away from the coast.

The proposed strategies were intended as a means to use environmental stewardship as a driving force to stimulate urban development by linking the prosperity of the town to the health of its natural surroundings. This provides a system of socially and environmentally sustainable solutions to a global crisis which is shaped locally and is supported by the local inhabitants of Porto Rafti. Through the incorporation of viable public spaces into a rapidly developing town, citizens are encouraged to enter the space of appearance, thus empowering them to shape their own future through symbiosis in public life. Taking the example of classical Athens, public speech and action is the key to a healthy urban environment in harmonious balance with the natural realm. The scheme restores to each citizen the opportunity to take an active role in the future of their home city.

In an increasingly overcrowded world, where national governments spend all of their energy securing resources for the consumption of their nations' unsustainable lifestyles, it becomes clear that top-down solutions have not yet resolved the global population, urban, and ecological crises. If every citizen was active in public life, not in the government political sphere, but in the local grassroots community organizations, cities and towns may be able to provide an example for the political leaders to follow. Western ideals and social structures applied to the whole world are the source of our modern dilemma, removing local socially inclusive development based on

public participation in public life. As in the rest of the world, thousands of years of local tradition have been successful in sustaining the Greek population. Perhaps it is possible to restore this ancient local wisdom to rediscover balanced human settlements where the natural and the man made enrich and support rather than annihilate one another.

LOOKING FORWARD

The realization of a balanced approach to urban development in Porto Rafti presents great challenges in light of the ambitious scope and complexity of the proposition. To initiate implementation efforts, key aspects of the proposal need further examination and clarification. Such components, not addressed in the present examination, require on site development with local experts, authorities and most importantly, the public which will ultimately be affected.

Porto Rafti has traditionally hosted a temporary population which migrates with the seasons. The typically tourist based development has led to a sparse inhabitation of the landscape with single family suburban style dwellings. Changing land use patterns in the region of Markopoulo have already indicated an increase in local resident population. Pollution and infrastructure driven urban sprawl from Athens increase the demand for permanent dwellings in Porto Rafti. Both Greek migrants and international refugees are attracted to the Attica region in efforts to secure a better life. While traditionally a resort town for the upper and middle classes, Porto Rafti will begin to accommodate this new group of inhabitants, searching for more affordable housing in the periphery of Athens.

It is evident that in a few decades, Porto Rafti will transform into a city with all of the concerns of urban life. As such, the residential stock of the town requires re-envisioning and urban amenity throughout the building fabric requires intensification. At present, many properties are in the phase of converting small single storey family vacation

dwelling into larger villa style permanent residences. In parallel, some of these old vacation homes and unused agricultural land are developed through the *antiparochi* system. This exchange of land for a predetermined number of finished apartments between owner and developer promises to be the main model for the continued transformation of the built fabric in Porto Rafti. Single family dwellings are replaced by multi storey buildings able to accommodate multiple families. This model accommodates the growing tourism industry of the present, by increasing the number of vacation rental units available to temporary residents while increasing density. This simultaneously provides for future residential demand. As more people chose to make Porto Rafti their permanent home, these units will be rented and ultimately purchased by permanent residents. In the process, much care will have to be applied to ensure a socially inclusive public realm through mixed use and mixed income neighbourhoods.

Property acquisition and land use changes must be accurately studied to understand future local patterns of urban growth and development. A lack of transparency in municipal government played a significant role in the acquisition of relevant statistics and development plans to inform this thesis. Necessary to move the present project forward is a close collaboration with local municipal authorities as well as the local public in order to precisely appreciate the desires of local inhabitants and trends of the region. As discussed in the body of the thesis, historical growth in Porto Rafti has typically occurred along the lines of illegal squatting and property exchange developments known as the *antiparochi* system. Given the troubled Greek economy, the *antiparochi* will most likely continue as the principal means of development in Porto Rafti. This precedent indicates that the acquisition of real estate property and a maintained local presence is more important to current property owners than monetary remuneration alone. Future development will have to offer a similar compensation. As residential streets transform to accommodate mixed uses, lot us-

age will also change. Portions of front yards born of the required zoning setback will be sold to the city for future expansion of roads, sidewalks, and other public amenity. In exchange, property owners will be allowed to build taller buildings closer to the street to define the street edge. Properties whose existing setback varies significantly from the prescribed street frontage will provide the opportunity to develop public spaces and small parks within the developing urban fabric. Bearing in mind the popularity of the *antiparochi* system, municipally operated development companies (as opposed to existing private companies) might be established, encouraging homogeneous growth while providing benefits and real estate compensation to property owners. These techniques will facilitate a changing urban condition while maintaining and even increasing the value of properties along the path of growth. In this way, the street itself can be properly developed to accommodate transportation infrastructure.

Among the most essential elements to the successful implementation of the present proposal is a comprehensive understanding of the local ecosystem. Ecological systems, by their very definition, operate best in the absence of human intervention and urban intrusions. A pressing question arises with regard to the coexistence of the natural and the manmade, and to what extent the two can develop in the presence of one another. How can ecological systems be linked with urban systems while ensuring that both experience optimal function? In light of a rapidly growing urban setting and the argument advocating the restoration of the natural setting, in depth ecological studies are crucial in order to shed light on specific measures to allow for the coexistence of humans and ecology. Comprehensive research of local land and marine species and their interactions within the littoral ecosystem are required. Collaborative work with local biologists and ecologists will shed light on the nature and operation of local ecosystems while developing pragmatic applications for biotope remediation strategies. Such partnerships will shed light on the

scope of ecological possibilities within the framework of the project.

Concurrent to the clarification and development of these issues, community organization and public action must be the first and most basic infrastructure to be developed. Greek Citizens harbor great distrust for the state and its initiatives as they rarely consider the pressing needs of the public. Taking this into consideration, such a complex proposal will have to begin with the involvement and approval of Porto Rafti's local population. Community clean up and education initiatives will raise awareness for the crucial role of the local ecosystem in the vitality and future success of Porto Rafti. This will empower the public to become involved in community development projects such as the one proposed in the present project.

Following local community approval, the first task to be carried out toward the implementation of the present proposal is the reorganization of the road transportation network, upon which all other phases of the project are dependent. This restructuring will allow for subsequent phases, such as reclamation of the marshlands at Avlaki and the removal of vehicular traffic on the coast to be executed.

The future clarification of all key issues influencing the implementation of the proposal will inform its phasing and ensure a better understanding of the project by the affected population and municipal authorities. As an innovative approach to Greek coastal settlements, the project is conceived as one that can influence a settlement strategy promoting coexistence between the natural and urban elements. The proposal for careful urban development influenced by public involvement and environmental stewardship is seen as a prototype for the rehabilitation of built-up coastal ecosystems throughout Greece, and ultimately throughout the Mediterranean basin.

END NOTES

INTRODUCTION

- 1 Doxiadis, Constantinos A. *Ekistics: An Introduction to the Science of Human Settlements*. New York: Oxford University Press, 1968. p.41
- 2 Pyla, Panayota. "Counter Histories of Sustainability." *Volume:After Zero*, January 2009.

CHAPTER 1

- 1 Rogers, Elizabeth Barlow. *Landscape Design: A Cultural and Architectural History*. New York: Harry N Abrams Inc., 2001. p.43
- 2 *ibid*, p.28
- 3 Scully, Vincent Joseph. *The Earth, the Temple, and the Gods: Greek Sacred Architecture*. New Haven: Yale University Press, 1979. p.2
- 4 Rogers, *Landscape Design: A Cultural and Architectural History*, p.46
- 5 Van Pelt, Robert Jan. *Architectural Principles in the Age of Historicism*. New Haven, London: Yale University Press, 1991. p.172
- 6 Paglia, Camille. *Sexual Personae: Art and Decadence from Nefertiti to Emily Dickinson*. New York: Vintage Books, 1991. p.73
- 7 Arendt, Hannah. *The Human Condition*. Chicago, London: University of Chicago Press, 1958. p.19
- 8 Van Pelt, *Architectural Principles in the Age of Historicism*, p.177-178
- 9 Machiavelli, Niccolò. *The Discourses*. Edited by Bernard Crick. Translated by Leslie J. , Richardson, Brian Walker. London: Penguin Books, 1983. p. 100-101.

- 10 Arendt, *The Human Condition*, p. 61
- 11 *ibid*, p. 56
- 12 *ibid*, p. 62
- 13 *ibid*, p. 61
- 14 *ibid*, p. 13
- 15 *ibid*, p. 26
- 16 *ibid*, p. 25
- 17 *ibid*, p. 23
- 18 *ibid*, p. 198
- 19 Papanoutsos, E.P. *Εφημερα-Επικαιρα-Ανεπικαιρα (Ephemeral-Timely-Untimely)*. Athens: Icarus, 1980. p. 161
- 20 *ibid*, p. 161
- 21 *ibid*, p. 162
- 22 Clogg, Richard. *A Short History of Modern Greece*. 1986: Cambridge University Press, 1986. p. 68-69
- 23 Papanoutsos, Ephemeral-Timely-Untimely, p. 162
- 24 *Australian Institute for Holocaust and Genocide Studies. The Pontian Genocide and Asia Minor Holocaust Research Unit*. March 7, 2005. <http://www.aihgs.com/Aftermath.htm> (accessed October 20, 2008).
- 25 Simpson, Sir John Hope. *The Refugee Problem: Report of a Survey*. London, New York, Toronto: Oxford University Press, 1939. p.7
- 26 *Australian Institute for Holocaust and Genocide Studies*
- 27 Maisel, Ephraim , Gilbert,Martin. *The Foreign Office and Foreign Policy, 1919-1926*. Brighton: Sussex Academic Press, 1994. p. 64

28 Simpson, *The Refugee Problem: Report of a Survey*, p. 13
 29 Wikipedia: *The Free Encyclopedia* 2008, http://en.wikipedia.org/wiki/Greek_War_of_Independence
 30 Simpson, *The Refugee Problem: Report of a Survey*, p.15
 31 ibid, p.17
 32 Shaw, Stanford Jay, Shaw, Ezel Kural. *History of the Ottoman Empire and Modern Turkey*. Cambridge: Cambridge University Press, 2002. p. 239-241
 33 Council of Europe. *European Charter for Regional or Minority Languages, The First Report of the Republic of Armenia According to Paragraph 1 of Article 15 of European Charter for Regional or Minority Languages*. Strasbourg: Council of Europe, 2003.
 34 Pournara, Margarita. "Εμμαστε Ευλογημένοι να Τυρανιομαστέ (We Are Blessed to Torment Ourselves)." *Η Καθημερινή* (The Daily), June 27, 2008: p.2.
 35 Papanoutsos, *Ephemeral-Timely-Untimely*, p.162
 36 Educational Institute of Greece. *Διδακτικά Βιβλία του Παιδαγωγικού Ινστιτούτου - Η ΑΠΟΚΑΤΑΣΤΑΣΗ ΤΩΝ ΠΡΟΣΦΥΓΩΝ (Instructive Books of the Educational Institute – The Establishment of the Refugees)*. 2008. http://www.greek-language.gr/greekLang/modern_greek/tools/corpora/pi/content.html?c=9&t=3,3997 (accessed October 21, 2008).
 37 Konstantinidis, Aris. *Elements of Self Knowledge: Towards a True Architecture*. Athens: Graphic Arts Karydakis Brothers Ltd., 1975. p. 298
 38 Arendt, *The Human Condition*, p.64
 39 ibid, p.70
 40 ibid, p.38
 41 ibid, p.40
 42 ibid, p.43
 43 Papanoutsos, *Ephemeral-Timely-Untimely*, p.163
 44 Arendt, *The Human Condition*, p.41

CHAPTER 2

1 Petouri, Eleni, *interview by Christina Carydis*. (October 5, 2007).p.1
 2 Methenitis, Stamatias D. *Το Μαρκοπουλο των Μεσογειων: Οδοιπορικο Στους Αιωνες (Markopoulo of Mesogeia: Journey Through the Ages)*. Markopoulo: Nikos K. Lymperis, 2007. p.35

3 ibid, p.36
 4 Pausanias. *Description of Greece*. 2nd C. A.D. v.1.31.2
 5 Kerenyi, Carl. *Dionysos: Archetypal Image of Indestructible Life*. Princeton, NJ: Princeton University Press, 1976. p.146-150
 6 Methenitis, *Markopoulo of Mesogeia: Journey Through the Ages*, p.274
 7 Petouri, *interview by Christina Carydis*, p.3
 8 Methenitis, *Markopoulo of Mesogeia: Journey Through the Ages*, p.274
 9 ibid, p.275
 10 ibid, p.277
 11 ibid, p.272
 12 ibid, p.390
 13 Hull, Isabel V. *Absolute Destruction: Military Culture and the Practices of War in Imperial Germany*. Ithaca: Cornell University Press, 2005. p.273
 14 Simpson, Sir John Hope. *The Refugee Problem: Report of a Survey*. London, New York, Toronto: Oxford University Press, 1939, p.19
 15 Leontidou, Lila. *Causes of Urban Sprawl in Athens & East Attica*, 1981-2001. Patras: Hellenic Open University, 2002. p.3
 16 Methenitis, *Markopoulo of Mesogeia: Journey Through the Ages*, p.390
 17 Tsirozidi, Sophia, *interview by Christina Carydis*. (10 1, 2007). p.1
 18 *Πολιτική Κουζίνα (A Touch of Spice)*. Directed by Tasos Boulmetis. Performed by Giorgos Horafas. 2003.
 19 Methenitis, *Markopoulo of Mesogeia: Journey Through the Ages*, p.402
 20 ibid, p.409
 21 ibid, p.416
 22 ibid, p.466
 23 ibid, p.475
 24 ibid, p.431
 25 ibid, p.486
 26 ibid, p.511
 27 ibid, p.539
 28 Nachmani, Amikam. *International Intervention in the Greek Civil War: The United Nations Special Committee on the Balkans, 1947-1952*. New York: Praeger Publishers, 1990. p.2
 29 Methenitis, *Markopoulo of Mesogeia: Journey Through the Ages*, p.551
 30 ibid, p.558
 31 Mavris, Yiannis. "Η περίοδος 1946 - 1949 με τα μάτια του σήμερα (The period of 1946-1949 through the eyes of the present)." *Kathimerini.gr*. 2 8, 2009.

32 Methenitis, *Markopoulo of Mesogeia: Journey Through the Ages*, p.552
 33 ibid, p.557
 34 Leontidou, *Causes of Urban Sprawl in Athens & East Attica*, 1981-2001, p.4
 35 Skousbøll, Karin. *Greek Architecture Now*. Athens: Studio Art Book shop, 2006. p.85
 36 Methenitis, *Markopoulo of Mesogeia: Journey Through the Ages*, p.595
 37 Petouri, *interview by Christina Carydis*, p.2,4
 38 ibid, p3
 39 Leontidou, *Causes of Urban Sprawl in Athens & East Attica*, 1981-2001, p.4
 40 Petouri, *interview by Christina Carydis*, p.4,5
 41 European Environmental Agency. *Urban sprawl in Europe: The ignored challenge*. Environmental Management, Copenhagen: European Environmental Agency, 2006. p.6
 42 Leontidou, *Causes of Urban Sprawl in Athens & East Attica*, 1981-2001, p.4
 43 Πληροφορηση-Επιμορφωση-Τοπική Ανάπτυξη (Π.Ε.Τ.Α.) Α.Ε. (Information-Training-Regional Development (I.T.R.D.) S.A.). *Επιχειρησιακό Σχέδιο Δήμου Μαρκοπούλου Για Τους Ολυμπιακούς Αγώνες 2004 (Municipality of Markopoulo Operational Plan for 2004 Olympic Games)*. Operational Plan, Athens: Π.Ε.Τ.Α., 2001. p.46
 44 Petouri, *interview by Christina Carydis*, p.1,2
 45 I.T.R.D., *Municipality of Markopoulo Operational Plan for 2004 Olympic Games*, p.16
 46 ibid, p.30
 47 ibid, p.5
 48 ibid, p.29

CHAPTER 3

1 Skousbøll, Karin. *Greek Architecture Now*. Athens: Studio Art Book shop, 2006. p.85-86
 2 Aesopos & Simeoforidis, Yiannis & Yorgos. Anthology: *The Contemporary (Greek) City*. Athens: Metapolis Press, 2001. p.45
 3 Tzirtzilakis, Yiorgos, *interview by Christina Carydis*. (October 11, 2007). p.4

4 Frampton, Kenneth. *Μοντέρνα Αρχιτεκτονική: Ιστορία και Κριτική (Modern Architecture: A Critical History)*. Athens: Themelio, 1987. p.14
 5 Arendt, Hannah. *The Human Condition*. Chicago, London: University of Chicago Press, 1958. p.66
 6 Athanasiadis, Iason. "The Tragedy of Greek Apathy." *guardian.co.uk*. 12 18, 2008.
 7 The Seventh Revisionary Parliament of the Hellenes. "The Constitution of Greece." *Hellenic Resources Network*. 4 17, 2001. <http://www.hri.org/docs/syntagma/> (accessed 1 5, 2009).
 8 Organization For Economic Co-operation and Development (OECD). *Environmental Performance Reviews: Greece*. Performance Review, Paris: OECD Publications, 2000. p.126
 9 Ntaousani, Anthi. "Protection Measures." *ERT online*. 7 5, 2007. <http://news.ert.gr/en/c/7/26018.asp> (accessed 7 5, 2007).
 10 Carassava, Anthee. "Greece declares emergency as forest fires rage." *International Herald Tribune*. 8 25, 2007.
 11 Wikipedia, the Free Encyclopedia. "2007 Greek forest fires." *Wikipedia, the Free Encyclopedia*. 1 6, 2009. http://en.wikipedia.org/wiki/2007_Greek_forest_fires#cite_note-Greece-5 (accessed 1 12, 2009).
 12 European Commission. "Environmental Fact Sheet: Natura 2000." European Commission, May 2008. p.1
 13 Wikipedia, the Free Encyclopedia. "2007 Greek forest fires." *Wikipedia, the Free Encyclopedia*. 1 6, 2009. http://en.wikipedia.org/wiki/2007_Greek_forest_fires#cite_note-Greece-5 (accessed 1 12, 2009).
 14 European Commission. "Environmental Fact Sheet: Natura 2000.", p.1
 15 Athens Independent Media Centre. "Greece Under Attack by Tourist Developer Cartels." *Athens Independent Media Centre*. 9 7, 2007. http://athens.indymedia.org/front.php3?lang=el&article_id=757320 (accessed 12 27, 2007).
 16 ibid, 2007
 17 Alexiou, Sila, and Mina Moustaka. "Έδωσαν «φιλέτα» και πήραν βοσκοτόπια [They exchanged 'filets' for grazing land]." *Ta Nea Online*. 9 9, 2008. <http://www.tanea.gr/default.asp?pid=2&ct=1&artId=85821> (accessed 1 13, 2009).
 18 ibid, 2008

- 19 Michaletos, Ioannis, and Christopher Deliso. "Scandal over Vatopedi: International Capital and Aristocracy, Mixed with Greek Politics." *Balkananalysis.com*. 11 4, 2008. <http://www.balkananalysis.com/2008/11/04/scandal-over-vatopedi-international-capital-and-aristocracy-mixed-with-greek-politics/> (accessed 1 3, 2009).
- 20 ERT, news. "Κομπινα Χιλιάδων Στρεμματων (Scheme for Thousands of Hectares)." Athens: *ERT World*, 12 1, 2007.
- 21 E Kathimerini. "Attica Land Grab Revealed." *E Kathimerini*. 12 1, 2007.
- 22 Tzirtzilakis, *interview by Christina Carydis*, p.4
- 23 OECD, *Environmental Performance Reviews: Greece*, p.128
- 24 Methenitis, Stamatis D. *Το Μαρκοπουλο των Μεσογειων: Οδοιπορικο Στους Αιωνες (Markopoulo of Mesogeia: Journey Through the Ages)*. Markopoulo: Nikos K. Lymperis, 2007. p.590
- 25 NTUA. *Στρατηγικος Σχεδιασμος του Δημου Μαρκοπουλου για την Τετραετια 2007-2010 (Strategic Plan for the Municipality of Markopoulo for the period 2007-2010)*. Strategic Plan, Project Analysis and Planning Lab, National Technical University of Athens, Athens: National Technical University of Athens, 2008.
- 26 Earth Talk. "Earth Talk Week of 7/2/2006." *emagazine.com*. 2 7, 2006. <http://www.emagazine.com/view/?3256> (accessed 1 18, 2009).
- 27 den Boer, L.C., and A Schroten. *Traffic noise reduction in Europe: Health effects, social costs and technical and policy options to reduce road and rail traffic noise*. Environmental Report, Delft: CE Delft, 2007. p.19
- 28 NTUA, *Strategic Plan for the Municipality of Markopoulo for the period 2007-2010*, p.13
- 29 OECD, *Environmental Performance Reviews: Greece*, p.82
- 30 *ibid*, p.87
- 31 ΣΚΑΙ.gr. "Βασίλειο της αυθαιρεσίας... (Illegal Kingdom)." *ΣΚΑΙ.gr*. 8 6, 2008. http://www.skai.gr/master_story.php?id=90330 (accessed 1 16, 2009).
- 32 ΣΚΑΙ.gr. "Όργιο καταπατήσεων από τα λατομεία (Orgy of Land Grabs by Quarries)." *ΣΚΑΙ.gr*. 8 28, 2008. http://www.skai.gr/master_story.php?id=92168 (accessed 1 16, 2009).
- 33 Kontrarou-Rassia, Nineta. "Θησαυροι στα Νταμαρια (Jewels at the Quarry)." *Eleftherotypia*. 9 3, 2006. http://www.enet.gr/online/online_hprint?id=19874396 (accessed 1 16, 2009).
- 34 NTUA, *Strategic Plan for the Municipality of Markopoulo for the period 2007-2010*, p.16
- 35 Stephosis, Dimitris. "Γιατί δεν έχουν ήδη σφραγισθεί τα λατομεία Μαρκοπούλου; (Why Haven't the Quarries of Markopoulo Already Been Closed?)." *Anatoliki Attiki*. 10 17, 2007.
- 36 Πληροφορηση-Επιμορφωση-Τοπικη Αναπτυξη (Π.Ε.Τ.Α.) Α.Ε. (Information-Training-Regional Development (I.T.R.D.) S.A.). *Επιχειρησιακο Σχεδιο Δημου Μαρκοπουλου Για Τους Ολυμπιακους Αγωνες 2004 (Municipality of Markopoulo Operational Plan for 2004 Olympic Games)*. Operational Plan, Athens: Π.Ε.Τ.Α., 2001. p.20
- 37 European Comission. "Environmental Fact Sheet: Natura 2000." Euro pean Comission, May 2008.
- 38 Hellenic Ministry of the Environment Physical Planning and Public Works. "Κατάλογος Περιοχών Natura 2000 (Catalogue of Areas of Natura 2000)." *NATURA 2000*. 2008. <http://www.minenv.gr/1/12/121/12103/g1210300.html> (accessed 1 19, 2009).
- 39 Dilsizian, Leonidas. "Χωματερες...Με Θέα Θαλασσα (Garbage Dumps... with Ocean Views)." *Kathimerini.gr*. 6 09, 2008 . http://www.kathimerini.gr/4dcgi/_w_articles_kathcommon_2_14/06/2008_1287456 (accessed 1 7, 2008).
- 40 OECD, *Environmental Performance Reviews: Greece*, p.137,128
- 41 *ibid*, p.171-172
- 42 Itano, Nicole. "The storied Mediterranean faces climate change ." *Christian Science Monitor*. 1 14, 2008. <http://features.csmonitor.com/environment/2008/01/14/the-storied-mediterranean-faces-climate-change/#> (accessed 1 20, 2009).
- 43 NTUA, *Strategic Plan for the Municipality of Markopoulo for the period 2007-2010*, p.15
- 44 *ibid*, p.15
- 45 *ibid*, p.14
- 46 OECD, *Environmental Performance Reviews: Greece*, p.135
- 47 GBC. *Γενικος Οικοδομικος Κανονισμος (General Building Code)*. Athens: government, 2000.
- 48 Petouri, Eleni, *interview by Christina Carydis*. (October 5, 2007). p.6
- 49 Papaioannou, Tassis. "Ο Βιος εν Ελλαδι Ειναι Ημιθραιος (Life in Greece is Semi-Exterior)." *Eleftherotypia Online*. 5 19, 2005. http://www.enet.gr/online/online_text?dt=19/05/2005&c=112&id=66 (accessed 9 17, 2008).
- 50 *ibid*, 2005

CHAPTER 4

- 1 LeFaivre, Liane, and Alexander Tzonis. "The Grid and the Pathway." In *Atelier 66: The Architecture of Dimitris and Suzana Antonakakis*, edited by Kenneth Frampton, 14-25. New York: Rizzoli International, 1985. p.21

BIBLIOGRAPHY

BOOK SOURCES

Bourras, Charalambos , Sakellariou, Michael , Staikos, Konstantinos and Touloupa, Evi editors. Athens: from the Classical Period to the Present Day (5th Century B.C.-A.D. 2000). Athens: Kotinos, 2003.

Aesopos, Yiannis & Simeoforidis, Yorgos. Anthology: The Contemporary (Greek) City. Athens: Metapolis Press, 2001.

Aesopos, Yiannis & Simeoforidis, Yorgos. Landscapes of Modernisation: Greek Architecture 1960s and 1990s. Athens: Metapolis Press, 1999.

Arendt, Hannah. The Human Condition. Chicago, London: University of Chicago Press, 1958.

Clogg, Richard. A Short History of Modern Greece. Cambridge: Cambridge University Press, 1986.

Diamond, Jared. Collapse: How Societies Chose to Fail or Succeed. New York :Penguin Books, 2006

Doxiadis, Constantinos A. Building Entopia. New York: W.W. Norton & Company, 1975.

Doxiadis, Constantinos A. and Papaioannou, J.G. Ecumenopolis:The Inevitable City of the Future. New York: W.W. Norton & Company, 1974.

Doxiadis, Constantinos A. Ekistics: An Introduction to the Science of Human Settlements. New York: Oxford University Press, 1968.

Frampton, Kenneth. Μοντέρνα Αρχιτεκτονική: Ιστορία και Κριτική (Modern Architecture: A Critical History). Athens: Themelio, 1987.

Hull, Isabel V. Absolute Destruction: Military Culture and the Practices of War in Imperial Germany. Ithaca: Cornell University Press, 2005.

Jung, Carl. "The Psychology of the Child Archetype" in Collected Works 9 Part 1: The Archetypes and the Creative Unconscious. 1940.

Kerenyi, Carl. Dionysos: Archetypal Image of Indestructible Life. Princeton, NJ: Princeton University Press, 1976.

Konstantinidis, Aris. Elements of Self Knowledge: Towards a True Architecture. Athens: Graphic Arts Karydakís Brothers Ltd., 1975.

LeFaivre, Liane, and Alexander Tzonis. "The Grid and the Pathway." In Atelier 66: The Architecture of Dimitris and Suzana Antonakakis, edited by Kenneth Frampton, 14-25. New York: Rizzoli International, 1985.

Machiavelli, Niccolò. The Discourses. Edited by Bernard Crick. Translated by Leslie J. , Richardson, Brian Walker. London: Penguin Books, 1983.

Maisel, Ephraim , Gilbert,Martin. The Foreign Office and Foreign Policy, 1919-1926. Brighton: Sussex Academic Press, 1994.

Methenitis, Stamatis D. Το Μαρκοπουλο των Μεσογειων: Οδοιπορικο Στους Αιωνες (Markopoulo of Mesogeia: Journey Through the Ages). Markopoulo: Nikos K. Lymperis, 2007.

Mpiri, Kosta I. Αι Αθηнай: Απο Του 19ου Εις Τον 20ον Αιωνα (Athens: From the 19th to the 20th Century). Athens: Melissa Books, 2005.

Nachmani, Amikam. International Intervention in the Greek Civil War: The United Nations Special Committee on the Balkans, 1947-1952. New York: Praeger Publishers, 1990.

Paglia, Camille. Sexual Personae: Art and Decadence from Nefertiti to Emily Dickinson. New York: Vintage Books, 1991.

Papapolyzos, Filimon and Martzoukos, Kostas. Hellads: Η Ελλάδα Μεσα απο τη Διαφημηση 1940-1989 (Hellads: Greece through advertisements 1940-1989). Athens: Omikron, 1997.

Papanoutsos, E.P. Εφημερα-Επικαιρα-Ανεπικαιρα (Ephemeral-Timely-Untimely). Athens: Icarus, 1980.

Rogers, Elizabeth Barlow. Landscape Design: A Cultural and Architectural History. New York: Harry N Abrams Inc., 2001.

Scully, Vincent Joseph. The Earth, the Temple, and the Gods: Greek Sacred Architecture. New Haven: Yale University Press, 1979.

Sarigianni, Georgiou M. Αθηνα 1830-2000: Εξελιξη-Πολοδομια-Μεταφορες (Athina 1830-2000: Development-Planning-Transportation). Athens: Symmetria, 2000.

Shaw, Stanford Jay , Shaw, Ezel Kural. History of the Ottoman Empire and Modern Turkey. Cambridge: Cambridge University Press, 2002.

Simpson, Sir John Hope. The Refugee Problem: Report of a Survey. London, New York, Toronto: Oxford University Press, 1939.

Skousbøll, Karin. Greek Architecture Now. Athens: Studio Art Bookshop, 2006.

Van Pelt, Robert Jan. Architectural Principles in the Age of Historicism. New Haven, London: Yale University Press, 1991.

Westra, Laura and Robinson, Thomas M. The Greeks and the Environment. Lanham: Rowman & Littlefield Publishers, Inc. 1997.

Wright, Ronald. A Short History of Progress. New York: Carroll & Graf Publishers, 2005.

PUBLISHED REPORTS, PAPERS AND ARTICLES

Council of Europe. European Charter for Regional or Minority Languages, The First Report of the Republic of Armenia According to Paragraph 1 of Article 15 of European Charter for Regional or Minority Languages. Strasbourg: Council of Europe, 2003.

den Boer, L.C., and A Schroten. Traffic noise reduction in Europe: Health effects, social costs and technical and policy options to reduce road and rail traffic noise. Environmental Report, Delft: CE Delft, 2007.

European Environmental Agency. Urban sprawl in Europe: The ignored challenge. Environmental Management, Copenhagen: European Environmental Agency, 2006.

Konstantinopoulou, Garyfalia, and Eleonora Hayiou. Rehabilitation of abandoned public quarries in Greece - A methodological approach. Rehabilitation Study, London: Geological Society of London, 2006.

Leontidou, Lila. Causes of Urban Sprawl in Athens & East Attica, 1981-2001. Patras: Hellenic Open University, 2002.

NTUA. Στρατηγικος Σχεδιασμος του Δημου Μαρκοπουλου για την Τετραετια 2007-2010 (Strategic Plan for the Municipality of Markopoulo for the period 2007-2010). Strategic Plan, Project Analysis and Planning Lab, National Technical University of Athens, Athens: National Technical University of Athens, 2008.

Organization For Economic Co-operation and Development. Environmental Performance Reviews: Greece. Performance Review, Paris: OECD Publications, 2000.

Πληροφορηση-Επιμορφωση-Τοπικη Αναπτυξη (Π.Ε.Τ.Α.) Α.Ε. (Information-Training-Regional Development (I.T.R.D.)S.A.). Επιχειρησιακο Σχεδιο Δημοιυ Μαρκοπουλου Για Τους Ολυμπιακους Αγωνες 2004 (Municipality of Markopoulo Operational Plan for 2004 Olympic Games). Operational Plan, Athens: Π.Ε.Τ.Α., 2001.

NEWSPAPER, PAMPHLET AND MAGAZINE SOURCES

European Comission. "Environmental Fact Sheet: Natura 2000." European Comission, May 2008.

Pournara, Margarita. "We Are Blessed to Torment Ourselves (Ειμαστε Ευλογημενοι να Τυρανιομαστε)." Η Καθημερινη (The Daily), June 27, 2008: 2.

Pyla, Panayota. "Counter Histories of Sustainability." Volume: After Zero , January 2009.

INTERNET SOURCES

Alexiou, Sila, and Mina Moustaka. "Εδωσαν «φιλέτα» και πήραν βοσκοτόπια [They exchanged 'filets' for grazing land]." Ta Nea Online. 9 9, 2008. <http://www.tanea.gr/default.asp?pid=2&ct=1&artId=85821> (accessed 1 13, 2009).

Athanasiadis, Iason. "The Tragedy of Greek Apathy." guardian.co.uk. 12 18, 2008. <http://www.guardian.co.uk/commentisfree/2008/dec/18/greece-athens-riots-students> (accessed 12 27, 2008).

Athens Independent Media Centre. "Greece Under Attack by Tourist Developer Cartels." Athens Independent Media Centre. 9 7, 2007. http://athens.indymedia.org/front.php3?lang=en&article_id=757320 (accessed 12 27, 2007).

Australian Institute for Holocaust and genocide Studies. The Pontian Genocide and Asia Minor Holocaust Research Unit. March 7, 2005 . <http://www.aihgs.com/Aftermath.htm> (accessed October 20, 2008).

Carassava, Anthee. "Greece declares emergency as forest fires rage." International Herald Tribune. 8 25, 2007. <http://www.iht.com/articles/2007/08/26/europe/26greece.php> (accessed 1 12, 2009).

Dilsizian, Leonidas. "Χωματερες...Με Θεα Θαλασσα (Garbage Dumps... with Ocean Views)." Kathimerini.gr. 6 09, 2008 . http://www.kathimerini.gr/4dcgi/_w_articles_kathcommon_2_14/06/2008_1287456 (accessed 1 7, 2008).

E Kathimerini. "Attica Land Grab Revealed." E Kathimerini. 12 1, 2007. http://www.ekathimerini.com/4dcgi/_w_articles_politics_2_01/12/2007_90717 (accessed 12 1, 2007).

—. "News in Breif." E Kathimerini. 5 22, 2007. http://www.ekathimerini.com/4dcgi/news/politics_1KathiLev&xml/& (accessed 2 7, 2008).

Earth Talk. "Earth Talk Week of 7/2/2006." emagazine.com. 2 7, 2006. <http://www.emagazine.com/view/?3256> (accessed 1 18, 2009).

ERT, news. "Κομπινα Χιλιαδων Στρεμματων (Scheme for Thousands of Hectares)." Athens: ERT World, 12 1, 2007.

—. "Greece forest fires - Summer 2007." European Civil Protection. 10 23, 2007. http://ec.europa.eu/environment/civil/forestfires_el_2007.htm (accessed 1 12, 2009).

Greece, Educational Institute of. Διδακτικά Βιβλία του Παιδαγωγικού Ινστιτούτου - Η ΑΠΟΚΑΤΑΣΤΑΣΗ ΤΩΝ ΠΡΟΣΦΥΓΩΝ. 2008. http://www.greek-language.gr/greekLang/modern_greek/tools/corpora/pi/content.html?c=9&t=3,3997 (accessed October 21, 2008).

Itano, Nicole. "The storied Mediterranean faces climate change ." Christian Science Monitor. 1 14, 2008. <http://features.csmonitor.com/environment/2008/01/14/the-storied-mediterranean-faces-climate-change/#> (accessed 1 20, 2009).

Kontrarou-Rassia, Nineta. "Θησαυροι στα Νταμαρια (Jewels at the Quarry)." Eleftherotypia. 9 3, 2006. http://www.enet.gr/online/online_hprint?id=19874396 (accessed 1 16, 2009).

Mavris, Yiannis. "Η περίοδος 1946 - 1949 με τα μάτια του σήμερα (The period of 1946-1949 through the eyes of the present)." Kathimerini.gr. 2 8, 2009. http://news.kathimerini.gr/4dcgi/_w_articles_ell_100002_08/02/2009_302419 (accessed 2 10, 2009).

Michaletos, Ioannis, and Christopher Deliso. "Scandal over Vatopedi: International Capital and Aristocracy, Mixed with Greek Politics." *Balkananalysis.com*. 11 4, 2008. <http://www.balkananalysis.com/2008/11/04/scandal-over-vatopedi-international-capital-and-aristocracy-mixed-with-greek-politics/> (accessed 1 3, 2009).

Ntaousani, Anthi. "Protection Measures." *ERT online*. 7 5, 2007. <http://news.ert.gr/en/c/7/26018.asp> (accessed 7 5, 2007).

Panteri, Marita. "Greek forests severely damaged by summer fires." *World Wildlife Fund*. 9 27, 2007. http://www.panda.org/news_facts/newsroom/index.cfm?uNewsID=114400 (accessed 1 12, 2009).

Papaioannou, Tassis. "Ο Βίος εν Ελλάδι Είναι Ημιπαίθριος (Life in Greece is Semi-Exterior)." *Eleftherotypia Online*. 5 19, 2005. http://www.enet.gr/online/online_text?dt=19/05/2005&c=112&id=66 (accessed 9 17, 2008).

Sowards, Steven W. "Greek nationalism, the 'Megale Idea' and Venizelism to 1923", *Twenty-Five Lectures on Modern Balkan History (The Balkans in the Age of Nationalism)*. May 7, 2004. <http://www.lib.msu.edu/sowards/balkan/lect14.htm> (accessed October 20, 2008).

Stephosis, Dimitris. "Γιατί δεν έχουν ήδη σφραγισθεί τα λατομεία Μαρκοπούλου; (Why Haven't the Quarries of Markopoulo Already Been Closed?)." *Anatoliki Attiki*. 10 17, 2007. http://anatolikiattiki.blogspot.com/2007/10/blog-post_17.html (accessed 1 16, 2009).

Wikipedia, the Free Encyclopedia. "2007 Greek forest fires." *Wikipedia, the Free Encyclopedia*. 1 6, 2009. http://en.wikipedia.org/wiki/2007_Greek_forest_fires#cite_note-Greece-5 (accessed 1 12, 2009).

Wikipedia: The Free Encyclopedia. Cleisthenes. October 8, 2008. <http://en.wikipedia.org/wiki/Cleisthenes> (accessed October 13, 2008).

—. *Greek War of Independence*. October 20, 2008. http://en.wikipedia.org/wiki/Greek_War_of_Independence (accessed October 20, 2008).

Ministry of the Environment Physical Planning and Public Works. "Κατάλογος Περιοχών Natura 2000 (Catalogue of Areas of Natura 2000)." *NATURA 2000*. 2008. <http://www.minenv.gr/1/12/121/12103/g1210300.html> (accessed 1 19, 2009).

ΣΚΑΙ.gr. "Βασίλειο της αυθαιρεσίας... (Illegal Kingdom)." *ΣΚΑΙ.gr*. 8 6, 2008. http://www.skai.gr/master_story.php?id=90330 (accessed 1 16, 2009).

—. "Όργιο καταπατήσεων από τα λατομεία (Orgy of Land Grabs by Quarries)." *ΣΚΑΙ.gr*. 8 28, 2008. http://www.skai.gr/master_story.php?id=92168 (accessed 1 16, 2009).

MAPS AND PRIMARY SOURCES

Hellenic Military Geographical Service. Plaka Aerial Photograph 1960, Athens: Hellenic Military Geographical Service, 2008

Hellenic Military Geographical Service. Plaka Aerial Photograph 1969, Athens: Hellenic Military Geographical Service, 2008

Hellenic Military Geographical Service. Plaka Aerial Photograph 1987(15-05-87), Athens: Hellenic Military Geographical Service, 2008

Hellenic Military Geographical Service. Plaka Aerial Photograph 2000, Athens: Hellenic Military Geographical Service, 2008

Hellenic Military Geographical Service. Athina-Koropion map, Athens: Hellenic Military Geographical Service, 1988

Hellenic Military Geographical Service. Plaka map, Athens: Hellenic Military Geographical Service, 1988

GBC. *Γενικός Οικοδομικός Κανονισμός (General Building Code)*. Athens: government, 2000.

Greek National Tourism Organization. Attica Road Map. <http://www.gnto.gr/pages.php?pageID=805&langID=2>.

Google Earth. Porto Rafti Aerial Digital Image, 2008.

Map of Central Greece. <http://greeklandscapes.com/maps.html>.

Souvatzi, Ourania, interview by Christina Carydis. (August 22, 2008)

Municipality of Markopoulo Regional Land Use Plan. Markopoulo: Municipality of Markopoulo Planning Service, 2000

National Geographic Atlas of the World – Revised 6th Edition. Washington D.C.:National Geographic Society, 1996

Oxford Atlas of the World – 11th Edition. New York: Oxford University Press, 2003

Pausanias. Description of Greece. 2nd C. A.D.

The Seventh Revisionary Parliament Of The Hellenes. “The Constitution of Greece.” Hellenic Resources Network. 4 17, 2001. <http://www.hri.org/docs/syn-tagma/> (accessed 1 5, 2009).

The Times Atlas of the World – Ninth Comprehensive Edition. Toronto: Random House, 1994

2007-2008 Porto Rafti digital CAD file, Markopoulo: Municipality of Markopoulo Planning Service, 2008.

FILM

Πολιτική Κουζίνα (A Touch of Spice). Directed by Tasos Boulmetis. Performed by Giorgos Horafas. 2003.

INTERVIEWS

Kotsiopolou, Dimitra and Karydi, Iro, interview by Christina Carydis (October 15, 2007)

Petouri, Eleni, interview by Christina Carydis. (October 5, 2007).

Tsirozidi, Sophia, interview by Christina Carydis. (10 1, 2007).

Tsirozidi, Theodore, interview by Christina Carydis (September 24, 2007).

Tzirtzilakis, Yiorgos, interview by Christina Carydis. (October 11, 2007).