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Co-Editor for Europe:

George C. Bitros

Athens University of Economics and Business

**Papers presented at the International Conference on
*Economics, Politics and Ethics in the Light of the
Intellectual Inheritance of Ancient Athens*
Delphi, Greece, September 13-14, 2010**

George Bitros, Anastassios Karayiannis, and Nicholas Kyriazis: **Introduction**

Articles

Josiah Ober: **Wealthy Hellas**

George Tridimas: **Cleisthenes' Choice: The Emergence of Direct Democracy in Ancient Athens**

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Christopher Merrill: **The Runner**

Author Biographies

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THE JOURNAL OF ECONOMIC ASYMMETRIES

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"Our constitution...is called a democracy because power is in the hands not of a minority but of the greatest number."

Thucydides II, 37

"We Athenians, in our own persons, take our decisions on policy or submit them to proper discussions: for we do not think that there is an incompatibility between words and deeds; the worst thing is to rush into action before the consequences have been properly debated."

Thucydides II, 40

(Thucydides (460-400 B.C.) Pericles' Funeral Oration)

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Papers presented at the
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Introduction: Honoring the Battle of Marathon

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University of Thessaly

1. Introduction

In September 2010 we celebrated the 2500 anniversary of the battle of Marathon. When referring to Marathon, the mind of most people around the world goes to the Marathon Run, an Olympic athletic contest, as well as a very popular athletic event worldwide, since about 800 cities organize Marathon Runs. People know much less about the battle itself and its true significance, which has been acclaimed by such 19th century writers as Hegel, who declared that “The interests of the world’s history hung themselves in the balance,” and J. S. Mill who stressed that “The battle of Marathon, even as an event in English history is more important than the battle of Hastings”.

No doubt then, when the Athenians and their allies confronted Persians in the battle of Marathon, there was very much at stake. It was the way of living particularly in Athens, which gave rise to the miracle of democracy and the far-reaching advances in the sciences of man and nature. Even though we cannot say how western civilization would have evolved had that battle been lost, we can definitely agree that we would have been much poorer today. The road to democracy and its eternal values would have come to an abrupt stop. The great Greek philosophers would have been silenced to the tremendous loss of later generations; and the marvelous monuments and the works of art that we so admire today in the new Acropolis museum and the museums around the world would not have been realized.

So in the eve of 2500 years from that battle we thought that it was very fitting to take stock of the intellectual accomplishments that the victory of Greeks made possible and draw lessons for today. Because, despite the centuries that separate us, the problems democracies face presently in the world are not much different. Now as

then, there are international fundamentalisms (cultural, religious, economic, etc.). Now as then, group interests and lack of social cohesion are blotting democracies; and now as then, individual values and liberties are under attack. Hence, instead of turning to the stars for clues as to what lies ahead, what our conference aspired to accomplish was to look back at the knowledge and experience we inherited from ancient Greece in search of insights as to the proper balance among ethics, politics and economics in confronting present day problem domestically and internationally.

Thus, before embarking on the presentation of the papers that we selected for this special issue of the Journal of Economic Asymmetries, we considered it a good opportunity to give a brief account of the battle itself. This will reveal the tremendous odds Greeks faced and emphasize once more that what hangs in the balance in every democracy threatening problem lies not in the physical conditions that shape it, but in the spirit and the convictions that drive its people to put their lives on the line in defense of their institutions, beliefs, and values. For, if ancient Greeks were not motivated by such superior ideals, in view of the odds against them, they would have surrendered.

2. A Brief Account of the Battle

At the time the Persian Empire was mighty and expanding. It covered the region from today's western Pakistan and India, to the Middle East, Egypt, and Asia Minor. Moreover, during king Darius times it included European Thrace, parts of today's Bulgaria and Macedonia, Greek city-states in Asia Minor like Miletus and Ephesos, and Greek islands like Samos, Chios and Lesbos. Persians realized that the Greek city-states under their control would never be secure as long as independent city-states existed on the Greek mainland. Thus, almost by necessity they had to subdue them as well.

The Persian invasions of 492-479 BC were a clash of civilizations and cultures. Persians were no barbarians in today's sense of the word. They had a widely admired civilization, a strong centrally organized and controlled state, and a monotheistic religion. The Persian King of Kings was the representative of the good god Ahura Mazda on earth and had to provide law and order. Politically people in the Persian Empire were subjects, whereas Greeks were citizens, even in oligarchic states.

The first encounter took place in September 490 BC in the small plain of Marathon, in the northern part of Attica. Since the Greek fleet was not strong enough to contest their passage, Persians, under Datis (an experienced Mede general) and Arthaphernes (a Persian nobleman married to Darius daughter), crossed unopposed the Aegean and after landing on Euboea they crossed over to Marathon. They chose this place because the terrain was favorable for cavalry and as advised by Hippias, the exiled Athenian tyrant who was on board the Persian fleet, this move would lure the Athenian army away from the city, and hence in the absence of the army, the supporters of Hippias, so he promised to Persians, would seize the city. Finally, a

part of the Persian fleet would make a dash from Marathon around cape Sounion to Faliron Bay, land the cavalry there and capture the city.

Modern writers estimate the Persian force at about 15.000 to 20.000 infantry, the great majority of them archers, and perhaps 2.000-3.000 cavalry. If it came to battle in Marathon, the Persian plan was to weaken the Athenian army by a hail of arrows, then to pin them down frontally with their infantry and hit them on the flanks and rear with their cavalry, thus destroying the phalanx's cohesion. The Athenian force might have been about 10.000 hoplites without cavalry, reinforced by 600 hoplites from the Boetian city of Plataea, and very few light troops, if any. It was commanded by polemarch Callimachus and the battle plan was conceived by Miltiades, who knew the Persian ways, since he was the "governor" of an Athenian colony in the Straits of the Hellespont, under Persian control. Miltiades plan was to wait on the foothills of Penteli Mountain, where the Persian cavalry could not reach, thus denying them access to Athens. He expected that Persians would have to withdraw at some point, having perhaps exhausted their horses' fodder, but also waiting for Spartan reinforcements, which arrived actually one day after the battle.

Persians did make the first move. The 3rd night after landing, they embarked back their cavalry. One Ionian deserter from the Persian fleet (according to the Byzantine source called the "Lexicon of Sudas") made this known to Athenians. Before the attack, at a dawn council of war, Miltiades had to convince the other generals that the time of attack had come. After a discussion for and against, a vote was taken, leading to a draw. Then Miltiades turned to the polemarch Callimachus and said the famous words: "The fate of Greece depends now on you". Callimachus voted for the attack. The plan was to weaken the Athenian centre (the two "regiments" commanded by Themistocles and Aristides) and reinforce the flanks, leading thus to a double envelopment of the victorious Persian centre by the victorious Greek flanks, leading thus to the Athenian victory.

The tactical problem faced by Greeks, apart from the cavalry, consisted in the deadly "fire" of the Persian archers: If we assume the presence of 15.000 archers, firing each 3 arrows per minute at a range of about 200 meters, then the Greek phalanx would face 45.000 arrows per minute. If the phalanx attacked at its usual marching speed of about 4 km per hour, they would need about 3 minutes to traverse the killing zone of the Persian arrows, corresponding roughly to 135.000 arrows, or more than 12 arrows for each hoplite! Of course, not every arrow would hit, but the psychological stress and eventual losses due to this are easy to understand.

Thus, Miltiades had to achieve a second tactical surprise and innovation. He ordered the phalanx to attack (for the 200 meters of the killing zone) at a run (not "full speed" which would have left the hoplites, carrying each about 30 kilograms of arms, exhausted). Greeks would now need about one and a half minute, instead of three, to cover the "killing zone", thus minimizing their time – exposure to the hail of the Persian arrows. Miltiades took a calculated risk: at a run the cohesion of the phalanx would break down and the hoplites would engage Persians somewhat disorganized. This would have been disastrous if they were facing a similarly armed Greek pha-

lanx. But Miltiades thought that against the more lightly armed Persians, it was worth the risk. On the other hand, he was persuaded that the loss of cohesion would be more than counterbalanced by the Greek fury, because every hoplite knew the values he was fighting for. Additionally, he expected that his tactical innovation of attacking at a run, would surprise Persians, who knew the way Greeks fought, both due to the advice of exiled Greeks, like Hippias and the ex-Spartan King Demaratus, as well as because they had faced them already in battle, victoriously, during the previous Ionian revolt.

Miltiades innovation worked. The Persians thought “These men are mad” (Herodotus, 6, 112.3). It must have come as a strong psychological shock to Persians, common soldiers and commanders alike. What they saw was a mass of armored men running at them, mostly impervious to their arrows due to their strong protective armors, faceless men of bronze (because their faces were enclosed by their helmets) and their big round shields. As Miltiades intended, his new method of attack chilled Persians. Thus, the Athenians and Plateans won an astounding victory, which, according to Herodotus, cost Persians 6.400 dead against 192 Athenian and 17 Plateans. However, even though the victory was big, the battle was not over, because Persians managed to re-embark on their ships and tried by circumnavigate Attica to reach Phaleron hoping to capture the city of Athens, since the Athenian army would not have time to come back from Marathon, given that the exhausted Greek hoplites had to march back to Phaleron, about 50 km from Marathon, in full armor. However, they did so successfully and arrived first. When Persians saw them waiting, they did not attempt a landing. *This march of the hoplites back to Athens to forestall the fall of their city was the real first mass Marathon Run in history.* It is these hoplites and democrats that we wished to honor in our conference, because it is they who saved Athens, democracy, and western civilization as we have come to know it.

3. The Papers in This Volume

Each paper is preceded by an abstract. Hence the readers may decide easily the ones they wish to read in further detail. What remains is to explain why we arranged the papers in the way they appear in this issue. We decided to go from the evidence regarding the accomplishments to the institutional and other arrangements that made them possible. That is why we start with the paper “Wealthy Hellas”, in which J. Ober argues convincingly that, contrary to older views, Greece and in particular Athens were wealthy states, due to a great extent to the democratic institutions that facilitated market exchange and economic development.

This paper is followed by three papers focusing on the institutional and market arrangements. In particular:

G. Tridimas in “Cleisthenes Choice: The Emergence of Direct Democracy in Ancient Athens,” uses a political economy framework to explain why and how in ancient Athens direct democracy, absence of political parties and appointment to office by lot were inextricably linked.

N. Kyriazis and A. Karayiannis, in “Democracy, Institutional Change and Economic Development,” present a new theoretical perspective on democracy as a system that facilitates change, especially through the role of the “initiators”, whose proposals enrich the available set of choices.

D. T. Engen, in “Democracy, Knowledge and the Hidden Economy of Athens,” illustrates an important mechanism in the Athenian economy, i.e. the “aphanes” or hidden wealth of the elite, who invested money in productive, non-landed profit seeking economic ventures and which reminds us of the “underground” activities in many modern economies.

Next, we have placed a block of three papers that deal with certain important theoretical issues. Namely:

J. Backhaus, in “Some Remarks on Economic Policy Advice”, inspired by the oracle of Delphi, examines the way economists give advice on economic policy drawing on formally consistent econometric models, thus leaving policy makers very often without a clue as to what to do.

C. Perrotta, in “Aristotle and the Modern Economy,” analyzes Aristotle’s value theory, especially the difference between moral and economic value. He concludes that the present financial and economic crisis seems to bring into question the traditional economic culture and the dominance of utility theory, thus making it necessary to complete today’s views with the Aristotelian awareness of the superiority of social values.

B. Schefold, in “The Applicability of Modern Economics to Forms of Capitalism in Antiquity: Some Theoretical Considerations and Textual Evidence,” makes a critical assessment of Max Weber’s texts on capitalism in antiquity and using textual evidence from ancient authors identifies fundamental reasons why the case of neoclassical theory is of limited applicability.

Finally, we close the issue with three papers devoted respectively to the objectives of ancient health economics, paideia, and the spirit of the Marathon Runner. More specifically:

C. H. Lyttkens in “Health, Economics and Ancient Greek Medicine” looks into ancient Greek health practices and medicine, underlining the simultaneous emergence of a scientific and rational approach and the proliferation of “religious” medicine.

G. Bitros and A. Karayiannis, in “Character, Knowledge and Skills in Ancient Greek Paideia,” analyze the approaches to education that Athens and Sparta adopted, indicating that both city-states confronted their challenges successfully because they managed to mold into the character of their citizens “ethos” (morals) compatible with the integrity of their institutions.

C. Merrill, in “The Runner,” evokes the legend of the ancient Marathon Runner and the legacy it has left in modern literature and politics, as for example in Walt Whitman’s “The Runner”, as a messenger bearing the promise of freedom and a figure of democracy, announcing the possibility of a new beginning.

Notes

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Wealthy Hellas

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Abstract: The ultimate goal is to trace changes in human welfare over time and across regions. Although there have been substantial advances in the study of ancient Greek economies, and although much of the new work on Greece is focused on the core areas of growth, demography, distribution, and welfare, there is, no readily accessible summary of the most recent developments in archaic and classical Hellenic economic history. This article sketches a few preliminary results of an emerging area of scholarship that will, revolutionize how classicists and social scientists think about the ancient Greek economic world.

JEL classification: N00, O10

Keywords: ancient Greek economy, economic growth.

1. Introduction

The early 21st century is shaping up as a golden age for research on ancient economies.² Roman historians have been leading the way. A sophisticated body of work offers estimates of several key economic indicators for the period ca. 100 BC – AD 200: first, the rate of intensive (per capita) and extensive (aggregate) economic growth; second, population density, distribution, and urbanization; third, distribution of wealth and income. The ultimate goal is to trace changes in human welfare over time and across regions. Helpful surveys of “the new Roman economy” are now available.³ Meanwhile, although there have also been substantial advances in the study of ancient Greek economies, and although much of the new work on Greece is focused on the same core areas of growth, demography, distribution, and welfare, there is, to my knowledge, no readily accessible summary of the most recent developments in archaic and classical Hellenic economic history.⁴ This article sketches a few preliminary results of an emerging area of scholarship that will, I believe, revolutionize how classicists and social scientists think about the Greco-Roman world.⁵

The results reported here are based on the ongoing research programs of several leading specialists in ancient Mediterranean history, along with some of my own recent work. I argue that commonly held premises about Greek economic performance are wrong (sections 1 and 2), make three factual claims about the performance of the Greek economy in ca. 800-300 BC (sections 3-5), and advance

two hypotheses to explain Greek economic performance in this era (sections 6-8). The last section (9) offers some conclusions and discusses how my argument might be falsified or verified. *Caveat lector*: The results I report here are not yet definitive and I do not pretend to offer anything like an adequate review of a large and growing literature. Nor is this article a statement of consensus conclusions endorsed by all specialists in Greek economic history. This article addresses only the archaic and classical periods of Greek history; the definition of “the Greek world” obviously changed dramatically in the Hellenistic period.⁶

I hope and expect that the premises and hypotheses offered here will be refined in years to come. Nevertheless, the main outlines of a new and more realistic picture of the Greek economy seem to me tolerably clear: Archaic and classical Hellas, taken as a whole, was a wealthier place than most historians once imagined. Indeed, late classical Athens (and perhaps other advanced poleis of the fourth century BC) appears to have been among the most prosperous communities of premodernity.⁷

2. The standard assumptions are wrong

Among the assumptions about the archaic and classical Greek world with which I grew up as student in the 1970s was that the world of the Greek city states was relatively poor. This assumption was based in the first instance on what we may call “the standard ancient premise.” It is stated succinctly in Herodotus, Book 7: “Hellas has always had poverty as its companion.” (*têi Helladi peniê men aiei kote suntropos esti*: Herodotus 7.102.1). Herodotus’ statement, put into the mouth of Demaratus, deposed King of Sparta, in the context of a conversation with Xerxes, King of Persia, is frequently cited.⁸ This quotable line, along with other passages in Greek authors, contributed to the formation of what we may call the “standard modern premise.” In Alfred Zimmern’s pungent early 20th century prose: “the pioneers who created our European civilization were stricken with poverty all of their days... it was the doom of Athens that Poverty and Impossibility dwelt in her midst from first to last” (Zimmern 1931: 219).

Along with the claim that it was the Greeks who pioneered “our European” civilization, Zimmern’s comment is notable for its assumption of Athenian exemplarity: For Zimmern, “Athens” stands for “Greece.” How exemplary or exceptional Athens really was, and how much we can extrapolate from Athenian economic performance to the wider Greek economy, remain questions that are important and difficult to answer.⁹ In the imperial fifth century, but also in the post-imperial fourth century, Athens was certainly among the most prosperous of the Greek poleis (Ober 2008: chapter 2). For our present purposes it suffices to say that if classical Athens really was impoverished, then it is likely that the rest of the Greek world fared poorly. If Athens was relatively wealthy, it is at least possible that some other parts of the Greek world were quite well off.

It has long been recognized (e.g. Morris 2004: 22) that the poverty claim in the ancient premise must be understood in comparative rather than absolute terms. In

the key passage Demaratus compares the quotidian life of ordinary citizens in Greece (and especially Sparta) with the court of the King of Persia. When the King of Persia is the standard, everyone in classical Greece was certainly comparatively poor. But, equally obviously, when specialists in ancient history (as opposed to a Spartan exile) are seeking to compare the performance of ancient economies (rather than offering policy advice to the Great King), “ordinary Greeks v. court of Xerxes” is the wrong standard of comparison.

An alternative standard of comparison for the ancient Greek economy might be sought among the most advanced economies of the 19th – 21st centuries of our era. If Xerxes is self-evidently the wrong comparison for, say, Tellus of Athens, then what about middle-class American, John Doe? When we compare median income (in standardized dollars) or consumption (measured e.g. in per capita energy use) in ancient Greece with the US (or western Europe) in the 19th - 21st centuries, the Greek world, once again, looks impoverished (cf. Saller 2005, Morris 2010-forthcoming).

As in the case of Demaratus’ pointed contrast of ordinary Greeks to ultra-elite Persians, comparing ancient and modern income or consumption tells us *something* – but nothing that we do not already know, at least in general terms. It is hardly news that median levels of consumption in modern first-world economies are much higher than median consumption levels in any ancient economy: Tellus of Athens did not shop at WalMart. It is certainly worth investigating just *how much* higher modern income and consumption levels actually are. But using modern first-world economies as a standard of comparison is not particularly informative if we are seeking to learn something new about the relative economic performance of specific ancient societies. Neither the Tellus/Xerxes nor the Tellus/John Doe comparison gives a satisfactory answer to the question we are actually posing when we ask, “Are the standard ancient and modern premises right?”

Rather than seeking to determine how much poorer Tellus was than Xerxes or John Doe, when we ask, “Are the standard ancient and modern premises concerning Greek poverty right?” I suppose that what we want to know is whether or not the ordinary Greek was relatively worse off than the ordinary individual in other premodern societies. While we cannot answer the “comparative general welfare” question directly, we can provide at least tentative answers to questions that will in turn give us an indirect way to approach the question of general welfare:

- Was the rate of Greek economic growth high or low, relative to other premodern economies?
- Was the Greek world more or less densely populated, and more or less urbanized, than other premodern societies?
- Was the distribution of wealth and income across the Greek population relatively more or less equitable than that of other premodern populations? What part of the Greek population lived at a level high enough above subsistence to qualify as at least minimally decent?

Using these questions as proxies for investigating comparative general welfare, the answer to the question, “Was Greece impoverished?” now appears to be “no” – Greeks were not poor when compared to people in other ancient or medieval societies. The Greek economy grew comparatively briskly in the period 800-300 BC. By the later classical period, the Greek world was comparatively densely populated and urban. A relatively high percentage of Greeks (or at least of Athenians) appear to have lived comfortably above subsistence level that has been the economic fate of most people since dawn of civilization. Indeed, by the standards of other premodern economies, Hellas was wealthy. Moreover, despite the Demaratus-Xerxes exchange, and similar passages in the *Histories*, there is some reason to think that Herodotus (and by extrapolation, his original readers) realized it.

The “Eastern monarch discusses comparative welfare with a wise Greek” motif of the Demaratus-Xerxes interchange in book 7 of Herodotus’ *Histories* is anticipated in book 1, in the well known scene in which King Croesus of Lydia interviews Solon of Athens. The subject is human happiness and the context is relative wealth. Croesus expects Solon to acknowledge that Croesus is outstandingly happy on the basis of the superabundant wealth that the King of Lydia has displayed to his visitor. But to Croesus’ surprise, Solon instead names as the happiest (*olbiôtatos*) person to have lived, Tellus of Athens, “who came from a prosperous city... and the circumstances of his life were likewise prosperous, by our standards” (*Tellôi touto men tês polios eu hêkousês... touto de tou biou eu hêkonti, hês ta par’ hêmin: 1.30.4-5*).

Tellus is not portrayed by Herodotus’ Solon as a member of a tiny privileged elite of wealth. Quite to the contrary, he is depicted as a reasonably but not exceptionally well-to-do, “middling” Greek citizen of an reasonably well-to-do Greek polis (his imagined life was, of course, long before the Athenian empire). Tellus was, in Solon’s pithy account, just an ordinary Greek man who just happened to be extraordinarily fortunate in his progeny (healthy and excellent children and grandchildren) and demise (timely, heroic death in victorious battle). Per the line quoted above, reasonably prosperous material conditions did constitute a necessary precondition for Tellus’ exceptional happiness. Yet the clear implication of the story is that many of Tellus’ fellow-citizens enjoyed a similar prosperity. It was Tellus’ relative advantages in respect to his descendants and the timing and circumstances of his death, rather than his wealth that, in the Herdototean/Solonian calculus, placed Tellus ahead of all others in respect to happiness. It is, however, the background conditions that concern us here: Tellus and his large and healthy family evidently lived comfortably above the level of bare survival, in a community in which living at that level was not regarded as remarkable in and of itself.

For our purposes, the important point is this: If, as Herodotus seems to imply, the material conditions enjoyed by Tellus and his family were not atypical, then a decent level of income (i.e. enough to live well above substance) was fairly common in the Greek world. A society featuring a substantial body of ordinary people, living in decent conditions, well above subsistence, would be, by ancient standards, an

exceptionally wealthy society. We, Herodotus' readers, see that Croesus is vastly richer than Tellus. But, if we think about the socio-political conditions sustaining the great wealth of Croesus and his court, we will have reason to doubt that Lydia supports a substantial body of people living at the moderately prosperous "Tellus level." And so we may come to the conclusion that, to the extent to which ordinary, moderate prosperity is a sign of a relatively well-to-do community, Hellas as a whole may be fairly well off after all.

Indeed, the figure of "ordinary, relatively prosperous Tellus" seems not to be merely a Herodotean fiction. As we will see (section 5) there is good reason to believe that, at least by the classical period in which Herodotus was first being read, a strikingly high percentage of Athenians (and perhaps of Greeks generally) fit a profile of Tellus-like moderate prosperity. That percentage was almost certainly much higher than was the case, overall, in Lydia, the Persian Empire, or elsewhere in the ancient world.

We still lack the detailed studies of the economies of ancient Near Eastern societies that would allow meaningful pair-wise comparisons to the economy of Hellas (Beford 2007). But it seems very unlikely, on the face of it, that the Lydian empire, the Persian empire, or indeed any other ancient empire substantially outperformed the Roman empire of the first and second centuries CE in terms of per capita consumption or urbanization. As noted above, we now have reasonable (albeit hotly debated in the details) estimates of Roman imperial economic performance. One upshot of those estimates is that Rome appears, by ancient standards, an exceptionally prosperous and urbanized empire. Estimates of the performance of the relatively high-performing Roman imperial economy can be compared to estimates of archaic and classical Greek economic performance. As we will see, it appears that, at least according to certain key measures (aggregate and per capita economic growth, urbanization, and income distribution), the Greek economy of ca. 800-300 BC outperformed the Roman economy of ca. 100 BC- AD 200.

If it is true that Rome economically outperformed other ancient empires, and that Hellas outperformed Rome, then it is fair to say that the society of Hellas was, in fact, relatively wealthy compared to its contemporaries and successor societies in the ancient world. Moreover, certain features of the Greek economy (or at least the Athenian economy) of the fifth and fourth centuries BC compare favorably with the most advanced premodern European economy: Holland in the 15th-18th centuries CE.

3. Three premises and two hypotheses

The significance of the comparative analysis of Hellas to Rome and other ancient societies is not, of course, to score points in a game of Hellenists v. Romanists -- or v. students of other premodern societies. The Greek world was a small place compared to the Persian or Roman empires (see section 4) and had distinctive advantages in respect to location (section 6). The explanations I will advance (sections 7, 8) for Greek economic performance are, in the first instance, political and institutional; they have nothing to do with ethnicity or national character. The

point of the comparison is to falsify what I have been calling the standard ancient and modern premises about Hellenic poverty. If those standard premises are false, then to the extent that any account of Greek history or culture depends on them, it is wrong. This conclusion is important for the study of the Greek world in part because it helps to clarify the background context for remarkable events (e.g. the fifth-century Persian Wars and Alexander's conquests). More generally, and perhaps ultimately more importantly, it means that the material context in which archaic and classical Greek literature, art, and philosophy were produced was one of relative prosperity rather than relative deprivation (section 9). That conclusion, if sustained, ought to change the way we think about Hellenic civilization.

The rest of this article is devoted to sketching three new premises and two hypotheses about the Greek economy in the half-millennium from the end of the Dark Age in ca. 800 BC to the consolidation of the Hellenistic Kingdoms in ca. 300 BC.

Here are three reasons to believe that, *compared to other ancient societies*, Hellas was wealthy:

- *Premise 1.* The Greek economy grew steeply and steadily from 800-300 BC, both (a) in its aggregate size and (b) in per capita consumption.
- *Premise 2.* By the fourth century BC Greece was (a) densely populated and (b) remarkably urbanized, yet (c) living standards remained high.
- *Premise 3.* Wealth was distributed relatively equitably across Greek populations; there was a substantial "middling" class of persons who lived well above bare substance, yet below the level of elite consumption.

And here are two explanations for why Hellas was comparatively wealthy:

- *Hypothesis 1.* Egalitarian institutions typical of polis life (a) promoted heavy investment in human capital and (b) lowered transaction costs.
- *Hypothesis 2.* In the context of the dispersed authority structure of Hellas (the city-state system) beneficial institutional innovations were continuously (a) spurred by inter-polis competition and (b) spread by inter-polis learning.

The three premises, in the form of descriptive statements about the Greek economy, are based in the first instance on economic models that are in turn based on extensive collections of empirical evidence for ancient Mediterranean and early modern European economies. Ancient economic performance can only be estimated, based on the always-lacunary ancient evidence, and by extrapolating from better documented premodern economies. Better comparisons may emerge which would require reassessment of one or more of my three premises. Moreover, to state the

obvious, the evidence for the ancient economies is, in every case, slight and anecdotal when compared to the much more systematic evidence for modern economies. We will, for example, never have time-series data for premodern income distribution that even approximates the detailed, year-by-year data sets from first-world countries in the middle 20th century and onwards. Because the evidence for ancient economies is relatively thin, it is always possible that new written or archaeological evidence will come to light that requires rethinking one or more of the three premises presented here.

The two hypotheses are attempts to explain how and why the Greek economy performed comparatively well. These attempts at explanation are drawn from well tested theories employed by contemporary social scientists. They are, like the premises, preliminary and subject to revision in the light of new data or better theoretical frameworks. Like every working explanatory hypothesis, the two hypotheses offered here are always subject to ongoing tests of “goodness of fit” (that is, do they make sense of the data we have?) and to outright falsification based on counterfactual challenges and/or as new evidence is brought to bear.

4. First Premise. High aggregate and per capita growth

In recent papers Ian Morris has assembled an impressive array of data for measuring Greek economic growth in the period 800-300.¹⁰ The first factor to consider in measuring Greek economic growth is demographic change. It is uncontroversial to state that the population of Hellas grew substantially in the half-millennium 800-300 BC. On the basis of J.K. Beloch’s (1886, 1993 [1889]) exhaustive surveys of literary evidence, supplemented by recent work in survey and excavation archaeology, Morris (2004: 19) posits that the population of the Greek population of “the Aegean and the colonies in southern Italy and Sicily” rose from under 500,000 persons in the ninth century to perhaps 4 million persons in the fourth century. If this is correct, the population of this part of the Greek world increased about ten-fold and the per annum demographic growth rate was over 0.4%. As Morris points out (2004: xx), this is a comparatively high rate of sustained demographic growth in a premodern society.

Morris’ figures are only estimates, but in order for Morris’ posited demographic growth rate to be much too low, we would have to assume that the population of the Aegean/Italian-Sicilian Greek world in 800 BC was much larger than 500,000, or that in 300 BC the relevant parts of the Greek world had a population much less than 4 million. Neither counterfactual seems plausible: For the early period, archaeologists have expended a great deal of time and effort searching for and analyzing sites from the Greek Early Iron Age (aka the Dark Age) and they have done their best to show that the Dark Age was not so dark as all that. Despite their best efforts, known Early Iron Age Greek occupation sites remain comparatively sparse and small. At the other end of the time period, Morris’ estimate of the population of the core Greek world in 300 BC is in line with demographic estimates since the 19th century, and is probably somewhat *lower* than

the recent, detailed estimate of M.H. Hansen (2006), who uses a different estimation methods and addresses a somewhat different geographic area (see section 4).

The second key factor in estimating aggregate economic growth is per capita consumption. Morris sought to estimate changes in per capita consumption over the same period. While there is no way to measure consumption directly, the proxies employed by Morris are telling. Morris assembled a substantial data set (n=405) of Greek house-plans. The median Greek house in the 9th century was small and squalid. Over the next 500 years, the median house became both much bigger and much better built. Looking at square footage alone, when account is taken of probable second-stories, the change in the of the median house is over 350% - from ca. 80 m² to ca. 360 m² (Morris 2004: 13). Given the striking improvement in building standards, the total increase in the economic value of a house will actually have been substantially greater. Morris (2004: 15-16) notes the difficulty of measuring the change in other consumption goods, but based on archaeological evidence of sites destroyed suddenly, he posits that, over the period 800-300, "a five- to ten-fold increase... seems reasonable."

Moving from these numbers to per capita consumption is a complex problem; a big part of premodern consumption was in the form of food and (where applicable) taxes and rents. Morris argues, on very reasonable grounds, that per capita consumption in ninth-century Hellas must have been close to the substance minimum. By 300 BC, however, he suggests that consumption had increased by 50% and perhaps as much as 95%. Thus, by 300 BC a typical Greek household was consuming half again to twice what an ordinary household had been consuming 500 years before. This range yields a per annum growth rate in per capita consumption of 0.07 – 0.14%. By comparison, the growth in the Roman per capita growth rate has been estimated at 0.1% (Saller 2005). I return to the question of Greek per capita growth below (section 5), arguing that Morris' upper-range estimate is more likely than any lower estimate, and that the actual rate of Greek per capita growth 800-300 BC was probably about 0.15% -- one and a half times the estimated Roman growth rate.

Combining his estimate of demographic growth with his estimated growth in per capita consumption, Morris posits that total aggregate consumption growth (number of people x rate of consumption) in Hellas increased roughly 15 fold (assuming his lower per capita rate) to 20 fold (assuming his higher the higher per capita rate) in the period 800-300 BC, for an annual aggregate economic growth rate of 0.6 – 0.9%. As Morris (2004: 20) points out, Holland is the gold standard for a high-performing early modern economy. The annual aggregate growth rate for Holland in 1580-1820 was about 0.5%. And so, as Morris notes, even if we were to cut his estimate of growth *in half*, the Greek economy compares favorably an exceptionally high-performing premodern economy.

Morris' conclusions about relatively high per capita and aggregate Greek economic growth are consistent with other indirect proxies that point to substantial growth in the late archaic and classical periods. Based on data made available in the

on-line version of the Oxford-based *Lexicon of Greek Personal Names*, I calculate that the number of known (from literary or archaeological sources) names of persons in Attica grew from ca. 1200 in the sixth century to ca. 17,000 in the fourth century, an approximately 14-fold increase over just 300 years. The increased visibility of individuals is obviously the product of multiple variables, notably growing rates of literary and epigraphic production. This high rate of growth in name visibility is consistent with a world in which many more people were consuming substantially more. Counterfactually, a world with a declining population and in most people lived at a level of bare subsistence would clearly be less conducive to rapid growth in the literary and epigraphic visibility of people's names.¹¹

Based on data taken from the *Inventory of Greek Coin Hoards* (Thompson, Mørkhølm, and Kraay 1973), David Teegarden and I estimate that the volume of coined money circulating in the Greek world increased substantially as well. Between the sixth and fourth centuries BC, the median size of a Greek coin hoard (an indirect proxy for per capita rather than aggregate growth) roughly doubled, from 23 coins to 48 coins per hoard. Meanwhile, the average hoard size quadrupled, from 52 coins to 213 coins, reflecting the increasing incidence of some exceptionally large hoards.¹²

When looking at the total number of hoards, and at the total number of coins in all known hoards (which ought to be indicative of aggregate growth), the sixth-century numbers are misleading since coinage was introduced in the Greek world in the course of that century. Yet even when we restrict our survey to the classical period, the numbers are suggestive. The number of hoards more than doubled from the fifth century to the fourth, from 238 to 564 hoards, while the number of total coins in all hoards grew three-fold, from 34,385 coins to 109,433. These numbers cannot readily be translated into a given annual growth rate. Short-term growth in hoarding may, in fact, indicate economic crisis (Turchin and Scheidel 2009). But over the long term of several hundred years, the substantial growth in both hoard size and numbers of hoards is likely to reflect a world in which there was more money in circulation, and in which more people could afford to save some part of their income in the form of cash. This ought, in turn, to mean a world in which more people were living substantially above the level of bare survival.

Table 1 sums up the evidence for change over time in the economic indicators discussed in this section.

5. Second Premise: Dense, urbanized population

A second way to compare economic development among societies is by measuring population densities and urbanization. Among the important results achieved by the Copenhagen Polis Center, directed by Mogens H. Hansen, has been to give us a better sense of the total population of the extended Greek world in the late classical period, and the distribution of that population. By the later fourth century, there were something like 1000 poleis in the Greek world (*Inventory of Classical and Archaic Poleis*: Hansen and Nielsen 2004); the geographic size of more than half of these is

Table 1. Summary of population and proxy-indicators indicators of economic growth in the Greek world

	Start date (T1)	End date (T2)	Multiplier (T2/T1)
Population	9th	4th	10
House floorplan	9th	4th	3.5
Household goods	9th	4th	5-10
Per capita consumption	9th	4th	1.5-2
Aggregate growth	9th	4th	15-20
Names (Attica)	6th	4th	14
Hoard size, median	6th	4th	2
Hoard size, average	6th	4th	4
Coins in hoards	5th	4th	3
Hoards, number	5th	4th	2

now known or can be plausibly approximated. Beginning with the extensive empirical evidence of his inventory of poleis, Hansen (2006) uses what he calls a “shotgun method” to estimate Greek population and distribution. The method employs the evidence of the physical size and estimated population densities of relatively well documented poleis, along with the size and estimated densities of intramural areas, and the known distribution of poleis across a range of sizes, to arrive at overall estimates of population. On the basis of his shotgun method, Hansen offers new estimates for the total population of the Greek world, the distribution of the Greek population among large, middling, and small poleis, and the relative scale of urban and extra-urban populations.

Hansen (2006: xx) estimates that the extended Greek world in the late 4th century BC had a population of 7.5-10 million people (note that this extended Greek world includes regions of Greek settlement excluded from Morris’ estimate of ca. 4 million for the Aegean, Sicily, and southern Italy). If Hansen’s estimated total Greek population range is correct, the Greek world of the late 4th century BC, taken *in toto*, was something like 10-15% of the size of the Roman empire at its first/second century CE height of ca. 70 million. In the fourth century BC Greeks may have made up something like 3 - 4% of the world’s total population.¹³

The Greek mainland contained only a part of the total Greek population. Hansen concludes that the Greek mainland (including Akarnania, Thessaly, and the Aegean islands, but excluding Epirus and Macedonia as well as the Greek settlements in Asia, Africa, and the western Mediterranean) had a population of about 3-3.5 million people.¹⁴ By way of comparison, in 1889 a census by the state of Greece (comprising nearly the same geographic area) counted 2.2 million persons. As Hansen points out, there is reason to believe that the population of Greece in 1889 was very close to Greece’s agricultural carrying capacity; which is to say that

the land could not grow enough food to feed more people. If these figures and assumptions are in the right range, it has considerable bearing on the performance of the ancient Greek economy.

Unless we are willing to assume that fourth-century BC Greece was greatly more agriculturally productive than 19th century CE Greece (which seems on the face of it unlikely), if we adopt both Hansen's figures and his assumptions about carrying capacity, we must suppose that a substantial part of the fourth-century Greek mainland population was fed from food imported from abroad. Something like 0.75 million – 1.25 million Greeks, i.e. 25 – 35% of the mainland/Aegean population in the fourth century BC, thus may have lived on grain imported (e.g.) from the western Mediterranean, from the Bosphorus/Crimea, or from north Africa.

Once again, even if we were to cut the number of Greeks (derived from Hansen's estimates) who must be presumed to have lived on imported food *in half*, we are still left with some 350,000 - 650,000 persons in excess of the presumed carrying capacity of the mainland Greece. This means, in turn, that Athens cannot have been the only major grain-importing Greek polis. And so, the mainland Greek world can no longer be regarded as entirely defined by subsistence agriculture or local exchange. The imported food had to be paid for somehow -- by commodity exports (oil, wine, silver), manufactured goods, services, or the extraction of rents (i.e. by the use of power to obtain resources at prices lower than those that would pertain in a competitive market).¹⁵ The general point is that by the fourth century BC, the mainland Greek world evidently broke through the "low Malthusian ceiling" of agricultural subsistence. For how long that breakthrough was sustained, or could have been sustained, is a matter for future research.

Total population is only one part of the equation. If we are to understand the conditions of Greek economic growth, it is important to determine how the population was distributed. Hansen's analysis of the numbers of large, middling, and small poleis across the Greek world suggests that most poleis (about 800 of 1000) were small, with populations of ca. 1000-5000 persons. Yet only about 35% of the total Greek population lived in these small poleis. Another 25% lived in middling poleis, that is in communities with a median population of about 15,000 persons. The remainder of the polis-dwelling Greeks lived in large communities, with a median population of about 30,000 persons (Hansen 2006: xx) The results are tabulated in Table 2.

Table 2: Estimated distribution of Greek population; based on Hansen 2006

	Small (1k-5k)	Middling (median 15k)	Large (median 30k)
Poleis %	80	10	10
Population %	35	25	40

Among Hansen's most striking claims, based once again on the shotgun estimation method, is that about half of the population of Greece lived in intra-mural

“urban” centers (2006: xx). Combined with the distribution into small, middling, and large poleis, this result suggests that, by the later fourth century, about 30% of Greeks lived in towns of 5000 persons or more. If these numbers are correct, the Greek world of the fourth century BC was much more highly urbanized than the Roman imperial world of the first and century centuries CE, in which some 10-12% of the population lived in similarly large towns (Scheidel 2007, Wilson 2009); see Table 3.¹⁶

Table 3: Estimated urban populations: late fourth-century BC Hellas and imperial Rome.

	Urban population (in towns >5k), percent	Urban population, number of persons
Hellas 350- 300 BCE	30	2.25-3 m
Rome 100-200 CE	10-12	7-8.5 m

The relatively high urban population of Hellas fits comfortably with the conclusion that a good many mainland Greeks consumed imported rather than locally grown food. It would surely be wrong to imagine that the set “urban residents” completely overlapped with the set “imported food consumers”; a substantial number of urban Greeks may have lived in “agro-towns” from which residents commuted to their fields. Some very extensive intramural areas may have enclosed gardens or even fields. Nevertheless, the estimate that some 30% of the Greek world was urban is compatible with the finding that roughly 25-35% of the mainland Greek population was fed from imported food. Both results push against a the notion that the Greek economy was overwhelmingly defined by subsistence agriculture; together the two demographic results point to a relatively sophisticated and diversified economy, one that produced a substantial surplus beyond bare subsistence. These population figures are, in turn, in line with recent work, notably by Alain Bresson, to the effect that trade, in commodities as well as luxury goods, was much more important in Greek economy than was long thought to be the case.¹⁷

Higher levels of urbanization correlate with economic intensification, but not necessarily with improved welfare: Rapid growth of urban populations has historically been associated with the spread of disease, and, e.g. in 19th century England and Holland, with squalid living conditions in crowded tenements.¹⁸ There is at present no evidence that these dismal conditions pertained in fourth-century Greek towns. While the data on change over time in the health of Greek populations are difficult to interpret, and in some ways contradictory (Morris 2004: xx, Kron 2005; Reden 2007: 388-90), it is clear enough from studies of human bones found in Greek archaeological excavations that the average life span of Greek men and women reaching adulthood increased substantially from the end of the Dark age to the fourth century BC. Based on the more recent (1990s) analyses, the ages at death

of individuals surviving childhood seems to have increased by about 10 years for both men and women over this period (Morris 2004: xx).

Life expectancy at birth (which in all premodern populations is much lower than average age at death for those surviving into adulthood, due to high levels of infant and child mortality) in fourth-century Greece will still have been very low by modern standards, probably not exceeding the mid- to upper-twenties.¹⁹ But it was substantially better than it had been 500 years previously, in Early Iron Age Greece – when there was probably no town of as many as 5000 persons. Moreover, there is not as yet any evidence in excavations of Greek towns for extensive tracts of small and squalid urban dwellings. As we saw, above, the median Greek house, urban as well as rural, tended to become much larger and better built in the five hundred years after 800 BC. In sum, by the late classical period, the number of Greeks who lived in relatively large urban areas was remarkably high by ancient standards. Moreover they lived in much bigger houses and in somewhat healthier conditions than their ancestors could have dreamed of. Meanwhile, a good part of the population of mainland Greece was fed from imported food: Hellas was, relatively densely populated and urbanized. The Greek economy cannot be adequately explained by reference to subsistence agriculture alone.

6. Third Premise: Equitable distribution

A third measure of economic development is the distribution of wealth and income. Historically, all complex societies have been characterized by economic inequality. Yet when wealth and income are distributed extremely inequitably, such that society is bi-modally segmented into a tiny elite of the very wealthy and a great mass of individuals living at subsistence, there is correspondingly little room for sustained economic growth. It is only with the emergence of a substantial and stable “middling” class of persons living well above the level of subsistence, and therefore willing and able to purchase goods unnecessary for their mere survival, that societal consumption becomes a driver of economic growth.²⁰

How equitably was the wealth of Hellas distributed across its relatively dense and urbanized population? Once again, house sizes can be used as an indirect proxy. Morris (2004: 14-15) shows that archaic/classical Greek settlements were never characterized by a few mansions and many huts. Rather, across the entire half-millennium (800-300 BC) the distribution of Greek houses tends to cluster around the median house size. The size of larger houses (the top quartile in floor plan) failed to diverge markedly from that of smaller houses (the bottom quartile). The size of larger and smaller houses grew more or less in lock step across the period: by 300 BC houses in the 75th percentile of the distribution were only about one-fifth again (roughly 50 m²) as large as those at the 25th percentile. Geoffrey Kron’s survey of house sizes at Olynthus and other urban areas confirms this general picture: unlike (e.g.) nineteenth century England, the distribution of house sizes at Olynthus describes an inverted U curve: most houses fall in the middle, rather than on the far left (tiny house) side, of the distribution.²¹ Obviously not every Greek family could

afford to buy a substantial house – which may have cost something in the neighborhood of six to 15 years of income (Morris 2004: 15). But many could afford to own a home: based on recorded house costs and the census of 322 BC in which some 9000 citizens (of a presumed total of ca 31,000) owned property amounting more than 2000 drachmas, Kron estimates at least nearly a third of citizen families, and possibly as many as three-quarters of them, could afford to purchase a house.²²

Kron has attempted to calculate the wealth distribution of late fourth century Athens more directly, by reference to the standard Gini coefficient of inequality. The lower the Gini Index number, the more equitably the good in question (in this case household wealth) is distributed. Wealth was certainly not distributed with anything approaching perfect equality in Athens. Based on reports of the census of 322 BC and other sources, Kron calculates that in late fourth-century Athens the richest 1 percent of the population owned about 30 percent of all private wealth; while the top 10% owned about 60 percent of the wealth. This yields a Gini Index of 0.708. Kron compares this figure to the figures for several modern societies. The late-classical Athenian level of total-wealth inequality is roughly comparable to that of the USA in 1953-54 (0.71). It is less equal than Canada in 1998 (0.69), but a more equal than Florence in 1427 (0.788) or the USA in 1998 (0.794). It is much more equal than the USA or England in the early 20th century (0.93 and 0.95 respectively).²³

Kron's conclusion on the comparatively equitable distribution of private wealth in late classical Athens is consistent with estimates of landholding in Athens: Two independent studies by classical scholars (Foxhall 1992 and 1997, Osborne 1992) concluded that about 7.5-9% of citizens owned about 30-35% of the land of Attica; some 20% owned little or no land. Excluding those at the top and bottom of the distribution, we are left with roughly 60-65% of the land being owned by about 70-75% of the citizen population. Morris (1998: 235-36) points out that the resulting range of Gini coefficients, 0.382-0.386, is strikingly low in comparison to estimated distributions of land-holding for other ancient and medieval societies. Although the base-line Athenian figures do not tell us anything about some relevant factors affecting the value of land, e.g. distribution of especially productive land or financial encumbrances on landholdings, Morris is certainly right to conclude (1998: 236) that, "the basic point is clear: landholding was unusually egalitarian in Classical Athens."

Another way to assess relative equality of wealth distribution is by measuring income. Walter Scheidel (2009, Scheidel and Friesen 2009) has analyzed the real wages of unskilled workers (i.e. those at the lower end of the economic distribution) in a number of ancient and medieval communities. Scheidel's method is to convert daily income into a "wheat wage" – a well established method of assessing the level of income in different currencies or kind by reference to single standard (liters of wheat per diem).²⁴ The wheat wage can then be used to estimate the proximity of the wage-earner to the base-level of bare survival. Scheidel's figures show that in most premodern societies in which daily wages can be calculated (and thus

converted into liters of wheat/day), wheat wages fell in a fairly narrow “customary wage range” of 3.5-6.5 liters of wheat/day with a median of 5.5 liters/day.

Scheidel (2009: 22) suggests that 3.5 liters/day defines bare existence (living close to the edge of survival) for a nuclear family.²⁵ If we take that level as a baseline below which it is not possible to fall, very far or for very long, and still survive (3.5 liters/day = Survival = 1S), we can then calculate more generous income regimes, featuring higher wheat wages, as multiples of bare existence. Thus the median of the “customary wage range,” at 5.5 liters/day, is about 1.6 x bare existence (= 1.6S). This is enough to get by but is still not far enough above the level of bare survival to be described as comfortable, or even decent conditions of life. Scheidel and Friesen (2009) suggest that wages in the 1-2.3S range (i.e. up to about 8 liters/day) may be regarded as constituting the general category of living at the level of subsistence. Families with incomes of 2.4-10S (about 8-35 liters/day) are considered as living at the level of a decent, “middling” existence – such families could be expected to consume some goods not necessary for existence, and were therefore potential drivers of a supra-subsistence-level, consumption-based economy. Those whose incomes were greater than 10S (over 35 liters/day) are categorized as “elite.” This elite group was a very small part of every premodern population, too small to be a driver of economic growth. Thus, the conversion of wages to wheat wages allows the possibility of estimating the distribution the population of a given society across the broad, but analytically useful categories of subsistence, decent/middling, and elite levels. See Table 4.

Table 4. Per diem income (real wages) expressed as wheat wages and socio-economic categories, after Scheidel 2009 and Scheiden and Friesen 2009.

	Customary range	Subsistence	Decent Middling	Elite
Wheat wage (liters/day)	3.5-6.5 (median 5.5)	3.5-8	8-35	>35
Multiplier x survival (S)	1-1.9 (median 1.6)	1-2.3	2.4-10	>10

Distributing populations into three economic tiers (subsistence, middling, elite) is obviously artificial and reductive; it obscures meaningful differences in levels of welfare and ignores how people defined themselves relative to others. Yet it is analytically useful in assessing and comparing the overall potential economic performance of ancient societies. As noted above, if a given society is divided into a tiny wealth elite on the one hand, and a mass of people living at subsistence at the other, there will be relatively little social surplus, and so economic performance will be correspondingly low. If there is a substantial “middling” population of persons living comfortably above subsistence, then there will be correspondingly more demand for surplus production, making possible relatively higher economic

performance. Scheidel and Friesen (2009: xx) argue that Roman wages fell within the “customary wage range,” and thus that relatively few Roman laborers managed to break above the subsistence level. On the basis of these assumptions, they offer two simple models for the distribution of income across Roman imperial society. The optimistic model is based on assumptions pointing to a relatively more egalitarian income distribution; the pessimistic model employs assumptions that lead to a less egalitarian distribution. The goal is not to specify a single distribution (we simply do not have the evidence to do that) but to develop a general range into which the actual distribution of incomes can reasonably be assumed to have fallen. See Table 5.

Table 5. Income level distribution, Roman Empire. Based on Scheidel and Friesen 2009.

Roman Empire	Elite	Decent Middling	Subsistence
Optimistic %	1.5	12	86.5
Pessimistic %	1.5	6	92.5

The key point here is that even on the optimistic scenario, only a small percentage of the total Roman population fits into the middling category; most residents of the empire lived close to subsistence and thus had relatively little surplus to spend on non-essential goods. On the basis of this model, Scheidel and Friesen (2009: xx) argue that imperial Rome could not generate a very large social surplus, and thus failed to break past the Malthusian constraints limiting the growth of level-level economies.

Athens is the only pre-Hellenistic Greek community for which we have figures for daily wages. On the basis of the available evidence, Athens appears to be one of the very few pre-fifteenth-century CE societies in which daily wages broke out of the level-level “customary wage range.” Construction-work wages and military wages in Athens in the later fifth century averaged 1 drachma/day; the wheat price was about 6 drachmas/medimnos, yielding a daily wheat wage of 9 liters and thus a base-multiplier of 2.6S. This is just above the “middling” floor of 2.4S. In the 320s, unskilled laborers were paid 1.5 drachmae/day; wages for skilled laborers were up to 2.5 dr/day; the wheat price was 5 - 6 dr/medimnos. This yields a range of wheat wages of 13-16 liters/day and a base multiplier of 3.7-4.6S: thus solidly within the “middling” range of 2.4-10S.²⁶ By way of comparison, median wages in Holland, ca. 1500-1800, translate to a wheat wage of 10-17 liters/day, and thus a base multiplier of 2.9 – 4.9S. See table 6.

The evidence for late fourth-century Athenian wages is consistent with what Athenians were being paid for especially important forms of public service: citizens attending a meeting of the Athenian Assembly (which typically lasted a half-day: Hansen 1991: xx) were paid 1dr (30 annual ordinary meetings) or 1.5 dr (10 annual principal meetings).²⁷ The key point is that both in later fifth century BC and, a

Table 6. Athens and Holland, wheat wages. After Scheidel 2009.

Athens	Pay (dr/day)	Wheat price (dr/medimnos)	Wheat wage (liters/day)	Multiplier x survival
Athens 5 th BC	1	6	9	2.6
Athens 4 th BC	1.5-2.5	5-6	13-16	3.7-4.6
Holland 16 th - 18 th CE			10-17	2.9-4.9

fortiori in the later fourth century, Athenians who were engaged in unskilled as well as skilled labor (at least on construction of state-sponsored buildings) were paid wages sufficient to elevate them to a decent, middling premodern standard of living: they no longer hovered at a subsistence level perilously close to bare survival. This is, historically, extremely rare in ancient or medieval societies.

If we assume that this information about Athenian wages is more or less accurate, it allows us to make informed guesses about the distribution of the late fourth century Athenian population into the three general categories of subsistence, middling, and elite.²⁸ The figures on which the following estimates are based are detailed in the Appendix. Following the lead of Scheidel and Friesen (2009), I posit two possible distributions: a “pessimistic” (less equitable) distribution and an “optimistic” (more equitable) distribution. I assume a total population for Athens of just under a quarter-million persons.

Elite status in Athens can be defined (Davies 1971) by a liturgical fortune of 3-4 talents. Assuming a conventional annual return of 1:12, such a fortune, would in fact yield a living standard of roughly 10 times bare survival. The elite population of Athens amounts to a little over 1% of the total. In the optimistic scenario I assume that most citizens and metic males, and even a small number slaves (those who “dwelled apart” from their masters) would be able to make at least one drachma/day on average and so would achieve middling status. In the pessimistic scenario I assume only about two-thirds of citizens, a minority of metics, and no slaves received regular wages at or above the one-drachma/day level. In this simplified model I do not take into account women’s or children’s paid labor; the middling women and children in the Appendix are assumed to be members of “middling” families. Nor do I make any allowance for the historically-exceptional absence of heavy taxes or steep rents paid by Athenian citizens below elite status (cf. Wood 1988). Both productive labor by women and children, and the low-tax/rent regime may push in the direction of more optimistic scenarios than I have presented here. The results are tabulated in Table 7.

Table 7, based in the first instance on the evidence for relatively high Athenian wages, incorporates a number of assumptions some of which may be overly optimistic, notably that the wages recorded in our sources represent something approximating the market standard and that unemployment and under-

Table 7. Income level distribution, late fourth century BC Athens; for calculation, see Appendix.

Athens	Elite	Decent Middling	Subsistence
Optimistic %	1.1	58	41
Pessimistic %	1.1	42	57

employment were not rampant. On the other hand, because achieving middling status required average wages of only one-drachma/day (rather than the reported fourth-century wage level of 1.5-2.5 drachmas/day) there is a fair amount of discounting already built in – even without taking women’s and children’s wages and the relative absence of exploitative taxes or rents into account. In sum, it appears likely that a substantial number of residents of fourth-century Athens lived far enough above subsistence to enable them to live reasonably decent lives. This comparatively large middling population would have had enough surplus consumption capacity to support a consumption-driven economy.

Assuming, for the sake of the argument, that the my model of income distribution in later fourth-century Athens is more or less correct, can we extrapolate from Athens to the wider Greek world? Were high Athenian wages at all typical of the Greek world generally? The answer to that question will depend on how we imagine Greek labor markets as operating. If (counterfactually) we assume labor markets with zero transaction costs (i.e. that there was no restriction or cost, material or psychic, to movement from one part of the Greek world to another, and that people would choose to move to where wages were highest) then Athenian wages would reflect the equilibrium conditions of the Greek world and we could assume that high Athenian wages reflected Hellenic norms. The no transaction-cost assumption is, of course, false: the value of the Athenian evidence for the rest of the Greek world depends on how high the transaction costs associated with moving from one labor market/polis to another actually were.²⁹

The question of how best to model the Greek labor market must remain a topic for future research. Suffice it to say that many non-Athenians *did* choose to live in Athens as metics, and at least some of them did so for economic reasons. Thus, the costs of moving were not so high as to preclude all economically-motivated movement.³⁰ It is, therefore, at least a plausible starting hypothesis that the Athenian wages reflect a Hellenic wage regime that is substantially higher than the 5.5 liter/day wheat wage postulated by Scheidel as the ancient/medieval “customary wage range” median. Suppose, again for the sake of the argument, that in modeling the distribution of consumption across the Greek world, that we cut the percentage of middling persons in the *pessimistic* Athenian model *in half*. The resulting

percentage of “middling” Greeks (a little over 20%) would still nearly double the estimated middling percentage in Scheidel and Friesen’s *optimistic* Roman empire model. All of this suggest, in turn, that there may have been, at least by the later fourth century, a substantial number of Greeks living well above subsistence, and thus that there may have been a correspondingly substantial social surplus produced by the Greek economy. This necessarily tentative conclusion is compatible with the two earlier premises of (1) striking high per capita and aggregate economic growth and (2) a remarkably dense and urban population.

In light of the evidence about income in Athens, and what it might have to say about income distribution in the Greek world, I posit that Morris’ upper range estimate about Greek per capita economic growth is more likely than his lower range. Morris’ upper range assumes that consumption roughly doubled from 800-300 BC. This assumption makes sense when translated into wheat wages. If we assume that in 800 BC an ordinary family’s per capita daily consumption hovered very near the survival minimum of 3.5 liters/day, doubling consumption would mean that by 300 BC the consumption rate was about 7 liters/day. Given that Athenians were being paid at roughly *twice* that rate (13-16 liters/day – a rate that is roughly comparable to the 10-17 liters/day wages in Golden Age Holland) a late-classical Greek median daily income of at least 7 liters seems quite plausible. Under this model, the rate of per capita Greek economic growth would have around 0.15% per annum (compared to ca. 0.1% per annum for the early Roman empire: Saller 2005).

The bottom line is that, when the whole of Hellas is compared to the whole Roman empire at its height, or when the presumptively most advanced Greek state (Athens) is compared to the most advanced early modern European state (Holland), Hellas may reasonably be described as wealthy.

7. Explaining wealthy Hellas

There is plenty of room for debate about just how wealthy Hellas was, but the evidence discussed above, drawn from a variety of primary sources, and modeled in a variety of ways, all points in the same direction. It remains to explain the phenomenon: Why was Hellas wealthy? How did Hellas become wealthy? I will argue below (sections 7 and 8) that the answer to why Greece outperformed other premodern societies is best sought in distinctive Greek institutions: The primary drivers of comparatively strong Greek economic growth were, I will argue, egalitarian rules and institutional innovation. Yet before turning to institutions, two familiar features of the Greek world -- Mediterranean location and exploitation of others -- deserve mention because they can help us to explain the phenomenon of wealthy Hellas.

The physical conditions associated with the Greek world’s Mediterranean location -- including topography, climate, exposure to disease pools, and natural resources – certainly mattered. Mainland Greece has striking features: highly indented coastline; a topography characterized by small agricultural plains amidst rugged but not impassable mountains. Most of the Greek world shared a rare (in

global terms) “Mediterranean” climate (Csa = temperate/dry summer/hot summer in the standard Köppen-Geiger climate classification system: Peel, Finlayson and McMahon 2007). Yet the Mediterranean is also naturally subdivided into many micro-regions each with distinct resources and micro-climate. This made the Mediterranean basin especially well suited for the emergence of complex networks of short- and medium distance trade (Horden and Purcell 2000). Classical Greek authors, for their part, claimed that mainland Greece (and especially Athens) occupied a particularly advantageous location, both climactically and geographically.³¹ There were no doubt profits to be reaped by Greeks who served as Mediterranean middlemen, exploiting a favorable location between the environmentally and economically diverse regions of western Asia (especially after the consolidation of the Persian Empire in the sixth century), northern Europe, and northern Africa (with its two great civilizations, Egyptian and Phoenician).

The physical conditions and location of Greece were potential assets, but focusing on these externalities leaves us with the question of why Greece was especially prosperous, relative to other premodern societies, just in the period 800-300 BC. Why was Greece and not similarly prosperous before or after that time? There is little reason to believe that Hellas was an economic standout before or after 800-300 BC. Greece seems not to have been particularly prosperous, compared to other premodern societies, in the Hellenistic, Roman, medieval, or early modern eras. In the early twentieth century, administrative records suggest that Greece was, per capita, the poorest nation in Europe. So, if the location argument is to explain wealthy Hellas, we need to know why the location of Greece proved extraordinarily valuable in 800-300 BC, but less so before 800 BC and after 300 BC.³²

The archaic/classical Greek world certainly benefited from its location among, yet independent from, large economic zones managed by great empires (notably Persia and Carthage). Yet a somewhat similar situation pertained in the Roman, Byzantine, and Ottoman periods. Of course in those later periods, Greece was not politically independent – and Greeks were therefore subject to paying rents to an imperial center. So, arguably the political independence of Hellas was a key factor in its comparative prosperity. But, *pace* Demaratus and the standard ancient premise, Greek political independence in the face of Persian imperialism was at least in part a product of Greek wealth. So here we run into the problem of endogeneity: It is the exceptional wealth of Hellas that we are seeking to explain. If wealth is part of the location-based explanation (because wealth enables political independence and independence is essential if location is to create exceptional wealth), then location, in and of itself, is no longer an adequate explanatory factor. Location may be part of a causal explanation, but it cannot be the cause pure and simple.³³

Exploitation provides a second possible explanation: The wealth of Hellas was based in part on rents. The economic performance advantage of Greece, relative to other premodern societies, might be explained if we could show that the Greeks extracted more rents at a lower cost than did other premodern societies. There is no doubt that Greeks extracted substantial rents. Throughout the period in question

Greeks exploited various forms of non-free labor, including historically innovative forms of chattel slavery.³⁴ Athens gained very substantial revenues from subject states in the fifth century, during the period of the Athenian Empire (Morris 2009). Moreover, the Greek world gained indirectly from forms of political domination and economic exploitation in regions at its periphery. In at least some cases, domination and exploitation in these peripheral regions arguably emerged because of, and were sustained by, Greek consumption. Grain exported to Athens at below-market prices by friendly Thracian dynasts may be construed as Athenian rents (Moreno 2008).

Yet if we are to explain Greek economic performance by reference to rent extraction via exploitation and domination, we need to answer a prior question: Why were the Greeks (or the Athenians in the imperial period) able to extract more rents than other premodern societies? It seems implausible to explain this (hypothetical) rent-advantage as a matter of will, by claiming that Greeks (or Athenians) had fewer moral qualms about exploiting and dominating in their own interest than did people in other premodern societies. If, on the other hand, something distinctive in Greek institutional development facilitated more effective rent-extraction, then we are back to square one: If we posit that exceptional growth was based on exceptionally effective rent extraction, we must explain how the Greeks managed to gain rents that were “left on the table” by other ancient societies, which were no less willing to dominate and exploit.

One explanation of why Greeks were able to exploit others as slaves or serfs is that the relatively large “middling” population of the Greek world rendered exploitation more efficient, because close cooperation among many middling citizens enabled them to dominate outsiders more efficiently. Sparta, with its many helots, and democratic Athens, with its many chattel slaves and imperial subjects, might be cited as two, somewhat different, cases in point. Similarly, we might suppose that high real wages and a large “middling class” of consumers made widespread slave-owning more economically feasible (Scheidel 2008a: 123-25). Yet now we are once again confronted with an endogeneity problem: The large middling (supra-subsistence) population of the Greek world is an aspect of the general wealthy Hellas phenomenon we are seeking to explain. So to the extent that coordination among middling citizens or high real wages is part of the exploitation-based explanation, exploitation becomes inadequate as a stand-alone causal factor.

While due attention to physical location and exploitation must be part of any serious attempt to explain the performance of the Greek economy, each of these factors seems inadequate, in and of itself, to explain the phenomenon of wealthy Hellas. Below I suggest two other explanatory hypotheses: First is that Greek “rule egalitarianism” (by which I mean a commitment to equal standing of persons in respect to major public institutions) drove economic growth, first by creating incentives for investment in the development of human capital, and next by lowering transaction costs.³⁵ The second hypothesis is that economic growth was fostered by continuous innovation. Competition among states within the dispersed-authority city-state ecology created incentives for institutional innovation (i.e. for developing new

and more effective forms of intra- and inter-polis cooperation), and promoted interstate borrowing of “best practices.”

I do not claim that the institutional hypotheses I offer below are adequate to explain wealthy Hellas. I am aware that each of my hypotheses potentially suffers from the endogeneity problem to which I alluded above. That is to say, the phenomenon I am seeking to explain, Greek wealth, eventually became a driver, as well as a product, of egalitarian rules and of competitive innovation and learning. Institutions cannot be the whole story. But without understanding how distinctive Greek institutions promoted increases in productivity and in the value of exchanges, we can not explain why and how Hellas became wealthy. Reiterated *caveat*: in the following two sections I illustrate (which is far from proving) the hypotheses with examples of Greek institutions. Because of the nature of our evidence, I employ Athenian examples. Athenian institutional development was exceptional in many particulars, but the general institutional features on which I focus were not unique to Athens.

8. First Hypothesis: Rule egalitarianism, human capital, and transaction costs

It seems uncontroversial to say that Greek society was characterized by historically exceptional levels of equality in terms of access of native males to key public institutions. The norms and rules of Greek communities tended to treat native males as deserving of some level of standing before the law, participation in decision-making, and dignity in social interactions. No Greek community was ever rule-egalitarian “all the way down” – women, foreigners, and slaves were never treated as true equals. But among native males, the level of equality was remarkable when compared to other premodern (indeed pre-twentieth century) societies. Evidence of a turn to relatively strong forms of egalitarianism begins in the 8th century (Morris 1987). In many Greek poleis of the later archaic and classical eras, rule egalitarianism among native men was codified in the form of republican government, eventually including Athenian-style democracy. Some Greek communities were, of course, considerably more rule-egalitarian than others. But even Greek oligarchies were strikingly egalitarian by the standards of premodern societies (Runciman 1990). Likewise, the constitutional development of individual polis communities was certainly not uniformly in the direction of greater equality of access for natives. Yet it seems uncontroversial to say that, with the increasing prevalence of democracy, the median Greek polis was more rule-egalitarian in ca. 300 BC than it had been 500 (or even 200) years previously.³⁶

8.1 Human capital

Social norms and rules that treat individuals as equals can have substantial effects on economic growth by building aggregate human capital (i.e. by increasing both median skill levels and the societal store of knowledge). Relative equality in respect to access to institutions (e.g. law and property rights) encourages investments by individuals in learning new skills, and increases net social returns to employment of

diverse skills. It does so because norms and rules that protect legal standing, property rights, and dignity lessen fear of the powerful. When I believe that my person, property, and standing are secure (in that I have institutional recourse if I am affronted or assaulted), I am less afraid that the fruits of my efforts will be expropriated arbitrarily by those more powerful than myself. In this case I have better reasons to seek my fortune and to plan ahead. It is rational for me to invest in my own future by seeking out domains of endeavor in which I can do relatively well – that is, to seek a relative economic advantage. I also have a higher incentive to invest effort in becoming more expert within that domain. I will rationally choose to defer some short term returns by spending time and energy gaining information and developing skills and that I believe will enable me to do better in the long run.³⁷

This sort of rationally chosen individual investment in human capital development will, in the aggregate, have positive economic effects through increasing specialization and productivity (Harris 2002). By investing in learning (or, expropriatively, investing in skilled slaves or teaching slaves skills), each individual becomes correspondingly better at whatever endeavor he or she is engaged in. Individuals who choose to invest in themselves, who have freedom to seek out different domains, and who have specific natural capacities (e.g. high intelligence) have reason to seek out those domains (e.g. some sort of knowledge-intensive work rather than manual-labor-intensive subsistence farming) in which their capacities can be more effectively exercised. Productivity increases because greater specialization of economic function produces goods more efficiently and because workers in each specialized domain, having invested in gaining expertise, are more individually productive. Thus better goods will be produced at a lower cost, enabling more people to consume goods at a higher level.

Along with providing institutionalized security against expropriation, some Greek states encouraged investment in learning skills relevant to the provision of valuable public goods.³⁸ In Athenian-style democracies, incentives, in the form of pay and honors, were offered for public service. The opportunity to do public service was made readily available to all citizens by opening access to decision-making assemblies to all citizens and by the use of the lot for selection of magistrates and jurors. At Athens, by the fourth century, incentives included pay for service as a magistrate, assemblyman, or juror. Incentives to gain the skills necessary to be an effective provider of public goods included not only pay but also honors and sanctions. Those whose service was deemed especially valuable to the community were rewarded by public proclamations and honorary crowns. Those whose service fell short, on the other hand, faced the potential of legal and social sanctions (Hansen 1991: 314).

A third set of rule-egalitarian incentives for human capital investment came in the form of institutions that limited risk. All things being equal, people are more likely to make investments with potential upside benefits when the risk of downside loss is limited. Suppose, for example, that I am a subsistence farmer; my family has a median “core range” income of 5.5 liters of wheat per day: i.e. 1.6S (see above,

section 6). I have the opportunity to take on a potentially lucrative new enterprise, but only if I invest in learning some new skill. There is a better-than-even chance that the enterprise will be successful and if it is successful, it will elevate my family to the relatively greater security of middling status (say, 3S). But the new enterprise means less time spent on subsistence farming. If there is a realistic risk that the failure of the new enterprise will leave my family beneath 1S (i.e. threatened with annihilation), I am unlikely to take on the new enterprise unless I have an exceptionally high tolerance for risk. If, however, I believe that the worst that can happen is that my family will fall to say, 1.3S, I am more likely to take on the new enterprise.

State institutions that insure citizens against catastrophe will, therefore, enable individuals to take on somewhat riskier investments. Although such policies raise the specter of moral hazard (“privatizing gains and socializing losses”), if the risk-limiting insurance institutions are properly designed (i.e. only part of the loss is socialized), they serve an equalizing function. The playing field is leveled because the stakes for the poor are lowered from extinction to survivable loss. And so the poor man can reasonably afford to take a risk that would previously have been open only to a somewhat wealthier man. Assuming (as we have in the hypothetical above) that high-benefit enterprises are readily available and the chances of success are better than even, such policies will, over time, lead to more people advancing to middling status. Although some risk-takers will suffer losses, and so their families will be poorer, the net effect is obviously growth positive. Athenian “public insurance” institutions included grain price stabilization and subsidization, welfare provisions for invalids, and state-supported upbringing of war orphans.³⁹

Examples of economically valuable individual human capital investments in the Greek (and a fortiori Athenian) world that could plausibly have been promoted by rule-equality include literacy, numeracy (Netz 2002), and mastery of banking and credit instruments (Cohen 1992). Other, perhaps less obvious investments in human capital included military training, mastering various aspects of polis governance (e.g. rhetoric and public speaking, public finance, civil and criminal law), and individual efforts to build bridges from one social network to another (Ober 2008 chapter 4).

8.2 *Transaction costs*

An important determinant of economic performance is the cost of exchanging goods and services. Voluntary transactions obviously enhance welfare insofar as they benefit both parties; that is, insofar as each party fares better than if the transaction had not taken place. Under such conditions, the more transactions that are undertaken, and the greater the benefit to each party, the better the economy will do as a whole. All things being equal, the more it costs each party to undertake a transaction, the less likely it is that a mutually beneficial transaction will take place. So, once again holding all other factors steady, higher transaction costs are growth negative; lower transaction costs are growth positive.⁴⁰

Inequality, in respect to access to information relevant to a transaction, or in respect to institutions potentially affecting a transaction, drive up transaction costs. Relevant sorts of information include, for example, the laws governing market exchanges; weights, measures, and quality standards; and the value of the currency being offered. Relevant intuitions include property rights, contracts, and dispute resolution procedures. In the case of unequal access to information or institutions, the disadvantaged party must raise the price of the goods or services in question to discount for the missing information or lack of institutional support. As the price goes up to cover these inequality costs, the benefit to the other party drops accordingly. And thus, either the transaction between the parties is carried out with less aggregate benefit, or it fails because no mutually beneficial price could be arrived at. In the opposite situation, where information and access to institutions are more equal, transaction costs are lower and thus economic growth is (at least potentially) higher. As North, Wallis and Weingast (2009) demonstrate, the high transaction-cost, access-limiting social order is historically common. Such societies can be stable, but they are economically unproductive relative to societies characterized by more open access to information and institutions.

Relatively egalitarian institutional regimes, like those of Greek city-states, ought, according to the transaction-cost argument developed above, to be (all else being constant) more economically productive than inegalitarian regimes. Moreover, the transaction cost benefit ought to increase if access is made more equal over time. Greek weights and measures were standardized in several widely-adopted systems in the archaic and classical periods. In the case of democratic Athens, access to information and institutions did become somewhat more open and equal, as the laws were increasingly standardized (e.g. in the legal reforms of 410-400 BC), better publicized (e.g. by being displayed epigraphically), and more efficiently archived (Sickinger 1999). The Athenian state provided traders with free access to market officials and specialists in detecting fraudulent coins (Stroud 1974). Parties to certain commercial transactions were put on a more equal footing with the introduction of the special “maritime cases” (*dikai emporikai*) in which metics, visitors, and probably even slaves had full legal standing (Cohen 1973).

9. Second Hypothesis: Innovation, inter-community competition and learning

Innovation is a primary driver of economic growth; societies that depend on rent extraction rather than continuous innovation face hard ceilings restricting growth (Baumol 1993). We often think of economically productive innovations as technological; improved energy capture (use of fossil fuels) was, for example, a obvious driver of the historically remarkable rates of economic growth in the 19th and 20th centuries. Although the archaic/classical Greek world certainly saw many technological advances, the Greek world was not, on the face of it, a standout in premodern technological development; it is unlikely that technological innovation explains superior Greek economic performance.⁴¹ Technology is, however, only one domain in which continuous growth-positive innovation is possible. The Greek

world was arguably exceptional in its development of new social institutions that served to increase the level and value of social cooperation. Valuable institutional innovations were spurred by high levels of local inter-community competition and spread by inter-community learning.

Just as it is uncontroversial to say that the Greek world was comparatively egalitarian in its norms and rules, so too it is uncontroversial to say that the Greek world was characterized by high levels of local competition. The competition among Greek communities was a high-stakes affair, potentially ending in the loss of independence, loss of important material and psychic assets, or even annihilation (Ober 2008: xx). The high level of competition between rivals placed a premium on intra-community cooperation. One of the basic lessons Thucydides offers his readers (positively in Pericles' Funeral Oration in book 2, negatively in the Corcyra narrative in book 3) is that communities capable of coordinating the actions of an extensive membership had a better chance to do well in competitive situations (Ober forthcoming).

Social institutions can provide both incentives for cooperation and mechanisms facilitating coordination (Weingast 1997), and classical Greeks were well aware of this (Ober 2009). One result of endemic Greek inter-community competition was, therefore, a proclivity to institutional innovation: a state that succeeded in developing a more effective way to capture the benefits of cooperation across its population gained a corresponding competitive advantage vis à vis its local rivals. Not all Greek communities were equally innovative, but the Greek world saw what appears to be a strikingly high level of institutional innovation across the ecology of states over the 500 years in question: major domains of continuous institutional innovation include citizenship, warfare, law, democracy, and the *koinon*.

Greek communities readily learned from one another. Every new institutional innovation was tested in the competitive environment of the city-state ecology. Many innovations were presumably performance-neutral – that is, they had no significant effect on the community's relative advantage in competitions with rivals. Other innovations would, over time, prove to be performance-negative. If, however, an innovation adopted by a given polis was believed to have enhanced that polis' performance, there would be prima facie reason for other poleis to imitate it. There were, of course, many reasons for polis B *not* to imitate polis A's a performance-positive institution. Most obviously, the new institution might be disruptive to polis B's existing social equilibrium, a disruption that would, among other undesired outcomes, result in a net loss of cooperative capacity. Yet in other cases, the perceived chance to improve polis B's performance, and thus do better relative to its rivals, would be a sufficient incentive to adopt polis A's innovation. Some innovations would be adopted regionally; some highly successful innovations would, over time, be widely adopted across the polis ecology. In addition to the institutions mentioned above, widely (although never universally) adopted institutional innovations included coinage, euergetism, the "epigraphic habit," diplomatic arrangements (*proxenia*, *asylia*, etc.), theater, and cult.

While a regional hegemon might encourage or discourage adoption of a given institution (e.g. mandatory oligarchy in the fifth-century Peloponnesian League: Thucydides 1.19; monetary and weight standards in the Athenian empire: Figueira 1998), there was no central authority in the Greek city-state ecology to mandate when or how widely a given innovation was adopted. The extended city-state environment thus operated as something approaching an open market for institutions. Opportunity for imitation was facilitated (transaction costs lowered) by the ease of communication across polis borders, which was, in turn, facilitated by the shared culture of the Greek world. Some impediments to institutional learning between modern nations, e.g. differences of language and religion (Laitin 2007), were much less salient in the Greek world. Because this “market in institutions” favored the development and dissemination of more effective modes of cooperation, Hellas grew wealthier.⁴²

10. Conclusions and prospect

The rule-egalitarianism and continuous innovation hypotheses, taken together, suggest an explanation, not only to for why Hellas grew wealthy, but also for the “Greek miracle” – the cultural efflorescence during the archaic and classical periods, which resulted in the development of new and influential forms of art and architecture, literature, visual and performance art, scientific and moral thought. The “Greek miracle” may be partially explained by the conjunction of high investment in human capital, low transaction costs, continuous competitive innovation, and widespread cross-community learning. Individuals benefited from economic specialization and exchanges of goods and services; the chance to gain more benefit (fame and honor as well as wealth) drove incremental improvements in existing domains (e.g. hoplite tactics, lyric poetry), and led innovators to pioneer new domains (e.g. peltast tactics, tragedy and comedy). Innovations spread readily across the ecology (e.g. Doric and Ionic architectural orders, epic poetry). Advances in communications technology (e.g. alphabetic writing) were quickly adapted to multiple domains (e.g. poetry, philosophy, law, contracts). Goods and services developed in the high human capital/ low transaction cost/ innovation-and-learning driven Greek context were readily exported to regions on the periphery of the Greek world (e.g. red-figure pottery; mercenary soldiers, doctors, architects). In return the Greeks imported grain, raw materials (timber, copper) -- and slaves.

In order to be of real explanatory value, hypotheses must be at least potentially testable and falsifiable. The two hypotheses offered here, could, at least in principle, be tested by examining changes over time in the Greek world as a whole, and differences among communities within the Greek world. The explanandum (dependent variable) is the growth of wealth, in Hellas as a whole and in individual poleis, across the period 800-300 BC. The first hypothesis would be falsified if, as wealth increased, egalitarian institutions declined across the Greek world. Likewise, it would be falsified if, when we compare poleis, there proved to be a negative correlation between wealth and egalitarian institutions. If the least egalitarian poleis

were also the wealthiest, the hypothesis must be wrong. The second hypothesis can be falsified by showing a negative correlation between innovation and wealth: if the most innovative poleis are the poorest, then continuous innovation cannot be the right explanation for why Hellas was wealthy. Since the existing evidence seems to support neither falsification condition, I suppose the hypotheses can stand – which is, of course, a long way from claiming that they have been proved right.

This article is barely a beginning. Much more work needs to be done before the “wealthy Hellas” thesis can be regarded as proven. We need more proxies for well-being; finer-grained demographic evidence; better data on the distribution of wealth and income. Before the hypotheses can be regarded as proven, we need to answer problems about endogeneity and the direction of causation: Does equality drive investment in human capital and lower transaction costs, resulting in economic growth -- as I have argued? Or might the direction of causation be the other way around? Am I right to say that competition drove overall economic growth via increased institutional innovation and inter-community learning, or is did increasing wealth exacerbate inter-community competition? There were surely feedbacks between equality, human capital, transaction costs, competition, innovation, and learning – it seems likely that Hellenic wealth grew in the context of a “virtuous circle” among these (and no doubt other) factors. Yet that conclusion does not obviate the requirement of isolating primary causal factors before claiming that we have explained the performance of the Greek economy.

One final question: Assuming the three premises are right, are *two* hypotheses actually needed to explain wealthy Hellas? Can we dispense with either rule egalitarianism or continuous innovation? I tend to think we must invoke both equality of access to institutions *and* institutional innovation if we are to understand what is distinctive about the performance of the Greek economy. But this in turn means that we ought to be able to test the interdependence of the hypotheses. One preliminary test would be to ask whether especially important and widely adopted institutional innovations tend toward or away from equality of access to institutions. The development of democracy as a particularly strong form of rule-egalitarian intra-polis cooperation and the development of the *koinon* as a strong form of rule-egalitarian inter-polis cooperation seem to me to offer particularly salient test cases. As I write, major advances are being made in empirical studies aimed at determining how prevalent democracy and *koinon* membership actually were, over time, across the Greek city-state ecology.⁴³

In light of new opportunities for collaboration between humanists and social scientists, and in light of new technologies and methods for collecting and assessing data, there is good reason to hope and expect that the wealthy Hellas thesis will be properly tested. And I expect that it will be only one of many new theses about ancient economies that will be formulated, tested, and reconfigured in the coming years. The golden age of ancient economic studies has, I believe, only just begun.

Notes:

¹ Professor, Stanford University, jobber@stanford.edu. The paper was presented at the Delphi conference and published to the *Transactions of American Philological Association*, 140:2 (2010), 241-286. Reprinted with permission of The Johns Hopkins University Press.

² This development is signaled especially in Manning and Morris 2005; Scheidel, Morris, and Saller 2007; cf. further the works cited in note 4, and below. Social scientists, economists and political scientists alike, are also working actively on ancient economies: on the Greek side and *exempli gratia* only: Fleck and Hansen 2006; Lyttkens 2006; Kaiser 2007; Karayiannis and Hatzis 2007; Kyriazis 2009; Pitsoulis 2010.

³ See, for example, Callataj 2005; Bang 2007; Hopkins 2009; Bowman and Wilson 2009; and parts V-VIII of Morris, Scheidel, and Saller 2007.

⁴ Although see the relevant chapter in Morris, Scheidel, and Saller 2007: Morris 2007, Osborne 2007, Davies 2007, Möller 2007, and von Reden 2007.

⁵ A very incomplete selection of seminal work on various aspects of the Greek economy published since 2000 includes Horden and Purcell 2000; Bresson 2000 and 2007; Meadows and Shipton 2001; Cartledge, Cohen, and Foxhall 2002; Scheidel and von Reden 2002; Manning and Morris 2005; Eich 2006; and the relevant chapters of Scheidel, Morris, and Saller 2007. Other works are cited below, but there is, to repeat, not anything approaching a proper literature review.

⁶ There is some reason to believe that the economic trends previous 500 years did not continue into the third century in what had been the Greek world before Alexander: Reger 2007: 481-83.

⁷ Edmund Burke (1985), in a seminal article on "Lycurgan finances," was among the first to emphasize late-classical Athenian prosperity; this article (along with Burke 1990, 1992) helped to open my eyes to the issues addressed here.

⁸ Another key passage is Herodotus 9.82 (King Pausanias compares royal Persian and Spartan dinners and mocks the wealthy King of Persia for seeking to steal Hellas' poverty). Modern citations of Hdt 7.102.1: Michell 1963 [1940]: 352, Ste. Croix 1983: 117, Migeotte 2009; Cf. Hdt 8.102.1, 8.111.3, Men. *Dys.* 603-6, Diod. Sic. 9.37.2, Aristoph. *Pl.* 436ff., Alcman F 64, Xen. *An.* 3.26, Plato, *Crit.* 111b4-7: references from Desmond 2006. Not all ancient historians accepted the standard ancient premise: Chester Starr (1977) believed that economic growth was a key factor in Greek social history, but the no-growth argument canonized in Finley 1999 [1973] largely carried the day.

⁹ I discussed this issue in Ober 2008: 276-80.

¹⁰ Morris 2004, 2005, 2007; cf. Reden 2007. It is important to keep in mind that no estimate of ancient economic change (aggregate or per capita) is fine-grained. All that can be estimated is change over relatively long periods of time. These long periods would certainly have included short-term eras of negative growth as well as eras of positive growth. For the mix of positive-growth and negative-growth years in

modern societies, see North, Wallis, and Weingast 2009: 5-6 with Table 1.2. Thus, although the general trend of Greek economic growth was positive over the 500-year period 800-300 BC, a given generation might have experienced substantial overall negative growth.

¹¹ My thanks to Elaine Matthews of the Lexicon for Greek Personal Names, who provided access to beta-versions of the online database. Breakdown of numbers by century (men/women): 7th: 75/9, 6th: 1062/124, 5th: 5234/436, 4th: 14714/2424.

¹² This *IGCH* data was collected and analyzed, beginning in 2005, by myself and David Teegarden; cf. discussion in Ober 2008: 285-86. Much more accurate data on coins in Greek hoards is currently being compiled under the direction of Peter van Alfen at the American Numismatic Society.

¹³ Roman population; world population: Scheidel 2007. By comparison, the population of the U.S. is currently about 4.25% of the world's population.

¹⁴ As noted above, Hansen's "catchment area" for mainland Greece is different from that of Morris (2004: Aegean, south Italy, and Sicily). Hansen's estimate of the population of mainland Greece is not radically different from that of earlier demographers (see Scheidel 2008), although his high estimate, at least, is probably somewhat higher than that of Morris.

¹⁵ Definition of rents: Krueger 1973.

¹⁶ Of course, because the Roman world was much larger, the total number of Romans living in towns (ca. 7-8.5 million) was much greater than the number of urban Greeks (ca. 2.25 – 3 million).

¹⁷ Bresson 2000, 2007. Horden and Purcell 2000, characterize ancient Mediterranean trade as defined by intricate networks of interdependent regional exchange, based on a multiplicity of micro-environments.

¹⁸ Disease: Scheidel 2007; squalid conditions in England and Holland: Kron xx.

¹⁹ Life expectancy at birth: Morris 2004: xx, Kron 2005.

²⁰ Scheidel and Friesen 2009: xx, discuss the literature on egalitarian distribution of income and economic growth.

²¹ Kron xx.

²² Kron xx. Calculation is based on Athens citizen male population of ca. 31,000. Of these, 9,000 meet 2,000 dr. census in 322 BC. Cost of a typical large Greek house: ca. 1,000-2,000 dr; house prices in inscriptions as low as 200 drs.

²³ Kron xx.

²⁴ Of course most people were not paid in wheat, and in many ancient societies they they may not have eaten wheat as a staple. The method is similar to the converting of modern incomes from different countries and over time into, e.g. "1990 dollars per annum."

²⁵ This is consistent with calculations of Markle 1985, who demonstrated that 3 obols/day (a juror's pay in Athens: a wheat wage of ca. 4.5 liters, per the figures, below) would in fact be adequate for subsistence.

²⁶ In Delos in the 3rd century BC the wheat wage was 8 liters/day – thus a multiplier of 2.3 – barely below the “middling” floor: Scheidel 2009.

²⁷ See, further, Gabrielsen 1981; Hansen 1991: 314.

²⁸ I focus on the late fourth century-population because Hansen’s (2006) “shotgun method” demographic model focuses on that period. Moreover, Athens did not have an empire in the late fourth century and thus was, in this way at least, more similar of other large poleis.

²⁹ On Greek labor markets and inter-polis movement of workers, see Davies 2007.

³⁰ See, further, Whitehead 1977; McKechnie 1989.

³¹ Advantages to location: Aristotle, Herodotus, Hippocratic tradition; Ps-Xenophon, Xenophon. Mediterranean climate: Allbaugh 1953: 16.

³² Bronze Age: Bennet 2007; Early Iron Age: Morris 2007; third century BC: Reger 2007: 481-82; Roman Greece: Alcock 1993 and 2007. Early 20th century Greece: Allbaugh 1953, esp. 15: “Greece, before World War II, had the lowest per capita national income of any country in Europe.”

³³ On the problem of endogeneity in explanation, see King, Keohane, and Verba 1994: 185-94. Another test would be to ask if other, non-Greek, societies that shared the advantageous location economic standouts in 800-300 BC; Cyprus, Thrace, and Sardinia are possible test cases.

³⁴ Slavery and unfree labor: Scheidel 2005, 2008; Bang 2009.

³⁵ My neologistic phrase “rule egalitarianism” is modeled on the term “rule utilitarianism,” commonly used by ethicists. The rule utilitarian focuses on social rules (as opposed to individual acts) that will maximize aggregate welfare. The rule egalitarian focuses on rules that maximize individual equality of standing (as opposed to equal distribution of goods). Rule egalitarianism may be thought of as limited form of opportunity egalitarianism. Of course a rule egalitarian may *also* be an outcome egalitarian and/or full featured opportunity egalitarian; the point is that it is possible for an individual or society to be committed to equality in respect to rules governing standing without being committed to equality of outcomes or all social opportunities.

³⁶ Greek egalitarianism. Morris, Raaflaub, et al. Cf. Runciman on Greeks too democratic.

³⁷ Cf. North, Wallis, and Weingast 2009, who emphasize the importance of individuals being treated impartially in institutional contexts. Note that I assume here not only formal equality but some degree of freedom of choice: obviously in practice this varied considerably, but it is the overall effect of differences in opportunities and incentives that produces the result of relatively greater investment in human capital.

³⁸ This sort of investment in political, rather than specifically economic, skills may be a driver of increased use of slaves and other forms of unfree labor: Scheidel 2008: 115-23.

³⁹ Public insurance and risk: Burke 2005; Möller 2007: 375-83; Ober 2008: 254-58. Mackil 2004 show how which a somewhat similar risk insurance mechanism operated in some inter-polis relations.

⁴⁰ Transaction cost economics applied to antiquity: Kehoe and Frier 2007; Ober 2008: 115-16, 214-20, 234-39. This topic was the subject of a 2009 workshop sponsored by the Center for Hellenic Studies; the proceedings are being edited by the workshop organizer, Uri Yiftach-Firanko (Hebrew University: Jerusalem).

⁴¹ Technology in the Greek world: Greene 2000; Schneider 2007; Oleson 2008.

⁴² Innovative adaptations of the institution of coined money is a good case in point; for some particularly interesting innovations in this domain, see Mackil and van Alfen 2006.

⁴³ Frequency of democracy: a project in progress by David Teegarden (University of Buffalo) and Tim Johnson (Stanford University); frequency of koinon membership for mainland Greek poleis: an ongoing project by Emily Mackil (University of California: Berkeley).

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Appendix: Athens, late 4th c. BC income distribution models.

	elite	middling	subsistence	Total
OPTIMISTIC				
citizen men	400	24500	5000	29900
citizen women	400	24500	5000	29900
children of citizens	1000	61250	12500	74750
metic men	200	7500	2500	10200
metic women	200	3750	500	4450
children of metics	500	9375	1250	11125
slaves (total)	0	8000	72000	80000
TOTAL	2700	138875	98750	240325
% of TOTAL	1.1	57.8	41.1	100
PESSIMISTIC				
citizen men	400	19500	10000	29900
citizen women	400	19500	10000	29900
children of citizens	1000	48750	25000	74750
metic men	200	4500	5500	10200
metic women	200	2250	1100	3550
children of metics	500	5625	2750	8875
slaves (total)	0	0	80000	80000
TOTAL	2700	100125	134350	237175
% of TOTAL	1.1	42.2	56.6	100

Assumptions:

Elite = liturgical fortune, which is >3-4T Davies APF), and >10x subsistence

Subsistence minimum = 100 drachmai/year

Middling = 2.4 - 10 x subsistence (Scheidel and Friesen 2009)

Cleisthenes' Choice: The Emergence of Direct Democracy in Ancient Athens

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Abstract. The paper uses political economy methodology to analyze the shift from aristocracy to democracy at the end of 6th century BC in ancient Athens. It is argued that conditioned by pre-existing institutional arrangements and the political conflicts of the time, Cleisthenes, the constitutional framer, chose the institutions that maximized his expected net benefit. Involving the citizens directly in political decision making provided strong protection against the threats to their standing and led to the establishment of direct democracy using a simple majority rule rather than representative government.

JEL Classification: D7, N4.

Key words: Ancient Athens, Direct democracy; Majority voting; Cleisthenes

1. Introduction

Modern political economy examines the shift from aristocracy, rule by birth rights, to democracy, rule by the consent of the governed, as a game with multiple equilibrium points. One equilibrium point is the contemporary representative democracy which emerged during the 19th and first half of the 20th century. Another equilibrium point is the direct democracy of the type practiced in ancient Athens during the 5th and 4th century BC. The purpose of the present study is to employ some intuitions developed in examining the former equilibrium to explore the foundation of the latter.

Ancient Athens is hailed as the place that invented democracy in the 6th century BC. Democracy consolidated in 509 BC with the constitutional reforms of Cleisthenes and lasted until 322 BC, when it succumbed to the might of Macedon. Perhaps more significantly, the Ancient Athenians practiced direct democracy, where “citizens assemble and *vote directly* on public issues” (Mueller, 1996, p.94, emphasis added) rather than representative democracy where citizens vote for political representatives who then decide policy. Contrary to the contemporary indirect democracy, in the Athenian democracy any ordinary citizen could propose a bill to the Assembly of citizens on which a vote would then be taken by simple majority.

After the establishment of democracy, Athens rose quickly to become the greatest naval power of its time and enjoy unparalleled levels of wealth which consistently translated into extraordinary intellectual and artistic achievements. There is little doubt that direct democracy was instrumental in this process and the

success of Athens. Scholars have explored in detail the structure of the Athenian democracy and its role in the rise of Athens. This mode of analysis considers democracy as an explanatory variable which determines the performance of Athens. The present study pursues a complementary line of investigation by treating direct democracy as the explained variable and seeks to identify what factors explain its emergence. Specifically, in accordance with the methodology of political economy, it views the principal players at the time of constitutional reform as rational actors who set up the institutions of collective choice expected to best advance their interests, and uses such notions to analyze the extension of voting and wider political rights to poorer classes of Athenian citizens and the adoption of direct decision making with a simple majority rule.

The present work is part of a growing literature using the intuition and formality of economic analysis, and especially collective choice and game theory to explore several issues regarding the structure of governance of ancient Athens. Fleck and Hanssen (2006) focus on the ability of democratic institutions to mitigate time inconsistency problems and encourage investment. Lyttkens (2006) applies the model of rational choice to show that competition among the members of the elite led to the formation of the city-state (polis) as a political and judicial unit, with a defined territory, an assembly, council, magistrates and written laws. Lyttkens (2010) uses the framework of New Institutional Economics to study the institutional development of ancient Athens and the nexus between institutional changes and economic performance. Using an asymmetric-information game-theoretic framework, Kaiser (2007) analyses the system of liturgies by which wealthy Athenians, instead of the state, paid for the provision of various public goods, including defence and how the mechanism dealt with issues of efficiency, feasibility, and budgetary balance. Ober (2008) examines the contribution of democracy to the power and wealth of Ancient Athens and argues that success was built on democratic institutions, which along with a civic culture, led to the organisation and distribution of knowledge among citizens. Kyriazis (2009) uses a public choice framework to examine the Athenian public finances during the 4th century BC and especially the bargains struck between rich and poor in financing civilian and navy expenditures. Bitros and Karayiannis (2010) dwell on the moral norms of Athens and Sparta arguing that the comparative economic success of Athens was based on market-friendly, growth-promoting institutions. Since the success of institutions depended partly at least on the integrity of the men administering them, it was important that these men were motivated by moral norms which were compatible with those institutions. The moral norms of Athens included virtue, moderation, honour (social esteem), respect of the liberty of others, defence of the Athenian way of living and aversion towards the acquisition of undue power by any individual, values promoted by a system of education which emphasized the strength of both body and mind.

The paper is structured as follows. Section 2 briefly describes the events of the late 6th century BC that led to the birth of democracy and some major components of the Athenian governance structure. Section 3 discusses what intuition

the modern political economy literature can offer to understand the extension of suffrage in ancient Athens. Section 4 surveys the reasons why ordinary voters may prefer policy making by direct or representative democracy. Section 5 deals with the origin of majority voting, typical of direct democracy practices. Section 6 accounts for the motive of an agenda setter to introduce direct or indirect democracy, while Section 7 focuses on the interests and actions of Cleisthenes, who as agenda setter at the time, introduced the new democratic dispensation. A short conclusion follows.

2. A selective historical and institutional account

The history of how Athens moved from aristocratic rule, organized around the archons and the Council of *Areopagus*, to democratic rule, including the aristocratic conflicts, the reforms of Solon and the tyranny of Peisistratus, is well known. So is the institutional structure of the Athenian government, which integrated an intricate complex of collective bodies embracing the Assembly of citizens, the Council of the five Hundred, the Board of ten Generals, other Magistracies and the popular courts. They do not need to be repeated here and a brief summary will suffice; for thorough accounts the interested reader is referred to amongst others, Hansen (1999) and Ober (2008).

Briefly, the tyranny established by Peisistratus in 546 BC was overthrown in 510, when his son Hippias was expelled from Athens. In the subsequent struggle for power, Isagoras, an aristocrat, seemed to prevail against Cleisthenes another aristocrat and member of the Alcmeonids family. Cleisthenes responded by allying himself to the common people – *demos* – by proposing constitutional reforms which would provide for wider political rights. Isagoras then asked the oligarchic Sparta, renown for the best military of the time, for help to establish him in office. A Spartan expeditionary force arrived in Attica, occupied the city and expelled Cleisthenes and 700 of his followers. However, when the Spartans attempted to dissolve the legislative council and establish a new government faithful to Isagoras, the Athenian *demos* confronted them.² They were forced to leave and Cleisthenes returned in 508. He then introduced a series of fundamental constitutional reforms, determining citizenship rights and the powers of the Assembly of citizens which led to the foundation of democracy.

Citizenship rights were extended to all adult resident males (limited by Pericles in 451 to those of their descendants whose both parents were Athenians). Cleisthenes divided the citizens of Attica into three geographical sections (Urban, Inland and Coast) and each geographical section was then divided into ten parts. The thirty parts were reconstituted into ten new tribes ("*phylae*"); each tribe comprised parts from each one of the three geographical sections allocated by lot, so that "a tribe included citizens from quite different parts of Attica, with widely differing traditions and economic bases" (Hansen, 1999, p.103). As a result, the interests that the members of a tribe had in common were those that all citizens of Attica had in common. Each tribe was subsequently divided into geographically based communities called *demes*, numbering a total of 139. As a result of these changes,

conflicts based on geographical divisions (which in turn reflected aristocratic influences and allegiances) were eliminated and a national army was formed.

The new system proved immediately successful as in 506 the Athenian hoplite force – infantry – defeated a hostile coalition of Sparta, Boeotia and Chalcis. The Assembly of citizens became the principal decision making body. It decided all important issues of public interest, including public finance, foreign policy, war and peace, passed laws, elected magistrates, including the generals and chief financial officers, and tried public officers for corruption and treason. All Athenian men from the age of twenty years could participate, while those aged thirty and above could also be appointed to executive or jury office. By the mid of 5th century all citizens regardless of wealth had the right to address the Assembly. Any private citizen could introduce a motion for discussion. After listening to the speakers, voting took place by show of hands and decisions were taken by simple majority.³ Unlike representative democracy, in assembly debates “rhetoric, the ‘art of persuasion’, was the most important weapon in the competition between political leaders” (Hansen, 1999, p. 306). It appears that the members of the assembly were noisy listeners, since they were vociferously and emphatically responding to public speakers. Pay for those attending an assembly session (standing at half the average daily wage for a session lasting approximately half a day), was introduced at the turn of the 4th century and was paid to the first 6000 coming to a session – the number required to form a quorum (ibid, p. 150).⁴

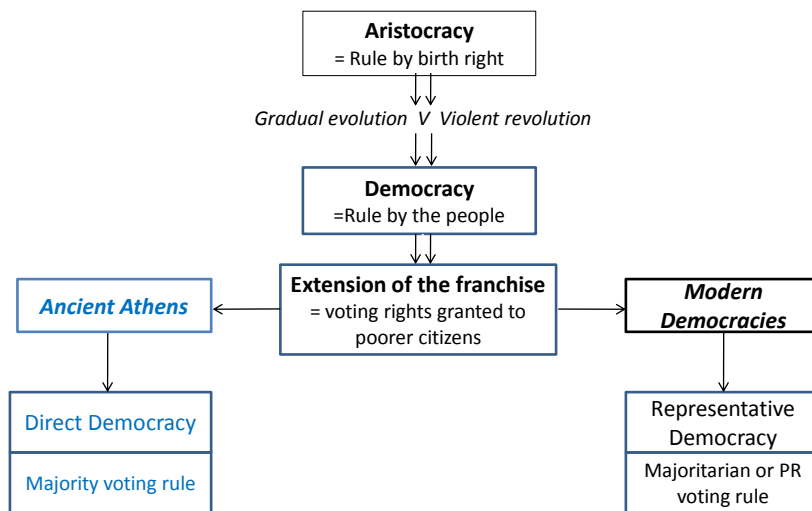
From 501 BC, the Assembly also elected the ten generals, “*stratēgoi*”, who served as commanders of the army and navy and carried out other domestic and external policy duties. They were elected annually by show of hands. Originally, each tribe elected one general, but from 440 approximately at least one general was elected from all tribes implying double representation of one tribe and non-representation of another. Although, there is no surviving information to describe the exact procedure, it is thought that a tribe nominated a candidate and the entire Assembly voted for or against him, not just his own tribe.⁵ Hence, unlike contemporary members of legislative bodies who represent local constituencies the general elected could not be seen as a tribal representative, sent to the board to represent tribal interests and accountable only to his own tribe. In contrast to other office-holders who were subject to term limits, generals could be reelected. By the second half of the 5th century it was the only elected office, all other public offices were filled by lot.

3. From aristocracy to democracy: extension of the voting franchise

Stylistically, for both ancient Athens and modern democracies the move from aristocratic rule to democratic government can be represented by two complementary components. The first is the extension of the right to vote and therefore decide policy to poorer previously disenfranchised classes. The second term is the institutions of democratic government; this in turn includes several elements; most prominently (a) whether voters vote directly for policy or for political representatives organized in

parties who then decide policy and (b) the electoral law which defines how individual voter preferences are aggregated and a winning policy motion or a winning political party is established. Ancient Athens founded direct democracy without political parties and operated a simple majority voting rule, while modern democracies established representative democracies, where political parties reflect economic interests and other social divisions and operate a variety of electoral laws falling under the categories of either majoritarian / first-past-the post or proportional representation. This is shown diagrammatically in Figure 1.

Figure 1. THE SHIFT FROM ARISTOCRACY TO DEMOCRACY



Recent formal political economy research has inquired at length the reasons for the extension of the franchise over the 19th and 20th centuries. Considering actual outcomes as equilibrium responses of the players concerned, the literature has attempted to explain why the aristocracy voluntarily grants voting rights to the disenfranchised classes losing its monopoly over policy decisions. More specifically for modelling purposes, this line of research equates democracy with the right of the poorer classes of the population to vote on tax policy and hence their ability to redistribute away from the rich aristocratic elite. In a seminal contribution Acemoglu and Robinson (2000) advance the hypothesis that enfranchisement solves a time-inconsistency problem by constraining the power of the ruling aristocratic elite. They start from the premise that the elite fearing that the poor will

revolt and confiscate their assets promises to redistribute wealth. The promise, however, lacks credibility because after the initial revolutionary threat subsides, the elite no longer have the incentive to fulfil the promise to redistribute in favour of the poor. Hence, the threat of revolution and the associated losses are not prevented. On the other hand, if the elite grant the poor the right to vote, the poor are able to decide taxes and redistribution, and the elite will no longer be able to reverse the redistribution policy *ex post*. Thus, by enfranchising the poor, the *ex ante* commitment of the elite to redistribution becomes credible and the risk of revolution is averted.

A second view regarding the extension of voting rights to the disenfranchised poor focuses on divisions between the members of the enfranchised elite. Lizzeri and Persico (2004) propose an explanation of suffrage extension which emphasizes the importance of public goods rather than the threat of revolution. They assume a setting where an external shock like urbanization causes the value of public goods to increase. A section of the enfranchised elite who then wishes to increase the provision of public goods at the expense of targeted redistribution towards the elite extends the franchise voluntarily to previously disenfranchised groups of the population. Extension of the franchise results in increasing the number of claimants and reducing the size of the transfer per person. Thus, a vote maximizing politician is no longer able to maximize electoral support by targeted redistribution; instead he increases the provision of public goods with diffused benefits, exactly as the section of the elite favouring more public goods wished. They use this framework to explain increased public spending in local public goods and especially health infrastructure and to a smaller extent education during Britain's 19th century "Age of Reform".

The conflict-centered explanation of the voluntary extension of the franchise has been refined and analyzed in a series of recent contributions.⁶ Jack and Lagunoff (2006) integrate external threats from those without voting rights, and internal splits (divisions within the elite), and show that franchise extension will take place voluntarily over time when by so doing the current decisive voter credibly commits to future policy choices that increase his net benefit. Llavador and Oxby (2005) study extension of the franchise to lower income classes of agricultural and industrial workers as a means by which the parties representing different groups of the elite – landlords and industrialists – can win a majority to pursue the policies that best serve the interests of their supporters. Seidmann (2008) models the extension of the franchise as a means of divide-and-rule to retain control. Ghosal and Proto (2009) argue that in the presence of a dominant elite group no democratic transition will take place, but in the absence of that, risk-averse elites will choose democracy as a form of insurance against future deterioration of their position. Munshi (2011) shows that if a majority of the elite fears that the government will pursue extreme policies, it may support extension of the franchise on the hope that this will moderate future policies.

Congleton (2007 and 2011) doubts the primacy of revolutionary threats. He argues that laws controlling voting rights tend to be remarkably stable over time. The

reason is simply that the decisive policy maker – power broker – is better off by preserving the status quo including the franchise rule which allows him to determine public policy to advance his interests. Suffrage change will be sanctioned if that makes the decisive policy maker better off. Change is then more likely to come from small groups operating within the government rather than large groups operating outside the government. In addition, he observes that a successful revolution is unlikely to establish a democratic regime, as successful revolutionary leaders would desire to keep control of government rather than subject their rule to the uncertainty of elections. Congleton emphasises that a most important factor in the extension of the franchise is the rise of interest groups with an interest in franchise reform – typically those who had been denied political rights before.

Looking specifically at ancient Athens, Fleck and Hansen (2004) combine elements from the works of Acemoglu & Robinson and Lizzeri & Persico to explain the rise of democracy. They consider a setting where the ruling aristocracy seeks to raise taxes from the poor farmers to fund defense expenditures – a public good. Tax revenue can be raised after the farmers have invested in agricultural production. If this investment is easy to monitor, it is not difficult for the aristocracy to control the farmers, as it is comparatively simple to identify and punish farmers who do not invest. The aristocracy then has little, if any, incentive to democratize and share power. However, if agricultural investment is difficult to monitor, farmers can avoid taxation of their efforts and expropriation of production by not investing as they would remain undetected. But if so, there will not be enough funds for defense. Fleck and Hansen argue that this fits exactly the case of ancient Athens, where the soil of Attica is better suited to the production of olive oil (rather than cereals where the labour input is considerably easier to monitor). As olive trees bear fruits only after a lot of effort is invested for a long period of time, monitoring of olive tree cultivation is extremely costly for a ruling aristocracy. The aristocracy could promise not to expropriate, but the promise lacks credibility. If on the other hand, the aristocracy extends voting rights to the farmers – olive growers and shares power, credibility is restored. Enfranchised farmers can then control policy decisions that affect them and their incentives to agricultural investment are enhanced.⁷

The Fleck and Hansen model is an admirable attempt to formally investigate the emergence of the Athenian democracy. However, it does not fit the historical record. There was little taxation to speak of at the time of the aristocracy when the population consisted of poor subsistence farmers. At the time of the Peisistratus tyranny tax on agriculture production stood at a 1/10th, tithe, with the proceeds usually going to the worship of the goddess Athena, rather than defense.⁸ Nevertheless, not all is lost of the Fleck and Hansen model as it may be used to explain the security of land property. Assume an aristocracy expropriating the land of poor farmers in order to maximize its own land production. However, expropriation of land for production which is difficult to monitor, not only fails to increase output, but may actually trigger revolutionary moves with detrimental effects for the aristocracy. On the other hand, extending political rights to the poor

small-holders to protect their properties supports social peace by giving the poor the incentives to undertake agricultural investment and decreasing the threat of violence and confiscation of the property of the elite.

Moreover, Congleton's hypothesis of the gradual expansion of political rights is supported by the pattern of democratic developments in ancient Athens. Cleisthenes' reforms were backed by both the aristocratic elite and the ordinary citizens. Despite the violence there was no bloodbath or terror associated with the overthrow of old regimes. Nor were the constitutional reforms unrelated to previous political changes, as they followed on the earlier political liberalisation of Solon (whose legislation had replaced government based on birth aristocracy with one based on wealth). The reforms of Cleisthenes were fundamental but equally they built on pre-existing governance templates, and were gradual as the transition to democracy was concluded after him. The establishment of a fully functioning democracy, which includes the extension of the right to occupy office to the lowest wealth class (and not only the right to vote), was not completed until the middle of the 5th century and the removal of the residual veto powers of the remaining aristocratic body of *Areopagus* in 462 with the reforms of Ephialtes and Pericles. On this account, Raaflaub (2007) argues that the democratic transition was completed after the Cleisthenes reforms with the full integration of the landless *thetes*, lowest wealth class, in the political structure. This took place after the 480 BC Athenian victory against the Persians in the sea battle of Salamis, when the Athenian fleet became critical for the security and prosperity of Athens and so did the lower classes who found gainful employment as rowers. As a result of their new found status and prosperity they were eager to take full political rights. Ambitious politicians from the aristocratic elite realized that this newly emerging group offered them opportunities for success and pursued the reforms which eventually incorporated the landless fully in the political life of Athens.

4. The choice of the voters: A welfare account of direct democracy

The literature on the establishment of democracy surveyed above does not address the question of what type of democracy, direct or indirect, is put in practice, probably because all modern democracies are of the latter type (even though they often practice some form of direct democracy by using the referendum process). Yet an inquiry of the emergence of the Athenian democracy would be incomplete without delving into this issue. I approach this issue from two angles, first, the welfare of the ordinary voters under direct and representative democracy and second, the choice of the political ruler with the power to select one or the other.

Applying economic calculus, whether a rational voter prefers policy making by direct or indirect democracy depends on which of the two methods confers the highest net gains, benefits minus costs.⁹ The benefits of reaching a collective decision relate to how far the interests of the individual citizen are satisfied by the decision taken, while the costs relate to the effort required to reach a decision and

how far the collective decision (which binds all individuals) may affect negatively the interests of those who oppose it.

Mueller (1996) cites two main justifications for direct democracy, namely that it leads to better policy outcomes and to better citizens. If the individual citizen is fully informed about the issues of public interest, so that he is the best judge of his own welfare, then the individual is also able to judge how public policy affects his welfare and therefore best suited to decide directly issues of public policy. Since the policy decided by direct democracy reflects the preferences of voters directly, it will satisfy both legitimacy and accuracy. Legitimacy means that the decision taker is widely accepted as having earned the right to implement his proposed policy. Accuracy implies that the policy pursued reflects the wishes of the decision taker. This outcome is better than that of representative democracy, where policy is decided by political representatives, who have been elected by the voters, and so reflects the wishes of the voters only indirectly. The reason, as known from the theory of delegation from a principal to an agency, is that politicians who are given discretionary powers by the electorate may use such powers to pursue policies which serve interests other than those of the electorate, like their own personal interests, the objectives of powerful interest groups which back them and the ideological objectives of party activists.

On the other hand, voters may in practice lack the complete information on which the superiority of direct democracy stands. The individual voter may operate in an economic and social environment full of unknown variables, or more technically, an environment subject to stochastic variation which affects negatively his welfare. Moreover, lacking full information and perfect foresight the ordinary voter may be unable to appreciate his long-run interests, or may be subject to conflicting rights, or may make plans which lack credibility (meaning that that when it is in his interests he is not able to make commitments that he will not engage in action that he promised not to take). Under these circumstances delegation of decision making and policy making by political representatives, who are recognized as policy experts, increases welfare. Political representatives are the agents specializing in collecting the relevant information and acquiring the problem-solving expertise to take the policy decisions which secure a better policy outcome than the uninformed actions of the citizens. Moreover, policy experts can actually negotiate the trade-offs required when rights are conflicting, and are able to put in place the policy arrangements required to bind the actions of all individuals and resolve credibility problems.

Reviewing an extensive body of research, Matsusaka (2004) amongst others shows how the referendum process can empower the majority of voters to counteract the influence of special interests in the legislature, how the present-day equivalent of direct democracy, the popular initiative as practiced in (some States of) the USA and Switzerland, can break the monopoly of politicians in controlling the legislative agenda, and reports econometric findings which show that direct democracy can bring "good" economic outcomes in the form of more efficient government spending

and a greater percentage of citizens reporting higher levels of happiness. Direct democracy may also lead to better outcomes than indirect when information is widely dispersed and / or value issues are decided so that there is no obvious “right” decision (as for example when debating abortion rights, gay rights, stem cell research etc). Matsusaka also cautions against potential traps of the use of the referendum process. A serious risk is that well-organised and / or richly endowed interest groups may hijack the process under conditions of asymmetric information and use it against the wishes of the majority. The key here is that the public and the politicians at large remain ignorant of the special interests and mobilisation of motivated pressure groups, which may then secure the voting outcome that best suits their interests. A second most important risk is that the majority may use the referendum to abuse the minority. For example, in a society divided along ethnic, racial, religious or cultural lines, a particular community which has an inbuilt numerical majority may use its electoral strength to pass settlements that infringe the rights of the minority and exclude it from the use of economic resources. Note that in truth there is no guarantee that a legislature of elected representatives will necessarily respect the rights of minorities. More generally, the objection that referendums will be used to disadvantage the minority is more an argument against the use of the simple majority rule in divided societies and less an argument against the use of the referendum as a mechanism of collective choice.

Turning to the decision costs of the collective choice mechanism, Buchanan and Tullock in their most influential (1962) study classify such costs into two components, namely internal and external costs. Internal or decision making costs are the costs of time, effort and other resources that an individual voter incurs in order to acquire the relevant information to participate in the process of decision making. External or efficiency costs are the costs imposed on the individual when a collective decision harms its interests. In general, direct democracy involves higher decision and lower efficiency costs for the individual than representative democracy. Representative democracy minimizes decision costs of reaching agreements as it restricts the process of negotiation to a small number of elected representatives. However, representative democracy is characterized by an additional cost known as the cost of bundling. In elections for representatives voters cast their votes for general policy platforms presented by political parties rather than voting separately for each policy issue. Combining different policy issues under the same party banner not only restricts the expression of voter wishes, but also opens the opportunity for logrolling, where legislators may trade votes in one issue to secure a favourable vote in another issue combining unrelated issues and may result in inefficient outcomes at the expense of the voters. Finally, the cost of the collective choice mechanism rises in proportion to the number of those involved in decision making. Problems of free-riding, limits in physical space where people can gather to deliberate, inability to coordinate the timing of gatherings, to name but a few, imply that direct democracy is more expensive than representation which involves a smaller number of decision makers.

The argument that direct democracy leads to better outcomes offers an obvious justification for its adoption. An additional justification is that direct democracy leads to better citizens. Mueller (1996) notes that the former is based on the assumption that voter preferences are given, a standard assumption in the economic analysis of the short-run equilibrium, and that direct democracy can elicit and aggregate those preferences. The latter justification is based on the assumption that voter preferences are endogenous and change as voters actively engage in the democratic process, find out the preferences of others and compromise. "Indeed, the ancient Greeks also stressed the advantage of direct participation in the democratic process has in developing a sense of community in the individual" (ibid. p.96). Given a sufficiently long horizon, these seemingly contradictory assumptions are actually compatible with each other, if it is accepted that in view of new experiences individual preferences adapt and change.

All in all, direct democracy is a highly demanding method of collective choice because of the high costs it requires in terms of time, effort and other resources necessary for citizens to obtain expert information about issues of public interest and negotiate and implement a collective decision. In addition, the physical limitations implied by the sheer volume of the number of citizens engaging in collective decision making may prevent the operation of direct democracy. The Athenians nevertheless managed to overcome such problems and operate a system of government without a precedent and without a replica. How this was achieved is discussed in detail in a recent contribution by Ober (2008), who shows how the institutions of the Athenian direct democracy revealed, aggregated and disseminated the relevant knowledge so that a large body of ordinary citizens could overcome the transaction costs of collective decision making and choose the policies which led to the greatness of Athens.

5. The choice of the voting rule

Democracy in the sense of electoral competition becomes operational when one form or another of voting rule is enacted to decide between different policy proposals or select different candidates for public office. Majority voting is the norm in direct democracy, as in the modern referendum and in ancient Athens, where voters choose on each issue separately and confront a "yes"–or–"no" choice. On the other hand, voting rules based on plurality (majoritarian) or proportional representation typically prevail in representative democracies.

The origins of voting are sought in the warrior meetings common from the archaic times if not even earlier, where the ruler, the 'elders' and the ordinary warriors assembled and speeches were made and views were expressed. As the ordinary warriors became economically and militarily more powerful, the ruler must have felt obliged to heed the opinions voiced. Eventually, the format, content and authority of those assembly meetings were formalized and became integral parts of the system of governance. Larsen (1949), whose work is an early and so far the only paper dealing with the issue of the emergence of voting, places the practice of

formally taking and counting votes in ancient Greek assemblies in the seventh century BC. He offers three possible explanations for the adoption of the practice. First, it was possibly used as a decision taking method in aristocratic councils including the *Areopagus* in Athens. Second, in archaic warrior assemblies taking votes substituted fighting among disagreeing armed members of the assembly. Third, it might have evolved from the decision making practices of leagues of Greek city-states, like the Delphic Amphictiony and the Peloponnesian League, where each participant polis had one vote irrespective of its size (although a few strong poleis dominated proceedings); Larson, however, thinks that this third explanation is the least likely to apply to the domestic politics of the polis. Recent literature has shown no interest in the question of the origin of voting. On the contrary, researchers on ancient Greece have explored both the reasons and the date of the emergence of democracy in ancient Athens, where democracy is defined as the right of the non-elite to participate in decision making and serve in public office. Similarly, social choice scholarship, which compares the positive and normative properties of majority and other rules of voting in collective choice, has ignored the question of the origins of voting.

Simple majority voting may then have emerged as a way to avoid violent conflict among the members of a group, especially if all those members are armed and the force of arms decides the winning motion. Majority voting then offers profound advantages; not only does it prevent the losses from armed conflict, but it also provides speed and clarity of outcome. That is, it is quick to arrive at an equilibrium point (decision) and the outcome, “yes-or-no”, is clear. However, this is only true when the choice is between two alternatives. For as we know from social choice theory, when choosing between three or more motions majority voting may fail to produce an equilibrium outcome, the (in)famous problem of cyclicity or intransitivity, and its usefulness may be severely weakened – see Mueller (2003), especially chapters 4 – 8 for details.

Yet, it is probably the most common decision rule which comes to mind when we talk about democracy. On normative considerations and after reviewing the relevant literature, Mueller (2003) concludes that the ubiquitous use of the majority rule may be explained by the following property: For any given voter participating in collective decision making, the outcome of the process is uncertain as it depends on summing the votes of the different voters. The voter under consideration does not know a priori whether he benefits or loses from the collective choice outcome, nor does he know the size of such benefits or losses. He may then presume that the uncertain gains or losses from collective action are equal. In this case majority voting maximizes the expected benefits of collective action for the individual voter. In the rest of the paper, direct democracy is compared to representative, where the former is combined with the use of majority voting.

6. The choice of the ruler: A utility maximization selection of institutions

The preceding discussion has looked at the reasons why direct democracy and majority voting would be chosen by the ordinary voters had they be given the right to choose. In practice however the adoption of one or another constitutional order is not chosen by the “ordinary voter” but by a political ruler – agenda setter who at the time of choice finds himself with the power to decide the institutions of governance. Applying again economic rationale, the choice of the constitutional framer is analyzed by assuming that he uses his power to set up the institutions which maximizes his own net expected benefit.¹⁰

A political ruler’s net expected benefit from an electoral mechanism equals the benefit derived from winning the electoral contest, an event which is uncertain, minus the cost of running the campaign, which will be incurred irrespective of winning or losing the election. The benefit consists of two components: (a) the gains of office, which include the monetary rewards and non-pecuniary gains in the form of power, prestige and personal satisfaction; and (b) the utility gains from pursuing his preferred policy, that is, satisfying his ideological objectives. The cost of the election campaign is made up of three interdependent parts, as follows: (a) the expenses of running the campaign; (b) the size of public spending that he must offer to influential groups of voters in order to secure their electoral support, which in turn decreases the size of the rents from office; (c) the policy compromises that may have to be made in order to attract votes, that is, the deviation of the actual policy proposed from his ideal policy. The political ruler then is confronted by a stark trade-off: As the policy concessions made increase, and as the size of rents given up to secure the support of interest groups increases, the probability of electoral victory increases, but the increase in policy concessions and sacrificed rents increases the cost of winning the election.

It is reasonable to assume that the gains from office are the same under direct and representative democracy. What differs between the two systems is the probability of winning a direct vote for a policy and an election for representatives. The reason why such probabilities of winning differ is that a direct vote and a representative election use different methods of aggregating voter preferences and apportion different influences to different groups of voters.

In a direct election under majority voting, where the voters approve or reject the proposed motion (as for example in a referendum) votes are aggregated at the national level and victory depends on whether or not a majority of votes has been secured. Thus, whether a political leader wins depends on the total number of votes polled which is determined by the policy proposed and the personal appeal of the politician. Passing legislation is relatively easy and does not depend on the support and discipline of elected party representatives, who may have their own objectives different from those of the leader of the party.

However, whether a political leader wins an election for representatives depends on securing a majority of representatives from his party, who are elected across different geographical constituencies. This in turn depends on (a) the total

number of votes polled which, as before, is determined by the policy proposals and the personal appeal of the politician; (b) the allocation of voters across different constituencies, that is, the demographic, political and economic characteristics and therefore voting patterns of different geographical districts; and (c) the voting rule, whether majoritarian or proportional representation, which is used to convert votes into the number of party representatives elected in each constituency.¹¹ Under a majoritarian voting rule, which tends to result in over-representation of the two biggest parties in parliament in comparison to their vote shares, the division of the country in geographical constituencies may render some of them as “safe” for one or other of the parties and some other as “marginal”, where the election outcome may depend crucially on the vote of swing voters. In electoral systems based on proportional representation with multi-member constituencies the number of seats each party wins and which candidates are elected, depends on various arrangements, like the size of the electoral district, the mathematical formula applied to allocate parliamentary seats to political parties in relation to the number of votes polled, the threshold for securing representation and whether voters choose candidates or they vote for a party list. Experience has shown that under proportional representation no single party emerges as the election winner and governments are formed as coalitions of parties.

These differences in the election outcome under direct and representative democracy¹² imply that the concessions made by the political leader and the probability to win differ between the different systems of democratic decision making. It is then clear that when the preferences of the political ruler with the power to choose between direct and indirect democracy are closer to those of the median – decisive voter of the electorate than to the median of elected representatives, his net expected benefit under direct democracy exceeds his net expected benefit under indirect representation; he will then choose to establish direct democracy.

7. Cleisthenes’ Choice: Motives and Constraints in Founding Democracy

The rationale developed above implies that in Athens direct democracy prevailed because it yielded the highest net benefit to Cleisthenes, the political ruler at the time of constitutional choice. But why the demos supported Cleisthenes’ democratic institutions and what benefits did Cleisthenes expect by introducing direct democracy?

After the fall of the Peisistratus tyranny (510) a revision of the roll of citizens was enacted by which the aristocratic families could strike residents of Attica off the roll of Athenian citizens – so called ‘*diapsephismos*’ – restricting therefore access to the privileges of the elite. Losing citizenship rights would have had profoundly adverse consequences, including loss of property, expulsion and even the risk of slavery. It is quite likely that those threatened with such losses included not only ordinary Athenians who had prospered during the tyranny but also former mercenaries who had settled in Athens during the time of Peisistratus and who could still be of value in a military confrontation. By offering them citizen rights and

removing the threat of de-registration Cleisthenes, was able to forge a majority to support him against Isagoras. Lyttkens (2004) who also applies a rational-actor perspective to Cleisthenes' actions, argues that removal of the threat de-registration was the *only* (emphasis in the original) satisfactory explanation of popular support for Cleisthenes. Thus, by involving the ordinary Athenians who had forced the surrender of the aristocrats and their Spartan protectors directly in decision making Cleisthenes offered the best protection to their status and secured continued political support for himself. Clearly, as a rational political actor he was better off with sanctioning direct democracy rather than a system which would rely on intermediating political representatives, who would continue to come from the aristocracy and could not necessarily be trusted.

As far as Cleisthenes' motives for introducing the democratic reforms are concerned one may rule out financial reward from holding office, since that was not obtainable at the time. His actions may then be attributed to the objectives of maximizing power, prestige and security for himself and his family, the Alcmaeonids. The Alcmaeonids were exiled from Athens in the late 7th century for their part at the conflicts of that time. They were also persecuted during the tyranny of Peisistratus. Perhaps more importantly, after the fall of the tyranny in 510 at a time when a revision of the roll of Athenian citizens was taking place and the threat of de-registration was looming, Cleisthenes born to a non Athenian mother (she was the daughter of the tyrant of Sicyon) must have felt particularly vulnerable.

At the same time Cleisthenes' reforms built on a system of consultations between the rulers and the ruled and retained use of the majority rule, familiar arrangements which in one way or another existed from the archaic times. The political dispensation included a reconfiguration of the citizenry in the form of dividing them in ten new artificial tribes and incorporated important elements of representation in the form of the Council of Five Hundred, which replaced the pre-existing Council of Four Hundred set up by Solon in 594 BC, and the new and powerful posts of the ten generals elected from the ten tribes. The tribes were constructed in such a way so that each fused a wide social cross-section of the Athenian population and none of them could claim supremacy or higher electoral influence over the rest. Nor were they designed to play the role of modern parliamentary constituencies.

Further, an explanation of the use of the majority rule is suggested by observing the experience of the European democracies when choosing different electoral laws at the time of the introduction of universal suffrage. A majoritarian law as opposed to proportional representation was adopted when either of two conditions is satisfied – see Rokkan (1970), Boix (1999) and Blais et al. (2005). Either, the socialist party as the challenger to the ruling elite was weak and unable to mount a strong challenge against the established parties, or the socialist party was strong enough, but one of the established non-socialist parties had retained a dominant position among the non-socialist parties. On the other hand, the ruling elite opted for systems based on proportional representation when the electorate was

divided between the established non-socialist parties and the socialist challenger was strong and united. In Athens the contest was between an incumbent who wished to retain aristocratic control and a strong challenger who sought political rights for the non elite. As both were “strong” the use of majority rule was “chosen”, or perhaps more accurately, retained.

It also bears noting that at the time there were not any political players arguing for the adoption of a proportional representation rule. Electoral formulas to convert constituency votes into representatives were, in truth, yet to be invented. Electoral proportionality formulas were developed in the 19th century following important advances in mathematics and probability theory in particular. Athens espoused a system where the issues of public interest were decided directly and all votes carried the same weight. Counting majorities was a less demanding task accomplished without complex mathematical operations. In fact, as already said votes were not counted in the Athenian Assembly; only estimates were taken.¹³ This implies that administering a direct democracy system based on simple majority was significantly easier than using complicated formulas of proportional representation.

In addition to the above, representation of tribes by the generals was significantly different from modern representation, where each constituency (equivalent to the tribe) elects its own representative (equivalent to the general). Instead, in ancient Athens each tribe nominated a member for the post of general (or more than one in later times), and the candidate was voted in or rejected by the whole Assembly.

These arguments do not claim that Cleisthenes single-handedly instituted direct democracy or that he was a ‘committed democrat’. What they do claim is that significant insights can be gained by modeling him as the utility maximizing pivotal player. His interests were best served by setting up a system of direct democracy with majority voting. The arrangements were widely acceptable, and gradually evolved and consolidated over the following half century. The new institutions provided the initial conditions for future democratic developments.¹⁴ He could not have predicted the future developments and further political liberalization; indeed, Lyttkens (2004) argues that democracy was incidental – an example of unintended consequences.

8. Conclusions

The present study used some intuitions developed by political economy scholarship in studying the transition to democratic rule over the last two centuries to understand the emergence of the ancient Athenian democracy in the late 6th century BC, where issues of public interest were decided directly by the Assembly of citizens using majority voting. The establishment of democracy in the sense of extension of the franchise outside the elite was attributed to the objectives of making credible the respect for property rights of the small landholders. After reviewing the arguments why direct democracy may produce better policy outcomes than representative democracy and the proposed explanations of the adoption of simple majority voting,

the study focused on the choices made by Cleisthenes, the political ruler and constitutional framer at the time. The establishment of direct democracy and majority voting were analyzed as the utility maximizing choices of Cleisthenes, who built on pre-existing institutional arrangements under the combined risk of foreign invasion, tyranny and loss of citizenship rights for large sections of the population. Governance structures and politics then evolved on a trajectory conditioned by the adoption of direct democracy. The more general message of the paper concerns the value of applying the utility maximizing calculus to explain the emergence of democratic institutions. Specifically, rather than, or in addition to, viewing democracy as a normative ideal which was consciously pursued, the institutions adopted were consistent with the interests of the principal players of the time and their familiarity with existing mechanisms of collective choice.

Notes

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² See Ober (1996) Ch. 4 for a reconstruction and an interpretation of the events drawing some parallels with the events of French 1789 revolution.

³ An exception was granting of citizenship which was ratified by actual ballot voting.

⁴ Pay for assembly attendance is a unique example of a (partial) solution to the rational ignorance problem of the voter. That is, as the costs of getting informed about policies and the opportunity cost of giving up work to participate in the assembly are high and certain they can exceed the expected benefits that he may cast the decisive vote which approves the policy which advances his interests, it is not rational for the voter to participate in politics. However, pay for attending the assembly partly mitigates those costs and therefore, *ceteris paribus*, increases the incentive to participate in the deliberations of the assembly.

⁵ "... the procedure was possibly as follows. A candidate from tribe I was proposed, and the people voted for or against him. The first candidate to get a majority was elected unless a named opponent to him was proposed, in which case the vote was a vote between the two of them. When no more candidates were proposed, the people proceeded to the next tribe, and so on". Hansen 2001, p. 235. Further "...hands were never counted. The majority was assessed by the nine *proedroi* [Council members, selected by lot, who were presiding over the session] who made their decision on a rough estimate", *ibid.* p. 332. Mitchell (2000) critically discusses various attempts made by historians to reconstruct the procedure and points to inadequacies of existing hypotheses.

⁶ In an earlier study Himmelfarb (1965) had argued that a party competing against rivals extends suffrage rights on the hope that the newly enfranchised will vote for it. However, it has to be recognized that the newly enfranchised may well vote for a

rival party which offers them a more attractive policy platform.

⁷ Fleck and Hansen (2004) extend the predictions of their model and argue that exogenous differences in the potential returns to difficult-to-monitor agricultural investment can also explain differences in the levels of democracy in Athens and Sparta, the rise and fall of democracy in Athens over time, and variations in the level of democracy in other city-states.

⁸ I would like to thank Dennis Mueller and Claire Taylor for clarifications on this issue.

⁹ An extensive literature compares the benefits of policy making by popular referendums and by elected politicians in parliaments. A book-length survey of the use of referendum and the popular initiative (where a specified minimum number of voters can force a public vote on a policy) is given in Matsusaka (2004), while shorter informative reviews are offered by, amongst others, LeDuc (2002), Hug and Tsebelis (2002) and Tridimas (2010).

¹⁰ The discussion which follows draws on the formal analysis of Tridimas (2007) and (2010) who studies the strategic choice of an incumbent political leader between a referendum and the parliamentary process to pass legislation.

¹¹ See Ergun (2010) for a formal model of the decision to change the electoral system from the plurality rule to proportional representation.

¹² The difference in the outcomes of direct and representative democracy is nicely illustrated by the “referendum paradox”: A policy measure may be denied by a majority of elected representatives who were elected by a plurality of voters in a majority of geographical constituencies, but it may be approved by a majority of voters in a direct election, which aggregates all voters simultaneously (see Numri, 1997, for details).

¹³ Note however, that voting by the court juries was secret and juror votes were actually counted.

¹⁴ Those included the idea of isonomy, where citizens have equal political and legal rights. Further, since direct democracy allows voters to decide issues of public interest as and when they arise, it obviates the need for political parties to fight elections. In addition, the principle that citizens carry equal weights in deciding policy was followed by the idea that they should also stand an equal chance to occupy office, laying the foundation of sortition, that is, appointment to public posts by lot. These issues are further developed in Tridimas (2011).

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Democracy, Institutional Changes and Economic Development: The Case of Ancient Athens

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Abstract. The discussion of strengths and weaknesses of democracy is almost as old as democracy itself and it still continues. In the present paper we present a new theoretical perspective on democracy as a system that facilitates changes, especially in the form of direct democracy. We stress the role of the “initiator”, e.g. anybody who has the right to introduce a new proposal. This possibility increases the existence of the number of available strategies in a point of time. The decision makers can choose strategies from this set, and under a continuous situation of trial and error can reject wrong ones and retain correct ones (in the sense of welfare increasing strategies). Thus, society gains knowledge and new efficient institutions emerge. Lastly, we analyse the prototype direct democracy of ancient Athens, as a case study to highlight and test our model’s hypotheses. It will also be analysed how under direct democracy of the Athenian type, the Assembly became a market place for the competition of ideas.

JEL classification: B25, E11, N4

Keywords: Democracy; path dependence and change; institutional changes; economic growth; ancient Athens.

1. Introduction

While the first complete democracy can be traced to ancient Athens with the reforms of Cleisthenes during 510-507 B.C.,³ the discussion of its advantages and failures begins less than a century later, with the “Funeral Oration” of Pericles in 430 as reported by Thucydides and continues with the writings of philosophers and orators in 4th century Athens (e.g. Plato and Aristotle, Demosthenes and Aeschines) and Republican Rome (e.g. Cicero).

The discussion started again, after a long lapse, parallel to a revival of democratic elements in some European states, during the 17th century, namely after the “Glorious Revolution” of 1688-1689 in England, in the writings of Thomas Hobbes, John Locke etc, and continued during the 18th century with the

“Enlightenment” philosophers and “political scientists” like David Hume, T. Paine, J.J. Rousseau, Voltaire, Montesquieu etc. and with the American constitutionalists during and after the American Revolution. Since then, the discussion is on-going, with economists beginning to take a stronger interest in it, at least since the writings of John Stuart Mill (1861).

In the present paper we propose a new theoretical approach to democracy, especially direct or participatory democracy, drawing on institutional and constitutional economics. For the completion of such a task, the paper is organised as follows: The first section consists of a short review of the discussion, followed by the presentation of our model. The third section is an analysis of the case study of ancient Athenian democracy, and we close with our conclusions.

2. A brief review of some aspects of the discussion on democracy

The discussion on democracy is as old as democracy itself and the writings on it are vast.⁴ Less so is the discussion on direct or participative democracy since “new” democracies were representative ones; with the notable exception of some Swiss cantons where the ancient Greek-Athenian tradition of direct democracy continues from medieval times till today and in some states of the USA.⁵

From a political science viewpoint, the discussion has focused on the advantages and drawbacks of direct or participative democracy (DD) as compared to indirect or representative democracy (ID). Sceptics or critics of DD, worry about tyranny of the majority and fear that voters are seldom well enough informed to cast votes on complicated technical national laws and activities. They also point out the way well-financed special interest groups might use these procedures to promote their own interests. The basic question they raise is the qualification of the average voter to decide on any issue, vis-à-vis the qualification (supposedly much higher) of the elected experienced politician with the support of the non-elected and presumably highly qualified bureaucracy. Simply put, it is a question of efficiency: Is the “man in the street” able to make decisions on any question, or should the decision be left with the “experts”, with the “man in the street” retaining the power to vote his representatives (and thus approving their general agenda) only through periodic parliamentary and presidential elections?⁶

Among the supporters of DD, Rousseau (1762, book IV, ch. I) proposed the notion of a “general will” arrived at through educating the people to the possibilities of lawmaking in the public interest; an idea that reflects ancient Athenian practice. There, Pericles introduced payment for the poorer citizens out of the state budget (the “theorica”) for them to be able to attend the four days theatrical plays contest, without losing their wages (Plutarch, *Pericles* 9). Rousseau thought this to be a major element in educating the citizens. His main ideas (1762, book III) are that: (i) The people, being subject to the law, ought to be their authors (again, this was an Athenian practice). The moment people allow themselves to be represented, they surrender their freedom. (ii) Once a distance is placed between citizens and their delegates, the representatives will become oligarchic and the citizens will grow more

and more alienated; something which may indeed be happening in some population segments in modern democracies.

Jefferson held, following Rousseau, that the will of the people is the only legitimate formation of any government. As long as citizens were informed, they could be trusted with their own governance. Without education, freedom would not last. While, N. Cree maintained that the only way to train a people for self-government, was to practice it. Democracy is “government by discussion” (again, as practiced at the Athenian citizens Assembly). People’s direct participation in government is the best possible education in public affairs, the best possible antidote to apathy, and the only way to provide for democratic control over the government. Similarly, W. Wilson argued that the twin elements of democracy as practiced in the USA, the referendum and the recall (modelled on the Athenian notion of “ostracism”) are the safeguards of politics. It takes power from the boss and places it in the hands of the people.⁷

More recently, A. Sen (1993; 1999; see also Anderson 2003) links democracy to ethical values and regards it as a dynamic institution for collective experiments with different public policies that enable citizens to learn what joint goals make sense for them and how best to achieve them. Democracy is the institutional embodiment of practical reason for a collective agency composed of equal citizens. It is clear that these views fall within the arguments in favour of DD, since DD facilitates learning and the expression of “practical reason” through its procedures about decision-making, e.g. the referendums.

Proponents of DD take a stand against the monopoly of officials to make laws. Continuing an ancient Greek democratic tradition as established by Pericles, Demosthenes, etc.⁸ and followed by some American founding fathers like Jefferson and the French and English “philosophers” of the Enlightenment, they trust the good sense of the common citizen. According to their optimistic perspective, a country willing to share more political power with its citizens will find a citizenry willing to participate in the workings of government. In particular, DD has the following benefits (Cronin 1999, pp. 10-1):

1. Citizen initiatives promote government responsiveness and accountability.
2. They are freer from special interest domination.
3. They produce open educated debate.⁹
4. They use non violent means of political participation to redress grievances.
5. They may increase voter interest and election day turnout.
6. They are an alternative to address tough issues that legislators often prefer to evade.¹⁰

Starting with Downs (1957) and Buchanan and Tullock (1962), who introduced the so-called “constitutional economics”, economists have become increasingly involved in the discussion of various aspects of democracy. One area of research is concerned with the effects of democracy on growth. Democracy fosters

economic growth by increasing the efficiency and volume of human capital (through education, thus validating to some extent the view of political scientists who underlined the need to educate the people) and less robustly by lowering income inequality. On the negative side, democracy hinders growth by reducing the rate of physical capital accumulation, and less robustly, by raising the ratio of government consumption to GDP.

The overall effect is dependent on each econometric study's specification, some finding it negative, some positive at low level of democracy and negative at higher ones (see e.g. Przeworski and Limongi 1993; Barro 1996; Tavares and Wacziarg 2001). Econometric studies that compared the effects of direct versus indirect democracy on growth on the basis of the Swiss cantons, show a clear superiority of DD for growth, which is due to: (i) Lower government expenditure, through a curtailment of wasteful spending and fraud. (ii) More efficient production of public goods through lowering of costs. (iii) Changes in the structure of public expenditures with a large reduction in the state (federal) component and increase in the local. This may be interpreted as a better reflection of citizens' preferences concerning public choice and the provision of public goods. (iv) Higher willingness to finance public goods once the citizens decide on which goods to provide for themselves (a reflection of ancient Athenian practice, as e.g. Themistocles Naval Law, which we will analyse below). (v) Direct participation policies provide utility in them, increasing welfare and diminish the extreme inequality of wealth, i.e. the process itself and not only the outcome matters.¹¹ Further studies (see e.g. Voigt and Blume 2009a; 2009b) find that: (i) voter turnover remains unaffected by DD institutions; (ii) the number of initiatives is positively correlated with an interest in politics and political action; (iii) the formal possibility of initiatives is negatively correlated with trust in political organisations; and (iv) different aspects of federalism (e.g. the institutional details) have various consequences on the economy.

Another area of research concerns the evolution and extension of voting rights in relation to taxation, the allocation of resources, the evolution of capital markets through increased issues of guaranteed government bonds, and the provision of specific public goods like protection.¹² A further area of research, linked somewhat to the previous one, concerns institutional development in relation to democracy in general and DD in particular. This approach highlights the problem of principal-agent as applied to ID. The principal are the citizens (the people) and the agent their elected government. ID produces two problems: First, it is not guaranteed that the government's policies are the expression of the people's real preferences, and not the preferences of the political parties. What is, for example, the real preference of people for the provision of specific public goods like defence, education, etc. in relation to their costs financed through taxation? Some economists (see e.g. Buchanan 1984; Halkos and Kyriazis 2006) interpret tax evasion as a resistance to increased taxation for public goods, which are not necessary in the amounts given, e.g., there may be an over-provision of some public goods. Some referendums that have limited tax increases and government spending like

Proposition 13 in California (Cronin 1999, p. 87) seem to validate this view.¹³ Second, the agent, once not controlled by the principal closely and directly, but only periodically and on very general terms through the elections, may resort to corruption, imperfect meritocracy, etc., thus maximizing his own benefits and not those of the principal.¹⁴

On the other hand, the neo-institutional approach highlights further the link between democracy and the emergence of efficient institutions, taking a macro historical view. The main findings are that freedom, the guarantee of property rights, the market, the emergence of efficient institutions and growth, are strongly interrelated (see e.g. North, 2005; Shirley, 2005). This result can be seen also as somewhat contrary to the results of econometric works on democracy and growth mentioned before. Democracy during recent periods may reduce economic growth through the negative effect of too high government spending. However, over the long historical period, efficient institutions and organisations which are economic growth promoting, have developed only in more democratic regimes.¹⁵ Such institutions and organisations are banks, insurances, capital markets and stock exchanges and joint-stock companies, and they developed in ancient Athens, Rhodes, Venice, Genoa and some other Italian states, England and the United Provinces (the Netherlands); all countries that were more democratic than the rest of the world during the respective periods (Halkos and Kyriazis 2005a; Kyriazis 2006; Greif 2006).

In the following section we present a model of DD taking a somewhat different approach to those presented above.

3. A model of direct democracy

We model DD as a regime which facilitates change and the development of new institutions (both political and economic), that are a “good” response to changing circumstances.¹⁶ In other words, we presuppose that democracy is a dynamic process. In this process, the set of existing strategies of the citizen’s decision making are continuously being enlarged and adapted. We define for our purposes here “strategy” as a proposal that introduces specific courses of action. Institutions, as for example constitutional arrangements which exist in modern democracies but not in this form in ancient ones, are defined as the rules by which policy is made. Their life span is usually long (at least in modern states) and they are costly to change since they are linked to sunk (mainly information and learning) costs. In our terminology, the turn strategy includes both long run changes that lead to new institutions (like for example the liturgy of trierarchy introduced probably by Themistocles Decree of 480 B.C, and the “graphe paranomon”), and changes in policy which did not introduce new institutions (like Eubulus and Lycurgus “social contract” during 4th century.¹⁷

Through a process of trial and error and the calculation of personal welfare at each point of time by each citizen-decision maker, new successful strategies are adopted, while old unsuccessful ones are eliminated. In this continuous decision-

making, path dependence can be broken and new regimes introduced that are in some historical situations growth promoting.¹⁸ These new institutions are functions (or linked) to the new strategies. In DD every citizen-decision maker came out as an “initiator”;¹⁹ namely anybody may introduce a new strategy proposal into the set of strategies and his proposal may be adopted or rejected through voting. Thus, we expect the set of available strategies to be higher under DD than under any other regime, since in other regimes the set of strategies depends on fewer decision makers, (e.g. political parties, oligarchies or Kings with their bureaucracies). A higher number of available strategies in the “pool of strategies” under DD do not necessarily mean that the best strategies are adopted. The citizens-decision makers may adopt a strategy, which they deem “best”, but they may be proven wrong *ex-post*.²⁰ The same of course is true of the implementation of strategies under other regimes.

At least two characteristics differentiate DD compared to other political regimes and particularly ID. First, under DD we have a process of internalising benefits and costs of decision-making. The citizen-decision maker bears the result of his personal decision on his welfare. The cost-benefit is no more an externality imposed to him by an external agent. Thus, the agent-principal problem discussed above, is mitigated under DD, if not wholly eliminated. Second, in a continuous situation of decision-making and welfare calculation by each citizen- decision maker, the possibility of learning exists and we believe is higher than under other regimes where learning is lower. Because of different and slower procedures (e.g. voting under representative democracy every two or more years brings the “new” strategies proposed by political parties to citizens to be tested) and because to the lower incentives for citizens to learn. If the cost-benefit of the decision is seen as an externality on which the citizen exerts none or very slight influence, then he has none or very low incentive to devote resources to learning. Thus, the net result of benefits minus costs of learning under ID is lower than under DD; the costs being, for example, time devoted to collecting information, forming coalitions etc., all these things which strongly influence the level of transaction costs.²¹

Therefore, DD is a regime under which individual preferences are expressed better and freer, and may become “endogenous” in the sense of being decided by voting on separate issues and not being imposed “externally” by political parties, e.g. other decision makers, like Kings or “tyrants”²² in older historical periods. If such an argument holds, then DD is also a more cooperative regime, because it necessitates the forming of coalitions between voters with different interests, since the function of decision-making is not a static “once-for-all” but continuous and dynamic.

At time t_0 , when the “decision-tree” begins let us assume that the set of available strategies consists of strategies S_1 to S_m . These strategies are linked to a set of institutions and organisations, denoted as I_1 to I_n .²³ Under DD the “initiators” may propose new strategies, which once adopted, change the available set of institutions and strategies at the next period in two ways: by enriching it with new ones, and by eliminating some of the older ones. Thus, at point t_1 , the second period, we have a

new set of strategies S_1 to S_{m+1} and a corresponding new set of institutions and organisations I_1 to I_{n+i} . This procedure continues so long as the DD procedure functions effectively.

Once the voting procedure is played for a long enough periods of time, then we have a true change of regime as new institutions and organisations have evolved, replacing old ones. This is linked to learning and acquisition of new knowledge for the individual decision maker, but also, through the implementation of new institutions and organisations for the whole society. This again corresponds to a collective investment for the society as a whole, and over the periods, to a considerable “sunk cost”. These “sunk costs” collective investment keeps the regime on the new path and makes a return to the old path no longer an option. Thus, a return to the old path would mean the elimination of the new collective investment, encompassing a high welfare loss for the society.²⁴

At each period of the decision tree, each decision maker produces an ex-ante calculation of his personal costs and benefits if he votes for each strategy proposed by an initiator.²⁵ He chooses the dominant strategy or strategies in terms of his personal welfare. This is given as:

$$t_0 \quad \omega_1(S_1) > \omega_1(S_2) \dots \omega_1(S_m) \quad (1)$$

Where t_0 is the time period 0, $\omega_1(S_1)$, $\omega_1(S_2) \dots \omega_1(S_m)$ are the ex-ante net welfare results for each strategy for the particular individual 1.

For a given strategy to be adopted under DD, the necessary condition is that the strategy must get a simple majority vote:

$$S_1 > S_2 \dots S_m \quad (2)$$

if

$$\sum_{i=1}^{\frac{g+1}{2}} v(s_1) > \sum v(s_2), \sum v(s_m) \quad (3)$$

Where $v(s_1)$ is the number of votes (v) cast in favour of strategy 1, and $v(s_2)$ etc. the votes cast in favour of the other strategies. For simplicity we assume here that only one strategy is adopted each time, but as previously noticed, more than one could be adopted during any period. g is the total number of decision-makers voters, so that for s_1 to be adopted the necessary condition is that it gets a simple majority, e.g. at

least $\frac{g+1}{2}$. The term $\sum_{i=1}^{\frac{g+1}{2}}$ thus denotes the number of individuals who have voted

for this strategy, which is superior to the votes cast in favour of the other strategies $v(s_2)$, $v(s_3) \dots v(s_m)$.

During the next period t_1 , each voter compares his ex-ante expected welfare situation under strategy s_1 , with his actual ex-post after the implementation of s_1 . If he is satisfied with the results, he will continue to support strategy s_1 . If not, he will vote against it during one of the next periods; a possibility which he has under DD.²⁶

Under DD and a continuous voting procedure, another possibility comes into play: some voters may compensate others for eventual loss under this new strategy (e.g. “logrolling”). Thus, even some voters whose initial cost-benefit calculation might be unfavourable under the new strategy might be induced to vote for it, if some of the voters in favour of the strategy offer them sufficient compensation out of their welfare gains. Or, stated somewhat differently, the voters in favour of strategy s_1 , may promise to some voters not in favour of it, to vote in a future period in favour of one strategy which benefits them. In other words, under DD and a continuous period, the possibility of the outcome becoming a cooperative one increases.²⁷

As stated above, new strategies are linked to new institutions and organisations. The formation of new institutions and organisations is the new knowledge acquired by the society. This, together with the welfare cost-benefit analysis undertaken by each decision maker-voter, constitutes the individual’s learning. We can thus formulate an equation for the change of a regime under DD:

$$R_t = \alpha_0 + \alpha_1 e^{s \cdot t} \quad (4)$$

Where R_t is the regime at each point of time; α_0 is the initial point at which the regime begins; t is time and s is the set of strategies implemented at each period linked to specific institutions and organisations. Since they again represent learning and knowledge, equation 4 can be formulated also as:

$$R_t = \alpha_0 + \alpha_1 e^{k_t(s) \cdot t} \quad (5)$$

Where k_t is knowledge linked to each strategy set s . k_t again depends on two elements: the actual number of new efficient institutions and organisations adopted at each period; and the rate at which they are diffused across the various “sectors” of society and economy. Thus, we arrive at a model of DD, which is linked to a knowledge process.

The main point here is that new institutions and organisations linked to new strategies are not introduced uniformly over the whole spectrum of society and economy, but usually first in some leading sectors. Once it is realised that these institutions-organisations function well and are welfare enhancing, they are adopted by other sectors, as knowledge is diffused.²⁸ Cases of new organisation forms that evolved first in the maritime sector of some economies are the joint-stock companies in the UP (partnerships) and England such as the respective East India Companies, EIC and the Dutch East India Company VOC. There is also a caveat concerning the efficiency of new institutions and organisations. Namely, it is not certain ex-ante that a new strategy and the institutions it introduces are necessarily efficient (or more efficient than old ones). Decision makers may be wrong in their calculations and expectations, in DD, ID or any other political regime. What may be expected under the workings of DD, is that they learn from their mistakes, thus gradually eliminate wrong-inefficient strategies and introduce better ones.

It must be noted, that although we have presented our model as one of DD, it applies with minimal modifications also to ID. In ID or representative

democracies, the initiators are the political parties. The strategies set is enlarged either through the initiative of the parties by their political programme, and/or indirectly if the political parties become aware of changing citizen's preferences and include them in their political programmes; something which is the ideal case of the ID and would eliminate the principal- agency problem exposed above. Even in this ideal case, the rate of inclusion of new strategies would be slower under ID than under DD, since under ID there are two steps in time: political parties are becoming aware of citizens' new preferences; and then they introduce them into their political agenda. On the other hand, under DD the first step is eliminated, preferences being introduced directly by citizens.

4. The ancient Athenian Direct Democracy

In the present section, we will concentrate on the analysis of some aspects of institutional development, both political and economic, presenting the prototype DD, ancient Athens, as a case study. We do not attempt of course a complete presentation, due to space restrictions, but focus on some important cases which support the theoretical predictions of our model.²⁹ We purport to illustrate, using the prototype DD as a case study, that various initiators introduced new strategies into the choice set. Some of these strategies were adopted through voting in the assembly, introducing thus successful responses to challenges and making the Athenian state to adapt and change.

Athenian DD began when Cleisthenes overthrew the tyrant Hippias in 510-507, although elements of democracy had been introduced much earlier, e.g. at least during the beginning of the 6th century by Solon. Then, full DD where the rule of law³⁰ prevailed, was introduced by Themistocles in 482 BC. with the voting in the assembly of his Naval Law or Decree, and other democratic mechanisms as we shall see later on. This transformed Athens from a mainly land power into a sea-power, by the building of 200 new warships (triremes) during 482-481 BC. The Athenian fleet was the major element (almost two thirds) of the combined Greek fleet that gave victory to the Greeks against the Persians at Salamis in 480 BC., and saved democracy as a regime.

The initiator of the Law was Themistocles, a "politician". The Law introduced political institutional reforms, e.g. the extension of full political rights (to be elected as well as having the right to vote) to all Athenian citizens (the poorest ones, the "thetes", who were the majority of the population, had the right to vote, but not to be elected to all positions up to then).³¹ After the democratic reforms of Cleisthenes, Ephialtes and Pericles, a direct democracy was established in Athens (Aristotle, *The Athenian Constitution*, XXV, XXVII).³² Such a democratic regime was strengthened after the Peloponnesian War (403 BC.)³³ where, as Aristotle stressed:

"the people has made itself master of everything, and administers everything by decrees and by jury courts in which the people are the ruling power, for even the cases tried by the Council have

come to the people. And they seem to act rightly in doing this, for a few are more easily corrupted by gain and by influence than the many" (*The Athenian Constitution*, XLI.2). And, "the partnership of democracy is based on numerical equality" (Aristotle, *Eudemian Ethics*, 1241b).

The basic principles of such a democracy were the following: (a) the government of Athens was in the hands, not of the few, but of many (the majority principle); (b) in legal affairs all citizens were equal in the settlement of their private disputes (the principle of equality before the law); (c) with respect to the importance of each citizen to the city-state, public honours were conferred not because a citizen belonged to a particular class, but because of personal merits (the principle of meritocracy); and (d) there prevailed freedom from suspicion of one another in the pursuit of every-day life (the principle of personal liberty).³⁴ Such a democracy as Isocrates (*Areopagiticus*, 17) claimed is "a government than which we could find none more favourable to the populace or more advantageous to the whole city". Thus, Athens became the first DD encompassing all its citizens in the Assembly ("Demos"), which became the dominant political institution.³⁵

At the same time, two new economic institutions were widely introduced:

(i) *Trierarchy*, a kind of income tax on wealthy Athenians, who had to bear for one year the "running" expenses for the upkeep of one warship plus personal service, e.g. captaining the ship.³⁶

(ii) *Public Private Partnerships*, under which the 100 wealthier Athenians became "public entrepreneurs", each one undertaking to build a warship on behalf of the city.³⁷

The operation of direct democracy inculcated civic virtues and attitudes among the citizens, promoted consciously by the state through religious festivals (like the Panathenaea), theatre plays, and public monuments like the Parthenon. Athenians were not inherently more disposed to think about shared concerns or a common good; but being conscious that this attitude did not come naturally to humans differing in wealth, education, intelligence and a host of other characteristics, they created institutions of democratic governance to instil this broader perspective (Farrar, 2007). Also, the Athenian practice implied a notion like the modern one of "negative freedom". They distinguished between private and public realms (as made explicitly clear in Pericles "Funeral Oration") and made room for both economic inequality and personal idiosyncrasies. They recognized that such inequalities could function as an incentive to increase personal wealth and through the redistribution by such mechanisms as "liturgies" and "eisphora", to increase the wealth of poorer citizens and of the state (Bitros and Karayiannis, 2006; Kyriazis 2009). Thus, freedom was both a prerequisite and a product of citizenship. The system depended on the willingness of individual citizens to take initiatives, to make proposals to the assembly, even to challenge or indict a fellow citizen for violating the laws. Thus, the initiator, "ho boulomenos" is a key figure in the operation of Athenian democracy (Farrar 2007).

Let us see more deeply this first case of DD initiated by Themistocles.

In 483-482 BC, in the silver mine district of Lauren, an unprecedented rich vein was discovered. The revenue reached the very high figure of 100 talents (600.000 drachmae) at a time when a drachma was a middle-class man's daily income. According to our model, two strategies were open as proposals to the Assembly concerning the use of this revenue: The first, proposed probably by some "conservative" (or "aristocratic") politicians, (perhaps Aristides) was to share the amount equally among all Athenian citizens.³⁸ The amount due to each one would be 10 drachmae (then equivalent to more than ten working days' remuneration). The second, proposed by Themistocles, was to use the revenue to finance the public good defence, e.g. to build a fleet of 200 warships during two years (Plutarch, *Themistocles*, 4).

Each citizen voter made his ex-ante welfare calculations accruing to him under each strategy. The welfare effect of the first was easy to calculate: 10 drachmae additional revenue for the present year, and perhaps similar revenues for future years, as long as the silver lasted. The welfare effect of the second (Themistocles) strategy, was more difficult to calculate: Forego the immediate revenue (consumption) of 10 drachmae, in order to benefit in the future from the public good defence (warships) and the "promises" it would bring. These promises were: (a) save the country and preserve democracy (clearly stated by Themistocles) as general aims; (b) on a personal basis, full citizen rights for everybody (e.g. the majority of poor citizens) plus some guarantee of future income for the poorer citizens, who would earn wages as rowers of the fleet; and, (c) perhaps, even the vague promise, that if Athens won the foreseeable war with Persia, a bright and different future as a sea power would open itself for the city and its citizens.³⁹

The citizens made their ex-ante cost-benefit calculations of welfare under the two strategies, and perhaps astonishingly, the majority voted for the second, "unsure" strategy proposed by Themistocles, which had far-reaching effects, both political and institutional, as analysed above.⁴⁰ We consider this choice as a supreme early vindication of DD. It was as if an "invisible hand" guided the self-interest of citizens to choose a strategy that not only in fact maximized their general individual welfare in the long run, but brought about a collective welfare-increasing outcome.⁴¹

From this time, the Athenian DD was continually improved by introducing new political and economic institutions which increased the knowledge status of citizens. More specifically, Pericles, who was active as the leader of Athens during 460-429 BC., -sometimes as elected general, and in between as an orator and "initiator" to the Assembly- recognized that equality of rights does not lead automatically to equality of opportunities. He believed that equality of opportunities was essential for democracy, and thus consequently introduced: (i) payment for participation by poorer citizens on the decision-making bodies (e.g. the Assembly which met for about 40 days per year, and the Courts); and (ii) payment for poorer citizens to enable them to watch the four days theatrical plays contests (Aristotle, *Politics*, 1274a; *The Athenian Constitution*, XXVII-XXVIII). His reasoning was that

poorer citizens could not afford to lose their day's remuneration in order to participate at the Assembly, Courts and theatrical plays.⁴² He considered that citizens would learn by participating at the Assembly and hearing the debates,⁴³ and the same was true for the theatrical plays.⁴⁴ Thus, he recognized the learning function inherent in DD.⁴⁵

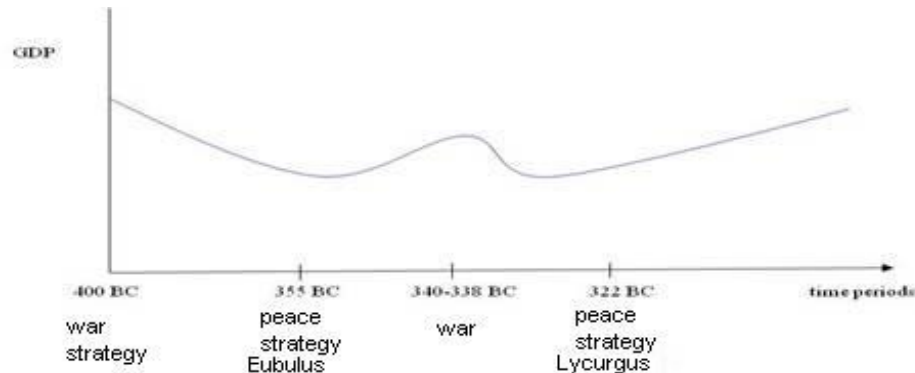
After the restoration of DD in 403 a new institution was introduced, as a remedy for mistakes made by the Assembly during the Peloponnesian War, the "graphe paranomon": "when a man says anything contrary to law, he should, if he is convicted, be deprived of one third of his personal rights" (Demosthenes, *On the Trierarchic Crown*, 12; see also *Olynthiac I*, 16).⁴⁶ This separated the Assembly from legislation by introducing a procedure⁴⁷ under which the proposer of a decree (in our terminology, the "initiator") in the Assembly, could be indicted to court of justice if he proposed an unlawful decree or law. Under any "initiator" of new law could be challenged by any citizen as having contravened the established laws and the definite decision was taken by the people's court.⁴⁸ Such a new strategy (we do not know exactly who proposed it for the first time) was of paramount importance as it eliminated the function of older and inefficient ones. For example, the strategy which under the working of DD up to 404 did not foresee any separation between the Assembly and law-making; or any possibility of a "second test" of the legality (or even efficiency) of a new law; or the inconsistency of new and older laws, which might coexist up to 404 BC. Under such function of democracy,⁴⁹ as Aristotle stated: the Athenian "state had advanced to this point, growing by slow stages with the growth of the democracy;" (*The Athenian Constitution*, XXIII.1).⁵⁰ In the same tone, Demosthenes (*On Organization*, 26-30) writing in 354 stressed that the economic development and the high welfare state of Athens, mainly during the 5th and early 4th centuries was made possible because: "then the people controlled and dispensed everything, and the rest were well content to accept at their hand honour and authority and reward" (Ibid., 31).

Another example of DD decision-making process was that of Nicophon who in 376 BC., proposed his monetary law, under which "good value" foreign coins could circulate freely in Athens as parallel currencies, thus facilitating exchange, trade and reducing transaction costs. This law introduced also the office of "tester", i.e. experts who tested the purity of foreign coins in case of doubt, and thus guaranteed against fraud. What is important from our model analysis are: (i) The "initiator" of the law, Nicophon,⁵¹ is otherwise unknown. He was not a politician, but he must have known a lot about the actual workings of the economy and matters having to do with money circulation. (ii) The example of Nicophon illustrates the point that under DD anybody can enrich the strategy set with "good" new strategies.

Another example was that one taking place during 355-339 BC. by Eubulus, and during 337-323 BC. by Lycurgus, who implemented similar programmes, (i.e. under a "social contract" in our interpretation), in order to bring about a compromise between different interest groups, and thus make possible the implementation of a new peaceful foreign policy. Eubulus and then Lycurgus

following in his steps, proposed the following compromise: The poorer Athenians, the main benefactors in war time since they had employment and remuneration as rowers in the fleet for 7-8 months per year (excluding the winter months during which the fleet was not operating), would refrain from voting for war in exchange for remuneration in peace time (Aeschines *Against Ctesiphon*, 25).⁵² This took the form of increased payment for “theorika” (namely in attending public ceremonies like the theatre), but also employment in the various public bodies like the Assembly and the Courts and, most importantly, in the extensive public works programme.⁵³ Through the continuous voting procedure under the principles of DD, the poorer citizens would have more chances for employment and remuneration in peace-time. On the other hand, the richer citizens (bankers, ship-owners, traders and other entrepreneurs) gained from this compromise by having the possibility to pursue their interest (profit-making) without the uncertainty and dangers of war. In exchange, they accepted some forms of contribution to the state (to the benefit of the poorer citizens) both out of state revenues per se, but also out of their own revenues in the form of accepting “liturgies” (various public expenses) and also the imposition, for the first time during peace, of an income – wealth tax, “eiphora” (Kyriazis 2007).⁵⁴ Thus, according to our model, what made the contract of Eubulus and Lycurgus acceptable to the majority of decision makers’ voters, was their individual welfare calculations under the different strategies, which were introduced and tested, in the continuous operation of DD.

To put the above DD case more concisely: From about 400 to about 355, various forms of a war strategy were implemented, and their welfare results on individuals were calculated, both ex-ante and ex-post. What is important here, is that by about 355 BC., the majority of the voters were convinced that their ex-post welfare was lower than that calculated ex-ante, e.g. they were deceived by the results of the war strategy. Thus, when an initiator (Eubulus in 355, and Lycurgus in 338) proposed a new peace strategy (the “social contract”), they were willing to implement it, and they were satisfied with it, retaining the strategy of relative peace during 355-340, with a short abortive change to a war strategy in 340-338, and going back to a total peace strategy for 338-322. Here we have a combination of three elements of our model: (a) The introduction of new strategies into the decision making set. (b) The possibility of learning by the decision makers. (c) The formation of larger and more stable coalitions through compromise and side payments, which bring about a more cooperative, and positive outcome.⁵⁵ We illustrate these welfare calculations⁵⁶ under the different strategies in Figure 1.

Figure 1

Decision making under various strategies and welfare

The graph illustrates the fact of falling welfare payoffs during the war period 400-355, and the increasing payoffs resulting from the new peace strategy during 355-322 (with a short war interruption of 340-338).⁵⁷ Indeed, the period 355-322 was a period of increased economic prosperity and growth for Athens as attested to by a very considerable growth of public revenues; part of which was coming from increased custom duties from trade, which again is an indication of increased trade and, in general, economic activity (Kyriazis 2009).

A last question remains in this context. If the peace strategy was so successful, why did the Athenians revert to a war strategy in 322? A tentative answer is that because of economic prosperity during the 16 years between 338 and 322, the Athenians felt strong and willing to implement again a war strategy with its promise of a third Athenian empire and its even higher payoffs.⁵⁸ However, on this strategy they fatally miscalculated.

We summarise Athenian institutional changes in Table 1. What is important here, is that from the six major cases we have analysed, one at least has been introduced by an initiator who was not a “politician”, i.e. Nicophon.⁵⁹

We have analysed above the working of the Athenian democracy with an emphasis on the decision-making process concerning finances and the choice and provision of public goods. As already stated by Aristotle and later taken up by many philosophers and political scientists, notably J.S. Mill (1861), perhaps one of the most important ideas to be found in relation to democracy, is the one which aims at the creation of a citizens’ society where they are active in politics and economics so that they can achieve the fulfilment of their personalities. They express their “virtue” (the Greek word being “areti”) by taking part in decision-making in solving

public problems for the “common good”. Sovereign citizens in a democracy must take part in this decision-making procedure, because this is how they can be masters of their own fate, and the fate of their societies and their states (Macpherson 1977; Paparrigopoulos 1984).⁶⁰ Seen in this light, citizens’ participation and involvement in decision-making process is the cornerstone of democracy.

Table 1
Political and institutional change in ancient Athens

Period	Initiator	Political change	New Institutions and policies
482-481 Naval Law	Themistocles “politician”	Full political rights to all citizens	Trierarchy, Public Private Partnerships
460-450 (about) “theorika”	Pericles “politician”		Payment for Public Service, and for theatre plays
(cr. 415-403) “graphe paranomon”	?	constitutional legal procedure	less radical democracy
476 Nicophon’s monetary law	Nicophon “Businessman”?		Monetary law: parallel circulation of all good coins.
355 Eubulus	Eubulus “politician”	peace strategy	Increased “theorika payments”
338 Lycurgus “social contract”	Lycurgus “politician”		“Eisphora” also in peace-time, Extensive public works programme

5. Conclusions

In contrast to Athenian achievements, both in economic and political fields, modern free market democracies have serious shortcomings. As pointed out by modern authors, (e.g. Downs, 1957) citizens of modern democracies are both ill-informed

about the issues on which they have to decide. One of Downs' somewhat surprising conclusions is that a rational person will devote little effort to becoming well-informed before voting. Throughout the history of political theory there has been much preaching aimed at "improving" the voter. Downs' demonstration that the voter was behaving rationally not only suggests why all of this preaching has been unsuccessful, but also indicates that the preachers have been wrong; or that preaching is not the correct means of "improving" the voter. Similarly, Buchanan and Tullock (1962 p. 204) support Downs' finding with their introduction of the cost of decision-making. These costs may become too large relative to the possible reduction in expected external costs and increase in benefits that collective action might produce. If direct democracy were required, the individual, in his presumed role as constitutional choice maker, would leave many activities of the State to be organised in the private sector. Representative government is a means of reducing these decision-making costs. DD on the other hand, gives strong incentives to voters to be well-informed, since, through their decision-making, they internalise both costs and benefits⁶¹

As is deduced from the above, the Athenians evolved under this principle an elaborate structure of decision-making, but also forms of revenues for the budget that have a very modern character, like progressive income-property taxation. They also solved successfully problems facing modern democracies, concerning public choice and the provision of public goods like defence. Through the procedure of continuous voting (or "referendums", as they may be called using modern terminology) they acquired knowledge, evolved an elaborate institutional setting, and expressed their preferences concerning both the choice and amount of public goods to be provided. Ancient Greek and especially Athenian life had a very strong competitive quality, competition between individuals that allowed the winner to achieve excellence, fame and heroic stature (Kagan 1991). This competition took place mainly in front of the Assembly, and it was a competition of proposals on public policy issues, (strategies in our model's terminology) with the aim of improving the state (i.e. the level of their welfare).

We have attempted in our model and the brief discussion of the Athenian prototype DD, to illustrate the link between democracy and change, in particular the emergence and development of new and more efficient institutions. Some authors (see e.g. Bitros and Karayiannis, 2008; Karayiannis and Hatzis, 2010) have pointed out that participatory or DD functioned effectively because institutions supported it, and because under DD "social contract" evolved laws, morals and social norms that were cost-reducing and growth-promoting. In the present paper we illustrated another side of DD, that of DD as facilitating the adoption of new strategies that are linked to the development of new, and in many instances, more efficient institutions.

Moreover, under DD, the Athenian Assembly became a market place for the competition of ideas. Taking the analogy one step further, and considering that economists have since the time of A. Smith underlined the benefits of competition, we can tentatively point out that DD, being the closest analogy in the political field

of the economic idea of perfect competition, should also be advantageous. ID would be the analogy of imperfect competition (i.e. oligarchic regimes like the medieval Italian Republics of Venice, Genoa etc.) and 17th century England and the United Provinces, the analogy of oligopoly; while the absolute kingship or dictatorship the analogy of monopoly.

However, a lot of issues are still open and needs a further investigation:

(i) Is DD a political system more suited to social conflict resolution today, as it seemed to be in ancient Athens? For almost two centuries, Athens showed a remarkable social stability without social upheavals, revolts and civil war, as occurred in other Greek city states, the last centuries of the Roman Republic, many Italian medieval states like Genoa, etc.

(ii) Is DD in modern conditions better suited to endogenise citizen's preferences and choices, thus increasing welfare? Taking into account the very limited evidence we have from Switzerland and the American states that practice DD, the answer seems to be tentatively positive.

(iii) What is the optimal combination of stability and change in a democratic system? Modern ID's with their checks and balances seem to enhance stability to the detriment of often necessary change (as also President Obama has found out to his dismay!); or put more pointedly, to face a choice of rigidity in ID versus maybe volatility linked to DD. As Bowles and Gintis (1986, p. 186) put the ideal functioning of a "democratic dynamic": "The problem of building a democratic society is... one of a dynamic interaction of rules and actors, with the actors rendering the rules more democratic, and the increasingly democratic rules rendering the actors more firmly committed to and skilled at democratic participation and decision-making", what we have called also "learning by voting". However, we do not think that a definite answer to this question has been found yet.

If the present essay gives an impetus to further research both on the theoretical discussion of democracy and the analysis of further case studies, then it will have achieved its main objective.

Notes

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³ Even on these points historians disagree; some arguing that "true" democracy should be traced to begin with the reforms of Ephialtes and Pericles in the 460's. For a discussion, see Raaflaub et al. (2007).

⁴ Due to space constraints, our review is selective, rather than all inclusive.

⁵ The term “democracy” was introduced again as an “official” title after the Second World War. Before this time, the term “Republic” was used. Since Communist countries after this war adopted the name “Democratic” to characterise themselves (as e.g. DDR, “Deutsche Demokratische Republik”, etc), western countries increasingly used the same term for themselves. Direct Democracy seems to be gaining ground. It is regularly practised in some Swiss cantons and some states of the USA, and in the form of referendums in many others. For example, in Italy there were no fewer than 31 referenda during 1990-2000, in Germany the voters in many Länder (particularly Bavaria) have successfully demanded direct participation rights, while at least one referendum has been held recently in France, the Netherlands (on the EU Constitution), Ireland (on the Treaty of Lisbon, e.g. the amended EU constitution) and in Greece (in 1975, concerning the type of democracy, King or Presidential); while the government of the Canadian province of British Columbia empanelled a random sample of citizens to hold hearings on electoral reform and participation and draft a referendum on the issue; see Frey, Kucher and Stutzer (2001); Matsusaka (2005b); Tangian (2008).

⁶ For the countries like France where the President is elected through a general vote, or like the USA through a semi-direct vote of electors.

⁷ For all these see Cronin (1999, pp. 40-1).

⁸ As exposed in Pericles “Funeral Oration” (Thucydides, II 37) and many of Demosthenes speeches, see e.g., *On the Crown*.

⁹ A point underlined also in Ober (2008) for the ancient Athenian democracy.

¹⁰ See also Matsusaka (2004) for detailed analysis of these issues.

¹¹ See Noam (1980); Feld and Savioz (1997); Frey and Stutzer (2000); Frey, Kucher and Stutzer (2001); Gradstein and Milanovic (2002). As Matsusaka (2005a) shown, demographic, political, and technological trends are fueling an unprecedented growth in direct democracy worldwide; thus, if the trends continue, direct democracy threatens to eclipse legislatures in setting the policy agenda. In other words, legislatures are gradually being eclipsed as the primary creators of public policy, and they already have assumed a secondary role.

¹² For such issues see Lane (1958); Barzel and Sass (1990); McGuire and Olson (1996); Barzel (1997); Bowles (1998); Barzel (2000); Acemoglu and Robinson (2000; 2001); Barzel and Kiser (2002); Acemoglu, Johnson and Robinson (2002); Fleck and Hansen (2006).

¹³ For the various pros and cons of direct democracy in USA states in the previous decades and their impact of economic issues such as public spending, taxation, etc. see Matsusaka (2004).

¹⁴ See Mauro (1995); Karayiannis (1995); Bardhan (1997); Ades and di Telia (1999); Drakopoulos and Karayiannis (1999); Tanzi (2000, pp. 97-9, 123-9).

¹⁵ We must underline here that what matters is the degree of democracy in the particular time period, and not compared to moderns. Thus Venice and Genoa during the late Medieval and early Renaissance period, and England and the United

Provinces during the 17th-18th centuries were not democracies (or even real Republics) by modern standards, but rather merchant and or “aristocratic” oligarchies. However, concerning the relative freedom of individuals, general and property rights etc., they were more advanced than any other country during the same period, and this was what truly mattered for institutional development. See Greif (2006) for Venice and Genoa; Norwich (1977), Lane (1985) and Pezzolo (forth-coming) for Venice; Halkos and Kyriazis (2005b) and Kyriazis (2006) for the United Provinces; and Kyriazis and Zouboulakis (2003) for England.

¹⁶ We use the term “good” here in order to avoid methodological problems related to the question of maximization versus “satisficing” behaviour. Some authors (e.g. Barzel 1997) analysed the constitution as a “maximization mechanism”. On the other hand, scientists such as Greif (2006, p. 194) writes that “effective democracies are geared toward facilitating changes”; and Cronin (1999 p. 182) argues that Democracy should not be static. As the nation expands and as educational levels rise, so also should we continue to expand and amplify the opportunities to participate in self-government. Similarly, Przeworski and Limongi (1993 p. 62) maintain that the probability that a democratic regime survives a crisis is higher than for a dictatorship, because “under democracy it is easier to change a government without changing the regime”.

¹⁷ We owe this clarification to G. Tridimas.

¹⁸ We will return to this question in our analysis of the historical case study in the following section.

¹⁹ The ancient Athenians had a specific term for the initiator, “boulomenos”, e.g. “he who wishes” to propose a new decree or law.

²⁰ Again, we will discuss this issue in our Athenian case study.

²¹ Schnellenbach (2004) considers collective learning process as one of the driving forces of constitutional evolution.

²² In the beginning, the word “tyrant” did not have the negative connotation it has today. In 6th and 5th centuries BC Greece, it meant a regime of the leadership of one person, who was not a hereditary King. Some tyrants were even philosophers like Periander of Corinth.

²³ The number of institutions and organisations is not necessarily the same; e.g. one strategy may lead to more than one institution and organisation, thus m and n are different numbers.

²⁴ We owe the consideration of the sunk-costs aspect to G. Bitros. The discussion here can be presented also under the aspect of path dependence and change. For a more elaborate discussion of this and a formal model, see Kyriazis (2006) and the references given there.

²⁵ We assume here, that each voter who actually votes must decide for himself which is his dominant strategy on the particular issue. If there is none, then he either does not vote at all, or he votes blank. For simplicity, we assume that there is only one dominant strategy for each issue (e.g. the dominant strategy excludes all others)

although, of course, in real situations this may not be the case. In ancient Athens the situation was more or less like that, since most proposals came in the form of “in favour” or “against” or as mutually exclusive alternatives, as in the case of Themistocles Naval Law. This is also the case of popular initiatives in states which practice it today.

²⁶ “Satisfied” may mean here that his ex-post welfare is the same as calculated ex-ante, or even higher, which are clear cases of the voter sticking with strategy s_1 . If the ex-post welfare is less than that expected ex-ante, the voter may still retain the strategy, if he still regards it as welfare superior to the others (although he has miscalculated ex-ante his welfare gain).

²⁷ This has been recognized by Buchanan and Tullock (1962; 2004) and Greif (2006), among others.

²⁸ For a more formal elaboration of this point see Kyriazis (2006; and forthcoming).

²⁹ There is an extensive and growing literature on the economic aspects of ancient Athens; see e.g. Finley (1973); Ober (1989; 2008); Kagan (1991); Gabrielsen (1994); Cohen (1997; 2000); Hansen (1999); Manville and Ober (2003); Amemiya (2007); Migeotte (2007); Dunham (2008); Bitros and Karayiannis (2008). For the establishment of the rule of law and various institutions under a democratic regime in Athens see Foxhall and Lewis (1996); Harris (2006); Bitros and Karayiannis (2010); Karayiannis and Hatzis (2011).

³⁰ The main elements of the governance under the rule of law were well stressed by the Athenians. As Aeschines (*Against Ctesiphon*, 3) noticed:

“There are, as you know, fellow-citizens, three forms of government in the world tyranny, oligarchy, and democracy. Tyrannies and oligarchies are administered according to the tempers of their lords, but democratic states according to their own established laws”.

In the similar tone, Lysias wrote that:

“They were (the Athenians) the first and the only people in that time to drive out the ruling classes of their state and to establish a democracy, believing the liberty of all to be the strongest bond of agreement; by sharing with each other the hopes born of their perils they had freedom of soul in, their civic life, and used law for honouring the good and punishing the evil. For they deemed that it was the way of wild beasts to be held subject to one another by force, but the duty of men to delimit justice by law, to convince by reason, and to serve these two in act by submitting to the sovereignty of law and the instruction of reason” (Lysias, *Funeral Oration*, 18-19; brackets added).

For the establishment of the rule of law and various institutions under a democratic regime in Athens see Foxhall and Lewis (1996); Harris (2006); Bitros and Karayiannis (2010).

³¹ For an extended analysis of Cleisthenes, Themistocles, and other political reforms, see Fornara and Samons (1991); Dillon and Garland (1994); Croix (2004); Balot (2006, ch. 3,4); Raaflaub et al. (2007); Jones (2008).

³² Regarding the transformation of Ephialtes who decreased Aeropagus' power, see Rihll (1995). For an extended analysis of the various family, political, and other associations in Athens with respect to their response to democracy, see Jones (1999).

³³ Rhodes (1980) analytically described the various changes of the governance of Athens after 403.

³⁴ See Thucydides (II, 37); Isocrates (*Areopagiticus*, 21-4, 27; *Panathenaicus*, 139-143).

³⁵ Ober (2008, pp. 37-8) analytically justified the hypothesis that "Democratic Athens was able to take advantage of its size and resources, and therefore competed successfully over time against hierarchical rivals, because the costs of participatory political practices were overbalanced by superior returns to social cooperation resulting from useful knowledge as it was organized and deployed in the simultaneously innovative-promoting and learning-based context of democratic institutions and culture". He also shows (Ibid., pp. 2-5, 76-8) how the direct democracy of Athens through the dissipation of knowledge and learning contributed to her economic and cultural growth. The Athenian DD increased the credibility of commitments, lowered transaction costs and reduced the incidence of free-riding (Ibid., p. 14). Also, promoted procedural and distributive justice and expanded the scope of individual liberty and human flourishing (Ibid., p. 17). For a description of the function of direct democracy in Athens see Ober (1993) and in the light of ancient Greek literature see Leach (1900).

³⁶ Kaiser (2007) analysed the function of trierarchy in terms of efficiency and public expenses, expressing the Athenian citizens' incentives within a game of asymmetric information.

³⁷ For a detailed analysis of the effects of the Naval Law, see Kyriazis and Zouboulakis (2004) and the literature given therein, and for the financing of the Athenian fleet and the development of trierarchy over almost two centuries of its use, see Gabrielsen (1994).

³⁸ It may come as a surprise for modern readers that such a proposal would have come from a "conservative" and not a "populist" politician, using today's political connotations. We do not know who proposed the equal sharing of the Laurion silver. But we do know, that the political opponents of Themistocles were the "conservatives" (if we may give them this label) like Aristides. Themistocles had to pass an ostracism decree to banish Aristides in order to "free the way" for his law proposal. However, most historians characterise Aristides as a "conservative" as against the "progressive" Themistocles.

³⁹ Something which was realised some years later on; but in 482 BC. was rather a brilliant vision of Themistocles.

⁴⁰ For an extensive analysis of the role of self interest of citizens to the deduction of a decision of the Athenian Assembly, see Farenga (2006, ch. 5,6).

⁴¹ We write “general” welfare to include not just measurable economic welfare (increased income) but also such intangible elements of welfare such as freedom, patriotism etc, which at the time were valued very highly. Also, we are aware that our brief discussion involves the “impossibility” theorem of collective welfare. However, our tentative interpretation seems to indicate that under DD, collective welfare increasing solutions may exist.

⁴² As G. Tridimas pointed out to us, Pericles can be seen also as a politician motivated by winning and keeping office as he was almost continuously voted a general; one of the few offices in Athens were candidates were elected and not chosen by lot. Like modern politicians he used the public “purse” for distributing benefits and thus maximizing votes.

⁴³ As Kagan (1991, p. 59) relatively comments: “The assembly itself was a far less unwieldy incompetent body than is generally assumed. If a citizen attended no more than half the minimum number of yearly sessions, he would still hear twenty sets of debates by the ablest people in the state, chiefly elected officials or those formerly holding elective office, the leading politicians in all factions, and a considerable number of experts on a variety of subjects... If each attendant at the assembly had been listening to such discourses for an average of only ten years, such experiences alone must have fashioned a remarkable body of voters, probably more enlightened and sophisticated than any comparable group in history”.

⁴⁴ The plays had also an educational task: They were teaching history and mythology, (e.g. Aeschylus *Persians*, and the *Oedipus* and *Trojan* cycles), politics, morals and religion. Thus, we maintain that they were the first public education programme in history. For an economic analysis of such a mechanism of education see Baumol (1971).

⁴⁵ As Demosthenes (*On the Embassy*, 184-5) describes the function of this mechanism:

“A man can do no greater wrong than by telling lies to a popular assembly; for, where the political system is based upon speeches, how can it be safely administered if the speeches are false? If he actually takes bribes and speaks in the interest of our enemies, will not you be imperilled? Again, to filch your opportunities is not an offence equivalent to filching those of an oligarchy or a monarchy, but far greater. For in those polities, I take it, everything is done promptly at the word of command; but with you, first the Council must be informed, and must adopt a provisional resolution,--and even that not at any time, but only after written notice given to marshals and embassies; then the Council must convene an Assembly, but only on a statutory date. Then the most honest

debaters have to make good their advantage and argue down an ignorant or dishonest opposition”.

⁴⁶ For a detailed analysis of various aspects of “graphe paranomon”, see, for example, Ober (1989).

⁴⁷ Such a procedure is analytically described by Demosthenes (*Against Timocrates*, 8-9, 17-23, 35-8).

⁴⁸ According to the Athenian law:

”It shall not be lawful to repeal any established law except at a Legislative Committee; and then any Athenian citizen may move for such repeal only on condition that he proposes a law to be substituted for the law so repealed. The Commissioners shall take a show of hands upon such laws, in the first instance upon the established law, whether it appear to be advantageous to the Athenian democracy or not, and afterwards upon the law proposed. And whichever law is approved on division by the Legislative Committee shall then be operative. It shall not be lawful to introduce any law contrary to existing laws; and if any person having repealed any existing law proposes in substitution another law that is either disadvantageous to the Athenian democracy or contrary to any established law, an indictment shall lie against him according to the law made and provided in the case of the proposer of a disadvantageous law” (Demosthenes, *Against Timocrates*, 33).

⁴⁹ However, the Athenian system of DD had some inefficiency. For example, Aristotle argued that “for even though the multitude may be utterly deceived, subsequently it usually hates those who have led it to do anything improper” (*The Athenian Constitution*, XXVIII.3). Moreover, as Sakellariou (1999, pp. 552-3) pointed out, the civilians participating in the Assembly did not have the necessary knowledge and information to receive the right decisions especially for matters of war and peace. For a detailed analysis of non rational decision making in the Athenian Assembly, see Knox (1985).

⁵⁰ For an analysis of the impact of democracy on the economic development of Athens, see Bitros and Karayiannis (2008; 2010); Halkos and Kyriazis (2010).

⁵¹ For edition and commentary of the law, see Stroud (1974), while for an excellent analysis of its causes and effects, see Engen (2005); Ober (2008, ch. 6).

⁵² For a detailed analysis, see Cawkwell (1963, pp. 57-9); Harris (1995, pp. 38-9, 139; 2006, pp. 122, 131-3).

⁵³ Eubulus and even more Lycurgus, implemented an extensive public works construction programme, second only to that of Pericles in expenditure (Humphreys 1985; Burke 1985).

⁵⁴ That is why, maybe, both Eubulus and Lycurgus were men in the forefront of politics who finished their careers without disgrace (Knox, 1985, p. 198).

⁵⁵ For example, in the sense of everybody prospering from resulting economic growth and prosperity, which was brought about by peace. The Athenians, independently from their majority decisions had shown coherence on its completion. As Demosthenes (*Letters*, 1.5) advises:

“First of all, men of Athens, , it is necessary that you bring about harmony among yourselves for the common good of the State and drop all the contentions inherited from previous assemblies and, in the second place, that you all with one mind vigorously support your decisions, since the failure to follow either a uniform policy or to act consistently is not only unworthy of you and ignoble but, in addition, involves the greatest risks”.

⁵⁶ We link in figure 1 “welfare payoffs” to “GDP”, assuming that in the Athenian democracy welfare payoffs were linked to general economic performance. We do not have of course specific statistical data for ancient GDP, but do have sufficient extant ancient sources to illustrate the general trend (e.g. see Amemiya, 2007; Halkos and Kyriazis 2010).

⁵⁷ That Lycurgus did implement and took a very strong stand in defending his peace policy after 338, is testified by a fragment of one of his speeches, which is extant only in a Latin translation. We place this speech in 336 BC., when Lycurgus was more or less finance minister (“tamias epi ton theorikon”). In 336, at the news of the murder of Phillip of Macedon, the Thebans revolted against Macedonian rule and invited the Athenians to join them. The Athenians, although they did prepare for war, were restrained from actually going to war by Lycurgus, and thus were saved from defeat. Thebes was defeated and razed to the ground by Alexander. As Lycurgus argued: “When the young men in their enthusiasm had thoughtlessly taken up arms ... I compelled the Council to use its authority to restrain the violence. I, by my threats to the treasurers, forbade them to grant money for soldiers pay. I stood firm when the armoury was opened and refused to have arms taken out. It was thus entirely my doing, that an unnecessary war was avoided” (in Ober, 1989, pp. 318-319).

⁵⁸ By 322, both Alexander and Lycurgus were dead (Lycurgus died in 323). We must also not forget non economic elements in the welfare calculations, as we have noticed. Thus, Athenians in 322 tried perhaps to emulate their forefathers who created the first Athenian empire after 480 BC. and the second, largely abortive, after 376. When “the city waxed powerful and seized the empire of the Hellenes, and our fathers, growing more self-assured than was meet for them, began to look with disfavour on those good men and true who had made Athens great” (Isocrates *Antidosis*, 316; see for relevant comments, Aristotle (*The Athenian Constitution*, XXVIII).

⁵⁹ This compares with the results of proposals adopted in states which practice DD today: in the USA since 1904, 35-40% of more than 1.500 citizen who initiated ballot measures have won voter approval (Cronin 1999, p. 197).

⁶⁰ Recently, some modern authors (see e.g. Manville and Ober 2003; Karayiannis, 2003; Raaflaub et al. 2007) have pointed out that there is much to learn from the workings of ancient Athenian democracy when applied to modern organisation theory, concerning mainly the motivation of persons working for organisations and enterprises. Also, Manville and Ober (2003, ch. 1) and Bitros and Karayiannis (2008; 2010) correctly characterized the Athenians as a moral community with a business orientation.

⁶¹ The potentialities of new information and communications technologies in strengthening direct democracy via digital, are explored in the various papers of Hague and Loader (1999).

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Democracy, Knowledge, and the Hidden Economy of Athens

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Abstract. The economic growth of Classical Athens was fueled largely by the *aphanes* or “hidden” wealth of the elite, who surreptitiously sheltered their money in non-landed investments in order to avoid both the disesteem of their aristocratic peers and the liturgical obligations imposed by the common people. Therefore, as much as the economic success of Athens was promoted by democratic institutions that encouraged the dispersal of knowledge, it was also furthered by the desire of members of the elite to suppress knowledge of their wealth in order to circumvent both traditional, pre-democratic values (privileging landed wealth) and novel democratic institutions (liturgies).

JEL Classification: N13, N23, N33, N73

Keywords: Ancient Greece, Democracy, Hidden economy, Growth, Investment, Trade

1. Introduction

Long argued by many political scientists and economists and a core principle of American political and economic life since the founding of the United States, in the post Cold War world it has now become almost dogma that democracy and free-market capitalism go hand in hand and constitute the most efficient political and economic systems. It is held that the free flow of information afforded by these systems allows the unique knowledge of individuals to be available to the entire community, thereby promoting informed collective decision-making, which is essential for political and economic efficiency. In his most recent book Josiah Ober has bolstered this notion with an analysis of the government and economy of Classical Athens, concluding that it accounts for much of the city’s prosperity and success among its rival *poleis*.²

Ober’s thesis is compelling and goes a long way toward explaining the success of Classical Athens in both the political and economic spheres, but its theoretical underpinnings and intended application to modern institutions necessarily require some simplification that bypasses the exceptions, particulars, and complexities that exist in the histories of all real-world social, political, and economic systems. In a recent article George Bitros and Anastassios Karayiannis, whose analysis is largely consistent with Ober’s on the issue of democratic institutions, also note their imperfections and the supplementary role of moral

institutions as a contributing factor in Athens' economic prosperity (Bitros and Karayiannis, 2010). My focus in this article, however, is on another historical particular not covered by Ober's analysis, namely the *aphanes* or "hidden" economy of Athens. The existence, effect, and importance of a hidden economy in ancient Athens should come as no surprise to observers of our own economy today. After all, it was the "dark," unregulated economy of derivatives in the US that initially contributed to incredible economic expansion and then nearly toppled our capitalist economy, exposed fundamental problems in our democratic system, and continues to put both our economic and political systems to the test. While explicit evidence for the hidden economy of ancient Athens is naturally scarce, an examination of the finances of the famous orator Demosthenes, his father, and some of their peers reveals its existence in some of the most dynamic and lucrative sectors that distinguished the Athenian economy, particularly maritime trade.

Moreover, not only was the involvement of the elite in maritime trade easily obscured, but such obfuscation was also greatly desired both to circumvent, on the one hand, tenacious traditional elite values that disdained productive investment of capital in non-landed, though potentially lucrative enterprises, and, on the other hand, novel democratic values that obligated the elite to contribute their private wealth (which was most visible in the form of landed property) toward the public good. I would argue, therefore, that in addition to the democratic institutions that fostered the sharing of knowledge, the success and prosperity of the economy of Athens was also promoted—quite paradoxically and unintentionally—by traditional non-democratic as well as novel democratic forces that gave the elite an incentive to suppress the free flow of information and hide their money in investments that ultimately served to diversify and expand the Athenian economy to a degree unheard of in the rest of the Greek world.

2. Democracy, Knowledge, and the Economy

The connection between democracy and economic prosperity was implicitly expounded by Friedrich Hayek in an article that appeared in 1945 in *The American Economic Review* entitled, "The Use of Knowledge in Society." At a time when totalitarian communist and democratic capitalist nations were struggling for global dominance, Hayek was chiefly interested in the question of whether a centrally planned economy or a decentralized free-market economy is most efficient. For him the key factor in economic efficiency is knowledge, since it is knowledge of such things as the best use of available means that is essential for an economy to run efficiently. The problem, however, is that in an economy comprised of many people, a myriad of goods, and continually changing conditions, such knowledge is fragmented, each of its parts dispersed among countless individuals at any given time. Thus, the system that can best collect the knowledge of each individual and make it available to every other individual so that they may carry out their economic activities on the basis of the aggregate knowledge of all must be the most efficient system.

Hayek then proceeded to argue that no central planning authority could possibly collect knowledge, especially the practical knowledge uniquely held by each individual about the particular circumstances of time and place, continually update that knowledge in response to ever-changing conditions on the ground, and then use that knowledge in the formulation of directives to be issued in a timely manner to all individuals concerning their day-to-day economic decisions. On the other hand, the “man on the spot” could not make efficient economic decisions solely on the basis of his own specialized knowledge either, because such knowledge is ignorant of the broader conditions of the economic system as a whole, i.e. the aggregate knowledge of all individuals. The solution to this problem is the price-making market, which provides a quantitative value for the marginal rate of substitution, i.e. it calculates the relative value of needed resources on the basis of each individual’s specialized knowledge throughout the system. In this way, as Hayek says, “prices can act to coordinate the separate actions of different people” because their “limited individual fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all.”³ Hayek goes on to state that “nobody has yet succeeded in designing an alternative system in which . . . the individual can choose his pursuits and consequently freely use his own knowledge and skill.”⁴ Each individual must be free to make valuations and decisions for the system to work—there must be no central planner, no overriding authority. Although Hayek does not explicitly discuss democratic government in the article, the implication is that such economic freedom would best flourish under a democratic political system, in which authority is decentralized and individuals are free to exchange knowledge, express their preferences, and make decisions as they see fit.

Josiah Ober has explored this implication in the context of Classical Athens and argues for the benefits of democracy in the political sphere for efficiency in the economic sphere. Like Hayek, he focuses on the importance of the free flow of knowledge. Ober emphasizes the need to integrate the technical knowledge of experts with the “social knowledge” of the masses, the basic things that people come to know from living in their society, such as whom to trust, how to behave, how to obtain redress from a wrong, and so forth.⁵ Democratic institutions foster the aggregation of such dispersed social and technical knowledge by integrating small-scale social networks and governing to a great extent through small teams of amateurs who learn routines while having access to expert knowledge. They also align knowledge through publicity and “intervisibility” so that individuals become aware of their shared preferences and can coordinate their work toward a common goal. Finally, democratic institutions minimize transaction costs, thereby maximizing transaction profits by standardizing and publicizing rules and exchange practices.⁶

As examples of the positive impact of democracy’s promotion of knowledge-sharing on the economy, Ober points to Athenian provisions for establishing a naval station in the Adriatic from 325/4, the law of Nikophon regulating silver coinage

from 375/4, and actions to increase the openness of Athenian markets to foreign traders.⁷ The establishment of the naval station illustrates “knowledge in action” in Athenian democracy to the extent that it calls for no less than 14 public bodies and officials to work together to carry out a complex venture to secure Athens’ maritime trade interests against the depredations of pirates. Ober interprets Nikophon’s law as an attempt to reduce transaction costs to merchants by officially guaranteeing the value of coinage of Athenian type on the spot in Athenian markets. Everyone engaging in transactions mediated by such coinage in the Agora and the Piraeus would have the same knowledge concerning its value, thereby eliminating the cost of ascertaining it privately. Finally, Athens further promoted trade by expanding access to its markets through the standardization of dispute resolution in the *dikai emporikai* so that non-citizens would know that they would receive equal access to and treatment under the law when it came to disputes involving maritime trade ventures.

Ober is absolutely right that by such laws the democratic government of Athens did indeed make knowledge more available and that this in turn facilitated economic efficiency, particularly in the novel and dynamic non-landed sectors of the economy where it was most vital. Athens was surely the most economically prosperous *polis* during the Classical period, even after the loss of its Empire, and it owed much of this prosperity not simply to its natural resources, primarily silver and the excellent port of the Piraeus, but its decision to use these resources to expand the lucrative sectors of mining, manufacturing, and maritime trade far beyond other *poleis*. This has been amply demonstrated, most recently and compellingly by Ober himself.⁸

3. The Hidden Economy: Why?

3.1. *Elite Values*

Quite paradoxically, however, the financing of the non-landed sector that was so vital for the prosperity of the Athenian economy was largely hidden from public scrutiny—in part because of the persistence of traditional, non-democratic, elite values that disdained non-landed economic activities and the pursuit of profit for its own sake. Recent scholarship may well have moved beyond the supposed “orthodoxy” of Moses Finley’s “primitivist” model of the ancient Greek economy, demonstrating examples of profit-seeking, capitalism, and productive investments to an extent that they constitute more than just exceptions to the rule of a status-bound, non-growth oriented, consumptive economy, but the traditional values that Finley identified as being the cause of a putative “primitive” economy were real and did have an impact on the economy even if they did not completely determine its quality and quantity in the manner and to the extent that Finley believed. So, although there certainly does appear to be an appreciation for the industriousness of the masses in the fifth and fourth centuries,⁹ nevertheless, even in the Classical period, much of the literature of the time—which, of course, expresses an elite point of view—continues to contain numerous references disparaging those who engage in non-landed occupations, particularly artisanship, manufacturing, banking, and trade, both

wholesale and retail.¹⁰ Philosophers, such as Plato, rationalized these traditional values, explaining that trade, for example, is morally corrupting for the city, since it involves interaction with foreigners who may negatively influence the citizenry with their different customs and desire for monetary gain. Plato's city of the *Laws* would prohibit citizens from engaging in trade (919D) and leave it to non-citizens (920A and 952E), who would have to reside in a port area (952E) placed at least 80 *stadia* away from the city proper (704B and 705A). Although in reality wealthy Athenians did not as a rule engage in such labor directly, their investments in manufacturing and trading ventures was only one step up from such involvement in the hierarchy of social values. In a famous passage from the *Politics* (1256b28-1258b8), Aristotle decries what he calls an "unnatural" kind of acquisition, which has as its end not necessary consumption but rather more acquisition, i.e. a growth in wealth. The classic example of this is productive money-lending, using money to make more money, which is then used to make even more money in a never-ending quest for gain. In the city of the *Laws* (742C), Plato would prohibit interest-bearing loans altogether.

The core values of Archaic Greece that were formed when the elite dominated life and the economy was simple and overwhelmingly landed continued to influence—even if they did not determine—economic behavior—or at least representations of respectable economic activities and motivations—right through the Classical period. From a purely theoretical perspective, it is, *a priori*, highly unlikely that there exists a universal human nature geared toward profit-seeking, capitalism, and productive investment that is completely unaffected by cultural context. Finley and his substantivist forerunners, most notably Karl Polanyi and even Max Weber, as well as the economic sociologists who have come after him, such as Mark Granovetter and Richard Swedberg, are right that economic norms and systems are socially constructed. However, sometimes, as a result of particular historical circumstances, an economy may be socially constructed in such a way that the rational, profit-seeking, capitalistic "economic man" has become socially esteemed and, therefore, pervasive to the point of seeming perfectly natural and universal. But just as human beings are not perfectly atomized individuals driven by economic self-interest without reference to the rest of their society, they also are not automatons whose motivations, preferences, and behaviors are completely determined by their societies. It is possible, and in fact quite common, for individuals to engage in economic activities and be motivated by economic goals that are not in accordance with societal norms, but, of course, they risk social (and, in extreme cases, legal) censure should their deviant economic behavior be discovered. Thus, economic actors are simultaneously both individuals and members of their societies, and both their individual drives and the pressures of their society influence their economic preferences.

Such a theoretical likelihood is supported by empirical evidence in the form of fourth-century Athenian honorary decrees for services concerning trade.¹¹ They show that those who were responsible for trade were motivated both by the

traditional desire for honor—the esteem of their peers—and by pure economic profit. There are professional traders, such as Sopatros of Akragas (Camp, 1974, no. 1) and Apse of Tyre (*IG ii*² 342+), who clearly made their living from trade and desired to profit from their enterprises, but who received public honors from Athens for bringing grain to the city during a time of shortage, even though they appear to have sold the grain at the going price, which allowed them to make substantial profits. On the other hand, professional traders, such as Herakleides of Cyprian Salamis (*IG ii*² 360) and Mnemon of Herakleia (*IG ii*² 408), were honored by Athens for bringing grain to Athens during a shortage and selling it at a reduced price that probably covered their costs. Thus, they desired honor to the point of forgoing their profits, but not to the point of losing money for their efforts. There is at least one example, however, of what appears to be a professional trader, a Dionysios of Herakleia (*IG ii*² 363, not to be confused with the tyrant), who gave Athens 3,000 *medimnoi* of grain as a gift free of charge. For him, honor was clearly far more important than profit. And so it is that the wealthy elite of Classical Athens, desiring private profits on the one hand and public honor on the other, would be motivated to hide their investments in non-landed economic ventures, such as maritime trade.

3.2. Democratic Values

The other reason for the elite to keep investments hidden in non-landed ventures was the desire to avoid redistributing private wealth for public use, a requirement in Classical, democratic Athens, where the demos had temporarily gained the upper hand on the elite. The progressive *eisphora* tax that was levied in times of emergencies necessarily burdened the wealthy as individuals more than middling and poor Athenians, and the *proeisphora* tax even required the wealthy to pay the *eisphora* taxes on behalf of the poor in advance to be reimbursed later, which usually, apparently, was never. The competitive trappings of the famous liturgic system may have given it the appearance of a voluntary contribution to the community by the 300-1,200 wealthiest Athenians of the liturgical class;¹² however, members of the elite were in fact required to make these contributions on penalties specified by law that could include fines as well as loss of property or even citizenship.¹³ The costs of performing liturgies could be enormous, ranging from 300 to 3,000 dr. for festival liturgies, such as the *choregia*, to as high as 6,000 dr. for a trierarchy.¹⁴ Those members of the elite who were more concerned about money than the honor of liturgical service, therefore, had a great incentive to hide their wealth as much as possible to avoid these burdens. Moreover, recurring accusations in legal speeches that rivals conceal wealth in order to avoid liturgies show that Athenians commonly believed that the elite did indeed do this in fact.¹⁵

A prime means of hiding one's wealth was investment in maritime trade, which not only involved no obvious property that could be easily accounted for, but also which was quite lucrative, yielding much greater returns than landed investments (anywhere from 12 to 30%), and, further, which could be transacted through confidential middlemen in the form of bankers, as Edward Cohen has so

persuasively shown in his thorough account of banking practices in Classical Athens.¹⁶ Athens' provisions for establishing a naval station in 325/4, which Ober praises as an example of "knowledge in action" in part because it provided both incentives and punishments to encourage the timely fulfillment of the duties of appointed trierarchs—gold crowns for the fastest and heavy fines for derelicts—and because the institution of the *antidosis* ensured that only the wealthiest citizens be required to perform this duty is undermined by the fact that the assessment of one's wealth was left to the honor system—done by the owner of wealth himself and, therefore, subject to gross underestimation on account of the hidden economy.¹⁷ Thus, the institution of *antidosis*, which was, in theory, predicated on the assumption that citizens would have an accurate knowledge of the wealth of their peers, was in reality ineffectual because people could hinder that knowledge through surreptitious investments in the hidden economy.

4. The Hidden Economy: The Evidence

Explicit evidence for elite investment in the hidden economy of maritime trade and other non-landed enterprises is scarce, but there exists enough evidence for us to be confident that the hidden economy was a significant factor in the prosperity of the Athenian economy. A few examples will suffice. The estate of the elder Demosthenes, father of the famous orator and statesman of the same name, was quite sizable, and yet it contained virtually no landed property, and, as far as we can tell, never seems to have obligated him to perform any liturgies. The only reason we know anything about the composition of the estate is because the younger Demosthenes sued the estate's guardians for malfeasance and detailed it in his speech *Against Aphobus* (27.9-11). Otherwise, the non-landed property of the estate would have been as hidden from us as it was from contemporary Athenians. Besides a few items of movable property, such as a house (which, incidentally, was located in the Piraeus and doubled as a bed factory), furniture, and jewelry, the estate consisted mostly of investments in the form of slaves who were used as labor in sword and bed-making factories and various loans totaling almost five talents that were actively producing profits in the amount of some 5,000 drachmas per year, as well as other loans that totaled almost three talents that were devoted, as persuasively argued by Cohen, most likely to financing maritime trading ventures (one is explicitly referred to as a maritime loan, others are simply said to be "on deposit" with a certain individual, probably a banker, who in turn channeled the money into maritime loans).¹⁸ That these are not trivial sums is clear when one remembers that the cost of the hull of one trireme, the primary warship of the Athenian navy, was typically around 5-6,000 drachmas—as much as a talent. And yet, few, if any, people in Athens would have been aware of the extent of the elder Demosthenes' estate or any idea about where his money was and what role it was playing in the economy had it not been for the younger Demosthenes' dispute with his guardians. Besides the general motives for hiding one's wealth that I have described above, the elder Demosthenes may have had a more personal reason for doing so as well, since his

father-in-law, Gylon, was at one time a public debtor, and the elder Demosthenes may have wanted to shield his money from liability for Gylon's debts.¹⁹ Still, he did not squirrel his money away in a hole in the ground, rather he invested it where it could not be easily tracked by the public—in the lucrative, growing, non-landed sector of the Athenian economy.

When it came to money-matters, the younger Demosthenes confirmed the old axiom that the apple doesn't fall far from the tree, since his enormous wealth, though suspected by his peers, was in turn largely hidden from close scrutiny through investments in the non-landed sector of the Athenian economy. Although Demosthenes did seek honor in taking leadership roles in politics and, before 341, in performing liturgies, he kept one foot in the profit-oriented world of the *emporion*, living in a house in the Piraeus (Aischin. 3.209 and Dein. 1.69), associating with traders and bankers, such as Pasion and Phormion (Dem. 36), and investing money in maritime loans (Hyp. frag. 4 [5] col. 7 and Plut. *Comp. of Dem. and Cic.* 3.6).²⁰ Also despite Demosthenes' early liturgies, if we can believe Deinarchos' attacks, Demosthenes amassed so much money from accepting bribes, embezzling public funds, and writing legal speeches that he became the wealthiest man in Athens, yet he hid much of that wealth in order to avoid further obligatory burdens (Dein. 1.69 and 111). The fact that Demosthenes performed no regular, obligatory liturgies over the last twenty years of his life lends support to at least some of Deinarchos' accusations.²¹ A further indication of Demosthenes' personal experience in the non-landed, hidden sector of the Athenian economy is the degree of knowledge he betrays about it in the speeches he was hired to write for private lawsuits. Among the authentic private speeches of Demosthenes that illustrate his knowledge of the non-landed economy are those that concern disputes over such things as inheritances (Dem. 27-31 and 36), mining leases (Dem. 37), and maritime loans (Dem. 32, 35, and 56, though the authenticity of the latter two is uncertain).²²

My final example concerns the enormous wealth of the bankers, Pasion and Phormion, much of which would also have remained hidden both to their contemporaries and to us today had it not once again been subject to legal disputes that have been documented in surviving forensic speeches. Pasion was a former slave who operated and eventually inherited the bank (and care of all its existing deposits) of his former masters.²³ Although ownership of the bank certainly made Pasion a wealthy man, he also desired honor among the society of Athens, and, apparently in return for large sums of money he contributed to naval and military *epidoseis* ([Dem.] 59.2 and Dem. 45.85), he was rewarded with naturalization and joined the Athenian citizen body. On his death in 370, Pasion's estate was quite sizable and probably consisted of a mix of landed and non-landed assets, the former of which was undoubtedly meant as much to establish him as a mainstream, respectable Athenian citizen in the eyes of his peers as it was to diversify his wealth,²⁴ but the latter of which was put to work in investments that earned him high yields while remaining largely hidden from public view. What is described as *eggeios ousia* (property in land, Dem. 36.5) and amounting to 20 talents probably

consisted of land spread among three demes (*phanera ousia* mentioned by Apollodoros in [Dem.] 50.8) and two apartment buildings (*sunoikiai*, [Dem.] 53.13, Dem. 45.28). Pasion's house in the Piraeus, which, by the way, also served as the premises of his bank (Dem. 52.8), was also among his visible wealth. Another form of real property owned by Pasion, though in this case productive and non-landed, was a shield factory that employed 60 to 70 slaves, estimated to be worth some 6 talents by Davies and over 8 talents by Trevett.²⁵ The annual income of the factory is unknown, but it was rented out at 1 talent per year (36.11). The bulk of Pasion's estate, over at least 37 talents in value (not counting 11 talents on deposit in his bank and another 2 talents left to his widow as a dowry), however, consisted of interest-bearing loans (Dem. 36.5). Cohen argues that these 37 talents in loans were probably for maritime trading ventures and that even the 11 talents on deposit in Pasion's bank were likely used for such loans as well, which would bring the hidden wealth that Pasion devoted to this productive sector of the Athenian economy up to a whopping 48 talents.²⁶ I wouldn't go so far as Cohen does,²⁷ however, to believe (solely on philological grounds) that even much of the 20 talents tied up in *eggeios ousia* was in the form of landed loans rather than land itself, since Apollodoros, Pasion's son, who ultimately inherited part of his father's estate, later says that he was obligated to pay a *proeisphora* tax because his wealth (or some of it, at least) was in *phanera ousia* (visible property) in three demes ([Dem.] 50.8).

Pasion named his own former slave assistant at the bank, Phormion, as one of the guardians of his ten-year old son, Pasikles, and in this capacity Phormion also acted as executor of Pasion's estate and ran the bank and shield factory for a rent until Pasikles' majority eight years later, even though Pasion had another son, Apollodoros, who was an adult at the time of Pasion's death (Dem. 36.9, 45.37). Phormion handed over the bank to Pasikles and the shield factory to Apollodoros in 362 and was naturalized a year later (Dem. 36.10-11, 14, 23, and 51 and Dem. 36.6 and 46, [Dem.] 46.13). The economic activities of Phormion are unclear after this point, but he was said to have been wealthy and to have been very useful (*chresimos*) to the city, which probably implies that he performed many public benefactions (Dem. 45.54 and 72, Dem. 36.56). It is likely that he started his own bank (as most scholars assume),²⁸ but another source of his wealth was probably direct involvement in maritime trade, since Phormion is said to have been a shipowner who on at least one occasion had his ships detained by the Byzantines while operating in their waters (Dem. 45.64). Also likely, then, is the identification of Phormion with a Phormion, son of Ktesiphon, of the Piraeus, who had a son named Archippos (Phormion's wife was named Archippe, the widow of Pasion), who is mentioned as a witness to a maritime loan in Dem. 35.13-14, and who performed numerous liturgies, primarily in the form of trierarchies (*IG* ii² 1622.472, 1623.245, 1629.645-656). Like Pasion before him, then, Phormion became extremely wealthy largely through banking and maritime trade, but although his desire for honor as a former slave and naturalized citizen led him to make at least some of that wealth visible in the form of numerous

public services, almost certainly much of his wealth, his investments, and their impact on the Athenian economy remained hidden from direct public knowledge.

5. Conclusion

Although there were not too many men in Athens as wealthy as those just mentioned, it is highly unlikely that these men were entirely exceptional in their desire to make big profits and hide their money at the same time through investments in the non-landed sectors of the Athenian economy. There must have been many other rich men and even those of moderate means whose wealth was similarly hidden from public view, but concerning whom the contingencies of history (and their own efforts) have left us ignorant. Even if they desired to appear to uphold traditional, elite values that esteemed landed wealth and/or coveted the honor lately accorded by the demos for spending their private wealth for public benefactions, as some of them clearly did, there was nothing to stop them from simultaneously earning money on the sly in activities such as manufacturing and maritime trade. They could be both individuals who desired personal profits and members of their society who desired the esteem of their community thanks to the veil over their financial activities that was provided by the non-landed investments. However, it was precisely the non-landed sectors, such as mining, manufacturing, and maritime trade, that were so essential for the overall economic prosperity and political power of Athens during the Classical period. And so, while the sharing of knowledge promoted by the democratic institutions of Athens was surely one very important key to the city's success, we should not lose sight of the fact that in the messy world of Athenian history—a hodgepodge of changing and often conflicting values, preferences, and behaviors far removed from the logic and clarity of theory—the deliberate suppression of knowledge, the hiding of information about one's wealth and investments, also played a vital role in diversifying Athens' economy and expanding it into lucrative spheres that elevated the city above its peers in terms of economic prosperity and political power. The situation in Classical Athens parallels, dare a historian like I use such a word, some of the factors in the incredible growth of the economy of the United States at the end of the twentieth century and beginning of the twenty first, but, based as the Athenian growth was on productive economic ventures in mining, manufacturing, and maritime trade rather than insanely risky home mortgages, without the subsequent, and perhaps inevitable, meltdown of the US economy.

Notes

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²Ober (2007).

³Hayek (1945, 526).

⁴Ibid., 528.

⁵Ibid., 91-92.

⁶Ibid., 106-108.

⁷Ibid., 124-133, 220-245, and 249-253, respectively.

⁸Ober (2007, 39-79). See also Austin and Vidal-Naquet (1977, 106-109), Finley (1985, 131-139), Amemiya (2007, *passim*), and Bitros and Karayiannis (2010, 74-78).

⁹Bitros and Karayiannis (2010, 72).

¹⁰Hdt. 2.167, Ar. *Plout.* 904, Andok. 1.146, Xen. *Mem.* 2.7, Xen. *Oik.* 4.3, Dem. 4.1, 19.114, 25.38, 36.44, 37.52-53, Aeschin. 2.93, Plato *Laws* 741E, Arist. *Pol.* 1278a, 1319a24-1319b6. See Knorringa (1987 [1926], *passim*), for a collection of the evidence.

¹¹See Engen (2010).

¹²See Christ (1990, 150) and Davies (1981, 15-18) for lower estimate and Rhodes (1982, 4-5) for the higher one.

¹³The evidence is not clear, but this is likely; see Gabrielsen (1987, 24). *IG ii²* 1629.233-251 states that those who fail to have their triremes ready by a set date are subject to a 10,000 drachma fine.

¹⁴Davies (1971, xxi-xxii), with references.

¹⁵Christ (1990, 158-160 and 163-164, respectively), with references: Lys. 20.23, Isokr. 18.59-60, Dem. 28.23, 45.66, Aeschin. *Tim.* 101, Hyp. fr. 134 [Jensen], Dein. 1.69, Is. 4.29, 5.35, 11.47-50.

¹⁶Cohen (1992, 52-58 [for high yields on maritime loans] and 121-129 [for bankers as middlemen for maritime loans]).

¹⁷See Gabrielsen (1987, 110), concerning the methods by which wealth was assessed for an *antidosis* proceeding.

¹⁸Cohen (1992, 121-129).

¹⁹Dem. 28.1-3. See also Davies, (1971, 121).

²⁰See also see also Schäfer (1885-1887, 1.452, n. 2), and Davies (1971, 133), who believe that the evidence for Demosthenes' investments in maritime loans is reliable. See Davies (1971, 135-136) for a list (with ancient references) of Demosthenes' liturgies and other public contributions.

²¹Davies (1971, 137-138).

²²Demosthenes' speeches against his guardians and their accomplices, nos. 27-31, are universally regarded by modern scholars as genuine, despite some ancient skepticism ([Plut.] *Ten Orat.* 839f). Speech 36 *For Phormion* is attested as an authentic speech of Demosthenes by Aischin. 2.165, Plut. *Dem.* 15, and Plut. *Comp. Dem. and Cic.* 3.5 (see also Schäfer, 1885-1887, 3.161-170, Blass, 1887-1893, 461-467, and Isager and Hansen, 1975, 188). There have been no serious objections concerning the authenticity of Speech 37 *Against Pantainetos* on either historical or stylistic grounds (see Schäfer, 1885-1887, 3.200-207, Blass, 1893, 477-481, Carey and Reid, 1985, 105, and MacDowell, 2004, 173). Speech 32 *Against Zenothemis*

appears to be authentic as it was delivered by Demon, a kinsman of Demosthenes, and is generally acknowledged to be of high rhetorical quality, but there are doubts (Isager and Hansen, 1975, 138, Usher, 1999, 252 and n. 25, and MacDowell, 2004, 84 believe the speech was composed by Demosthenes; Schäfer 1885-1887: 3.292-296 and Blass, 1887-1893, 292-398 believe that Demon composed the speech). Both Speech 35 *Against Lakritos* and Speech 56 *Against Dionysodoros* are of doubtful authorship. The former speech contains a more frequent use of hiatus than the typical speech of Demosthenes, but MacDowell also points to some excellent rhetoric worthy of Demosthenes (MacDowell, 2004, 15, 131, and 133; see also Usher, 1999, 253-255, who thinks that the speech is by Demosthenes; Schäfer, 1885-1887, 3.286-291, Blass, 1887-1893, 562-568, and Isager and Hansen, 1975, 138 and n. 1 believe that the speech is not authentic). It would be surprising if Demosthenes is responsible for Speech 56, given his other concerns between April and August of 323/22, when the speech must have been delivered (Isager and Hansen, 1975, 208-209), but it is not impossible (Schäfer, 1885-1887, 3.307-314, Blass, 1887-1893, 582-588, Isager and Hansen, 1975, 138 and n. 1, and Carey and Reid, 1985, 203-204 all believe that the speech is inauthentic, but see also Bers, 2003, 93 and Usher, 1999, 256-257, the latter of whom believes that the speech is authentic.).

²³Davies (1971, 428-429).

²⁴Trevett (1992, 163-164).

²⁵Davies (1971, 433-434) and Trevett (1992, 31).

²⁶Cohen (1992, 37-40, 64, 129-130, 132, 137-138). See also Isokr. 17, Dem. 45.64-66, and Dem. 49.

²⁷Cohen (1992, 129-136).

²⁸Davies (1971, 435). See also Dem. 45.64 and 66.

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Some Remarks on Economic Policy Advice

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Abstract: Once the oracle at Apollo's shrine in Delphi had been pronounced by one of the three holy priests, it had to be transformed into hexameters before it could be promulgated. The oracles until today are subject to interpretation. They always come to pass when interpreted with hindsight, but the person, who had requested an advice, often richly donating to the shrine, was all too frequently left clueless as to what to make of the advice. It is the same today with economists consulting on economic policy. Instead of hexameters, the advice has to be put into the form of formally consistent models. In this way, the pronouncements are always correct – they just cannot be wrong. But the policy maker is all too often left without a clue as to what to do.

JEL classification: A14, H10

Keywords: Democracy, economic policy advice, incentive incompatibility

1. Introduction

Once the oracle at Apollo's shrine in Delphi had been pronounced by one of the three holy priests, it had to be transformed into hexameters before it could be promulgated. The oracles until today are subject to interpretation. They always come to pass when interpreted with hindsight, but the person, who had requested an advice, often richly donating to the shrine, was all too frequently left clueless as to what to make of the advice.

It is the same today with economists consulting on economic policy. Instead of hexameters, the advice has to be put into the form of formally consistent models. In this way, much like in a simple Tinbergen model,² the pronouncements are always correct – they just cannot be wrong. With these remarks on economic policy advice, I hope to shed some light on the question, why economic policy makers, upon receiving such advice, are often at a loss as what to do.

2. Economic Policy Advice and Incentive Compatibility

At the annual meeting of the *Verein für Socialpolitik* in Kiel in 2010, Janet Currie³ gave an invited lecture which illustrates the basic underlying problem: the economic policy advice formulated in internally consistent models may very well leave the

policy maker clueless as to the policy to be implemented. Democratic economic policy requires scholarly advice, but democratically elected policymakers are left helpless and their rule is rendered ineffective, if the implementation rule is missing or does not even exist.

Currie reviewed a substantial number of very large data sets sometimes spanning several generations all focusing on the hypothesis that very low birth weight defined as smaller than 2,400 g is a predictor of the child's future in terms of expected age, health and scholarly and professional success. Babies are more likely to be born with low birth weights if the mother, first, smokes; second, consumes alcohol; or, third, uses drugs during the pregnancy. If the mother does all three, a low weight baby is a virtual certainty. Low weight babies may also occur when artificial forms of fertilization lead to multiple births.

The predictor effect of low weight at birth is mitigated if the mother has a college education or if the child has been conceived inside wedlock. By implication, mothers of low weight babies with poor life chances tend to be unwed, poorly educated and members of minorities.

What can be done for these poor and light babies for whom the home does not provide a solution? Currie considers medical aid and welfare support, the recipient of which would be the mother, not the child.

Think of the disincentive effects of this proposal. In Alabama while the AFDC⁴ program was still in force, a mother of six from six different fathers was heard saying that she was happy about a handicapped child as it brought her more child support. Under the program suggested by Janet Currie, moral hazard on the part of the mother is a real possibility implying *more* instead of *fewer* low weight babies with their dire prognosis.

This highlights the need for a thorough analysis of each policy proposal in terms of incentive compatibility. Any policy has to be translated into a specific proposal, which is tailored to the opportunities and aspirations of the citizens who are affected by the policy. After all, the policy can only change the circumstances under which citizens live and decide. The negligent mother faces no incentives whatsoever to overcome the habits which result in low weight babies. Hence, the profile of the negligent mother has to be the focus of any policy aiming at improving the lot of low weight babies. The better educated the mother,⁵ the higher are the opportunity costs of irresponsible behavior, and the better are the life chances of her children.

Another government program discussed by Currie is the "Superfund" of 600,000,000\$. Originally set up to finance cleaning up toxic sites, it soon proved to be underfunded relative to the magnitude of the task at hand. It was then used to identify and document toxic sites. Claimants would sue potential polluters for damages, who are held jointly and severally liable. The result of successful clean ups turned out, however, for white people to move in and build by the decontaminated site while the black folks who used to live next to the toxic site moved out. Currie

considers this program a failure as she sees the black folks as the intended beneficiaries. If, instead, you saw the general public and its environment as the intended beneficiary, the program would have to be called a clear success with the market just sorting out the allocative consequences. It should be obvious that land next to a clean site is more valuable than land near a toxic site.

In Cuba, Alabama,⁶ the citizens voted for an incinerator at this location as it would bring jobs to the poor town. Should the people of Cuba be disenfranchised? The question is not merely a rhetorical one. As long as there is freedom of movement and real estate markets can function unhampered, any clean-up will increase the value of the site itself and the adjoining property. Hence, well-to-do people will move in, which implies that the previous residents will be eased out. They will likely move to the next or nearby contamination site, where property values are low. No sooner that the next site has been cleaned up, the scenario repeats itself. In order to make the former residents of the contaminated site the beneficiaries of a policy, they have to be addressed directly, for instance, they could be given a lump-sum payment. This would make the clean-up operation more expensive, and, since the fund was set at 600 million Dollars, result in fewer clean-ups. In addition, it would not achieve what Mrs. Currie implies (wrongly) is the purpose of the policy. Having received the lump-sum payments, the residents would still move to “greener pastures,” if a contaminated site can be called that.

Behind all the data and the precise modeling lurks a set of undeclared political ambitions, which Mrs. Currie as the policy advisor does not make explicit, but enters into her advice. It is here, where policy advice, which is necessary for a living democracy, turns out to be outright undemocratic and illegitimate.

3. Economic Policy Advice and Democracy

The problem at hand is, of course, what Schumpeter⁷ calls the *Ricardian vice*: this term refers to the English economist David Ricardo (1772–1823). It was coined by Joseph A. Schumpeter in his *History of Economic Analysis* (1954). It was intended to highlight Ricardo’s alleged habit of introducing utterly bold assumptions into an already oversimplified representation of the economy and treating these as givens when in fact they are unknowns. In Schumpeter’s words, Ricardo’s “fundamental problem” was that he “wanted to solve in terms of an equation between four variables: net output equals rent plus profits plus wages” (Schumpeter 1954, p. 569). Operating with this perspective, Ricardo was bound to treat three of the variables as constants. Schumpeter also deplored Ricardo’s alleged habit of “piling a heavy load of practical conclusions upon a tenuous groundwork” (Schumpeter 1954, p. 1171). In a way, the name is unfair to David Ricardo, who upon introducing the “equivalence theorem” discusses both the case of equivalence and the case of non-equivalence. But what can be done about avoiding the vice when giving economic and social policy advice?

Three options seem to be available, *i.e.* either doing nothing or looking for an ad hoc-solution or else explicit modeling of the interaction between advisor and advice seeker. The first two options are clearly not acceptable. The third reminds us of Münchhausen who, having sunk into a swamp pulled himself out by his own hair. Case studies may provide the solution, particularly if we can find a sufficient number of cases which share the relevant explanandum.

In the case of underweight babies, the only relevant decision maker whose behavior we may hope to influence is the baby's mother. She should obviously be discouraged from smoking, drinking or taking drugs during pregnancy. The ideal type as a policy objective is the negligent mother. While the low weight baby is extensively discussed by Currie, although it is not a suitable policy objective, the negligent mother is not. Just as Thilo Sarrazin's⁸ "Kopftuchmädchen" ("headscarf girls"), negligent mothers are a politically unpalatable incorrect term. The issue thus correctly labeled does not lend itself to political discourse, it cannot be used in campaigning; after all, negligent mothers have votes, too, and feel strongly about the issue. Some pressure group may discover and sponsor them, depicting them as victims instead of the cause of the problem. A political language has to be found which is at the same time precise and nice.

By distinguishing between freedom (including the freedom to-do-good) and democracy, Leland B. Yeager⁹ proposes a clarification of terms: "Democracy is perhaps the form of government most likely to preserve freedom, but it is not the same thing. The word 'democracy' is much abused in sentimental confusion. Often its meaning is stretched to include not just a particular form of government but various good conditions like 'liberty, equality, fraternity', various notions of social justice, various individual and social rights, free enterprise, and even the American way of life. Blanketing distinct concepts under a single label that way obstructs considering how compatible various desirable conditions are with one another." (p. 329). This quote shows that the definition of democracy in economic terms is a challenge which requires the use of an adequate political language.

In addressing the question of economic policy advice in a democracy, we have to keep in mind that the democratic government has its shortcomings. Yeager finds that the public-choice literature offers many reasons for limiting government, among them: "the opportunities and incentives facing special-interest groups; the implications of politicians' and bureaucrats' constituting special interests of their own; the fuzzing of issues in a two-party system (the Hotelling effect), and the associated drift over time in what policy positions are considered respectably mainstream; the jumbling together of diverse issues in often incoherent packages; the chasm between the personal qualities of an effective campaigner and those of a sound statesman; various rather mechanical inaccuracies of the political process (including several paradoxes of voting and the phenomenon that Robert Dahl labeled 'minorities rule'); the fragmentation of power and responsibility for decisions among levels and branches of government and among individual politicians, bureaucrats,

and judges; the analogous fragmentation of responsibility over time; the forestalling of market solutions to problems by governmental preemption; the way that government activism, far from just remedying externalities in the private sector, creates major externalities in government decision making itself; the lesser scope for prices to function in government than in markets; and the coercive aspect of government that is absent from private business.” (p. 330)

Yeager’s list reads like the outline of a book on economic policy advice. In this essay, we have dealt with economic policy advice in relation to the first aspect he mentioned, the opportunities and incentives facing special-interest groups. Policies which aim to help a specific group or sector of the economy not only take resources from others, but also change the basic structural variables such as prices of land, which can lead to unintended outcomes. In a democracy, economic policy proposals would have to demonstrate that the existing resource allocation does lead to less economic development in comparison with the proposed allocation. It would also be necessary to understand the institutional changes required and the economic relationships affected. Economic analysis has to solve the problem of incentive incompatibility, before it can give practical guidance to policy.

Language¹⁰ is a necessary condition for a lively democracy. Once a year, the *Academy for the German Language* chooses the non-word of the year. For 2010, the winner was “Wutbürger” (citizen in rage), the runner up was “Stuttgart 21”, a controversial infrastructure project. Both words refer to the ability of citizens to participate in politics.

Democracy requires structures in which choices can be made. Frequent redistricting, although tempting for many politicians,¹¹ can be stifling for a lively democracy.¹² The state of Mecklenburg - Hither Pomerania, tried to reduce the number of his counties to just five, the sizes of former duchies. This law was struck down by the state constitutional court in Schwerin, as these structures would stifle local democracy. A member of a county parliament, for a two hour session might need two entire days if travel time were included. For this reason, when re-districting is on the agenda, a counter balance needs to be found. It may present itself in the poor state of the public budget. Instead of making towns ever bigger, downsizing may be more efficient, in particular if the population is aging. A village of one hundred citizens can be readily administered by an honorary part time mayor, who might be a retired schoolteacher who is provided for by his pension.

4. Conclusion

In conclusion, the problem of economic policy advice has no pure and simple solution. The solution is rather grey and checkered. We should never forget that economic science does not contain the relevant economic and social policy, only the key to it. Economic policy is an art, and the trick is to identify the right key, i.e. the appropriate theory which provides the policy maker with the right clue.

Notes

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² Compare Jan Tinbergen, *Statistical Testing of Business-cycle Theories: Business Cycles in the United States of America 1919-1932*. Geneva: League of Nations Publications. In his path breaking study of 1939, Tinbergen showed that there always has to be one more policy variable than there are goal variables. This is a mathematical condition; the system can otherwise not be solved. However, in order to fulfill this condition, it does not follow that each problem is described by a single variable only. Tinbergen has stated minimum conditions for the solvability of a mathematical problem, but he did not have in mind the complexity and implications of a certain problem with respect to local effects and detailed effects at different levels of policy. Upon receiving the Nobel Prize in 1969, which he received together with Ragnar Frisch, Jan Tinbergen himself cautioned the audience: "Returning to models, I am sometimes wondering whether, upon looking at some recent work by planners, I should not repeat the famous words by Goethe's Zauberlehrling "Die ich rief die Geister werd' ich nun nicht los" ("The ghosts I called I can't get rid of now"). Sometimes indeed some of our followers *overdo* model building." *Prize Lecture*, "The Use of Models: Experience and prospects," p. 2, http://nobelprize.org/nobel_prizes/economics/laureates/1969/tinbergen-lecture.html

³ Janet Currie of Columbia University is the new editor of the *Journal of Economic Literature*. The paper she presented at the annual meeting of the Verein für Socialpolitik (September 7 – 10, 2010) at Kiel was entitled "Human Capital Development in Early Life."

⁴ AFDC stands for "Aid for Families with Dependent Children," a program which had unintended effects, *e.g.* an increase in the number of high school dropouts. For a survey in economics on the incentive effects of the U. S. welfare system compare Robert Moffitt, "Incentive Effects of the U.S. Welfare System. A Review," *Journal of Economic Literature*, 30.1, pp. 1-61, 1992.

⁵ Michael Grossman has shown empirically that the effect of schooling on health is statistically significant: *The Demand for Health: a Theoretical and Empirical Investigation*. New York: Columbia University Press for the National Bureau of Economic Research, 1972.

⁶ This is the town where the first US Vice President of color, Rufus King, was sworn into office in 1853.

⁷ Joseph A. Schumpeter, *History of Economic Analysis*, 1954.

⁸ Thilo Sarrazin, *Deutschland schafft sich ab. Wie wir unser Land aufs Spiel setzen*. DVA, 2010.

⁹ Leland B. Yeager, "Nation, State and Economy: Mises' contribution." *Journal of Economic Studies, Freedom, trade and the nation state*. Jürgen Backhaus, guest ed., 1999, Vol. 26, Nrs. 4/5, pp. 327-337.

¹⁰ Jürgen Backhaus, „Wirtschaften im Umbruch: Ordnung, Unternehmer und Stil“. In: Behrends, Sylke (ed.), *Ordnungskonforme Wirtschaftspolitik in der Marktwirtschaft*, Festschrift für Prof. Dr. H.-R. Peters. Berlin: Duncker & Humblot, 1997, pp. 311-374, element #3.

¹¹ The minister for social affairs of the Free State of Thuringia, Mrs. Heike Taubert, gave this reason for con-joining independent communities into large municipalities: We have to create career prospects for our employees.

¹² In the capital of Erfurt, mayoral elections recently had a voter participation of less than 31%.

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Aristotle and the Modern Economy

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Abstract: ancient economy and ancient economic thought radically differ from modern approach. The first were static, distrusted wealth-getting and increase in consumption. The second is dynamic, and is based precisely on the search for enrichment, risk, instability, continual increase in consumption. In general we never doubt about the superiority of modern economy. But the recent world financial and economic crisis, due to the unbridled race to enrich, irrespective of the damage to others, leads us to revive Aristotle's view. He criticised greed, supported the idea of being satisfied with comfort, and stressed that wealth is only a means to happiness, then it must be limited.

JEL classification: B11.

Key words: enrichment; static or dynamic economy; consumption.

1. The Distance Between Ancient and Modern Economics

All of us, I think, agree that ancient Greece's thought is the very basis of Western culture and science. But hardly some of us would apply this statement also to economics. The ancient and the modern economy are so distant that no one would try and find a common general view in economic thought. The ancient economy was based on slavery and on servile labour; which were both excluded from citizenship. It was static; it aimed at "simple reproduction" (according to Marx's expression: Marx, 1867, ch. 21), with no prospect of stable increase in the wealth produced. It was founded on land ownership while commerce was usually a marginal activity. In contrast, the modern economy is based on free labour and free initiative, to which also political liberty is linked. It is dynamic, and requires a permanent increase in the production of wealth. It is based on the growth of trade and of profit.

Consequently, the theoretical approaches too are radically different. The ancient approach was very suspicious of trade; despised manual work, menial services and labour in general; condemned any attempt to increase one's riches indefinitely. These ideas stemmed from a context in which economic progress was conceived of as a process regarding only the past.

The modern approach on the other hand conceives of progress as an indefinite process, supported by the increase in trade and accumulation. Labour is seen as the foundation of social dignity and of citizenship. At least in principle, all forms of work have equal dignity. Each person has the right to pursue his/her improvement and enrichment with no limits.

Also on passions there is a contrast between the ancient view and the modern one. The Ancients regarded passions as negative; they were irrational attitudes, which must be hindered and subjected to reason. For them the worst passion was usually avarice. But it is precisely this passion that, according to the moderns, forms the basic impulse to economic development. In the modern approach, passions are positive tendencies, which need to be controlled but also satisfied. (see for example Hirschmann, 1977).

Nevertheless nowadays the modern economic model, of which Western culture is so proud, is revealing its shortcomings. Its basic values no longer provide a harmonious vision of a civilization based on economic growth and self-interest. In this uncertainty, it may be useful to revive some ancient economic principles, particularly some expressed by Aristotle.

In Aristotle (384-322) we find a convergence of the previous tendencies and a harmonious balance. His approach dominated economic thought for two thousand years. Up to his time authors seemed uncertain about how to view the increase in wealth and progress, torn between allure and fear. An ambiguous attitude had existed since the primitive myths (those of the Golden Age, of Prometheus, of Pandora); in poets and tragic authors, then in the rationalist philosophers of the 5th century. The change in support of poverty, against the pursuit of wealth, was first made by Socrates. It was carried on by several of his pupils, such as Plato; and Antisthenes, founder of the Cynic school (about all this, see Perrotta 2004a). But Xenophon, himself one of Socrates' pupils, was still divided between praise and rejection of the increase in wealth. On the one hand he wrote a dialog in which he effectively defended poverty, seen as renunciation of the desire for wealth. On the other, he published an acute tract on the *Ways and Means to make Athens flourish ...*, where he describes the feverish commercial and entrepreneurial activity of 5th century Athens (Xenophon, *Poroi*).

When the Peripatetic school flourished the great period of Athenian democracy and economic development was already declining. It had lasted a few decades, between the brilliant victories against the Persians (starting with Marathon in 490) and the long war with Sparta. That world no longer had naïve hopes or fears. For Aristotle, wealth must neither be despised nor strongly desired. It has to be appreciated and carefully managed. A moderate possession of riches allows us to be free from pressing necessity, to avoid dependence on others, to be liberal and generous with friends. However an immoderate desire for it, especially for its increase, drives us to unhappiness. But wealth is made to give comfort, not to give eternal restlessness.

Within this general approach. Aristotle developed some basic categories that contradict some of the views of modern economics. Such categories can help us to understand the nature of our present economic crisis. In the following sections (2 to 5) we compare and contrast some basic Aristotelian economic concepts with the opposing views of modern economics. In the last section we try and shed light on the flaws of consumer society through Aristotle's approach.

2. Ancient Holism and Modern Economic Autonomy

According to Aristotle, economics is not autonomous. It is a part of the science of society. The latter in turn is part of the science of the world (metaphysics). This part takes its meaning and its aim from the whole. The aim of economics is to provide persons and society with the sufficient means for survival and comfort. This function contributes to the general aim of human nature, that is happiness. Man is a social animal. His aim can be pursued only in cooperation with others, each person being in his proper rank. On the other hand the main ideal is to be self-sufficient; i.e. not to depend on others. Self-sufficiency and liberality with friends give happiness. But in all this, the economy and economics are only means to an end. They cannot be autonomous.

Clearly the pre-modern view paid no attention to individual aspirations. It condemned social change and the striving to improve one's rank in society. The holistic approach was functional to static relationships and to the immobile social structure. The fundamental canon of the pre-modern era is the statement that when someone gains wealth someone else loses it. It was put forward for the first time by Aristotle,² and was repeated time and again by the Christian Fathers, the Scholastics, even the Humanists.³ It implies the idea that social wealth does not grow. Therefore the pursuit of wealth is an antisocial attitude, which puts the stability of the social structure at risk.

The fact that economic relationships depend on the social ones is stressed in Aristotle's analysis of exchange value. Those few pages have been a real puzzle for thousands of interpreters. And they still remain analytically obscure.⁴ The very reason for such obscurity is this: Aristotle tries to make exchange value functional to the different status of the exchangers; i.e. functional to social value. This, however, is impossible. Even in the pre-modern economy, exchange had an autonomous logic, totally independent of the other social relationships. But Aristotle could not accept such independence.

Let's compare his attitude with Smith's. The latter not only acknowledges the autonomy of economic value, but bases social value on it. In a famous passage Smith says that exchange happens not on the basis of benevolence, but on the basis of the reciprocal advantage. He adds that only beggars and animals rely on benevolence in order to ensure their survival (Smith, 1776, I, ch. II). By this, Smith means that the dignity of individuals is founded on economic autonomy and on self-interest. Moreover, exchange creates a new form of solidarity, based on expedience, not on benevolence.

Thus economic growth, the dignity of labour and of labourers, the legitimacy of enrichment, all derive from the rebellion against holism and metaphysics. This was what made up the birth of the modern: the different social sectors and the respective disciplines claimed the autonomy of their own logic, rules and procedures. Politics detached itself from moral philosophy; and economics from political and

moral science. Economic values (utility, self-interest, enrichment, freedom of initiative) became independent.

However, economic autonomy very soon came to be seen as complete separation and indifference to social problems, even when they were caused by the economy itself. The economy was conceived of as a series of mechanisms, not modifiable, whose social consequences were unavoidable – although they were negative for some people (of course, for the weakest categories). Enlightenment and Classical economists still thought that trade and the market had a strong linkage with the government of society and with social ethics. But in the same period the Physiocrats, then J.B.Say and McCulloch and others put forward the concept of natural laws which determine unavoidably economic processes.⁵

Gradually economics became the science of natural economic laws, more and more formalised – following the steps of physics – totally independent from and indifferent to social life. Although this tendency has had a cyclical course, it has been growing more and more marked, and has reached an extreme in the last few decades. In the end this approach is unable to explain the actual causes of economic crises because it has given up studying the social causes of economic processes.

In conclusion, Smith's acquisition shows that we cannot go back again to the Aristotelian subordination of economic logic to social requirements. But his brilliant solution, based on economic autonomy, rests on a very precarious equilibrium, always ready to degenerate into the use of economic autonomy as a weapon against demands for social justice. We should therefore pay more attention to Aristotle's call for a holistic view, that keeps economic and social requirements together.

3. Self-Interest as Opposed to Benevolence

Aristotle looked for a balance between egoistic and altruistic attitudes. His feeling is different from that of utopians, like for instance Plato or Rousseau. The latter supported the dominance of solidarity over self-interest, of collective decisions over individual liberty.

In contrast, Aristotle put forward a sarcastic and brilliant criticism of Plato's idea that rulers should have women and property in common. He was concerned with the independence of families and with their possibility of pursuing their own interests, first of all self-sufficiency. He regarded family as the cell of society, its basic unit. Family and society had a common aim and a common interest: welfare. Once the family's welfare was secured, liberality – said Aristotle – was the best sign of social benevolence.⁶

Therefore the real unit of society, for Aristotle, is not the individual; it is the family, that is a community. His view has nothing to do with the modern economy, which is based on the interests of individuals. However the excessive stress on individual rights has led the modern economy to severe shortcomings, the first of which is the lack of solidarity.

The duty of solidarity towards the weakest parts of society was typical of all pre-modern economies. But in the modern economy, the prevalence of self-interest,

economic freedom, personal initiative led on the one hand to an enormous increase in social wealth; on the other it caused the neglect of solidarity. The result was an increase in social disparities, which were reproduced on a larger scale. Competition, which governs the modern economy, tends to make the strong even stronger. It should therefore be balanced out not by a weaker, but by a stronger sense of social solidarity.

Besides, the increase in disparities occurs above all between developed and backward areas. Traditionally it has been assumed that accumulation generates the spread of development to other areas. Actually there is also another equally strong tendency, namely polarization. Economic factors (capital, labour, natural resources, raw materials) tend to be concentrated in the most developed areas, because there they can find a better remuneration. The numerous processes of neo-colonialism can be seen as the output of polarization.

The economic culture of modern society shows similar shortcomings. The 17th century elaborated subtle and refined arguments in favour of self-interest. The Free-thinkers Bayle and Mandeville, but also Pascal and Boisguilbert used to think of society and economy as the sum of infinite egoistic strategies, conflicts and alliances performed by individuals. In their writings the altruistic dimension fades away. Even charity, the jansenist Pierre Nicole explains, can be happily supplanted by the egoistic “enlightened self-love”; which produces the same results as solidarity.⁷

Enlightenment thinkers - also in this case - achieved a balanced view. Adam Smith states that we are led by two passions: self-interest and benevolence (Smith, 1759, III.vi.3-7, 171-74). But, he says, we are benevolent because we are concerned with the opinion the others have of us. So in the end, benevolence too is founded on self-interest.

The relationships between private and public interest express another aspect of this question. The mercantilists strongly supported self-interest, but they made it clear that, in case of conflict between national and individual or corporate interests, the first must prevail (see Perrotta, 1988, 128-30). Adam Smith had a similar position.⁸ But in general he believed that the two spheres were spontaneously harmonised. Here he used the famous metaphor of the invisible hand. (Smith (1776, b. IV.II, p. 444). Later authors enormously overrated this simple metaphor (as Roncaglia, 2005 has shown); until it became an unfounded dogma: the public interest is only achieved through private interests. The latter cannot be hindered in any case, because this would damage the economy and the public interest itself.

In fact the exclusive attention to self-interest has often led to the oppressive prevalence of egoistic tendencies. Such tendencies have been strengthened by an extreme interpretation of competition. Instead of being a process that rewards merit, competition has often been regarded as the necessary selection of the strongest (in an improper analogy with biological selection). In this view, the good of society requires the weakest to be eliminated. Such an approach, which is analytically unfounded, generated several attitudes, from pseudo-scientific social Darwinism to

the tragic initiatives for the “betterment of the race”, to the belief that poverty is due to laziness.

Social Darwinism and the absolute primacy of self-interest has led to the present crisis, where speculative and parasitic rents have unproductively destroyed most of the world’s capital. Rather inconsistently, the states were called on to spend enormous resources to rescue banks in order to avoid depression and ward off unemployment. But in the meantime the managers responsible for that disaster were still rewarded with incredibly high salaries and benefits.

In sum, historical experience shows that the equilibrium expressed by Smith appears very unstable on this issue, too. Again we have to go back to Aristotle, and to his balanced proportion between self-interest and solidarity.

4. Limitation of Needs and Consumer Society

The theme on which Aristotle and modern culture show a greater difference is consumption. The philosopher’s reasoning is the following. The supreme good for men is happiness, which can be secured by self-sufficiency.⁹ The latter does require the possession of goods, but in a quantity proportional to our needs. To seek an amount of goods greater than one’s own needs is irrational. Far from leading to happiness, it leads to unhappiness. Men have the tendency to desire more and more wealth. But such a tendency is a delusion. Its only result is to make men permanently unsatisfied.¹⁰

On this point Aristotle distinguishes between natural and unnatural needs. The first are given by nature. The others are the output of imagination; they are not real. Real wealth is that which lets us satisfy our natural needs. Goods in excess are only false wealth. Such a delusion is increased by the use of money. The latter gives the impression that wealth can multiply infinitely. But this is a mistake. Wealth is made only of goods; precisely the ones which satisfy our natural needs (Aristotle, *Politics*, b. 1, chs. 10 and 11). Although tautological, the philosopher’s reasoning is quite clear, and very balanced.

Aristotle does not accept Socrates’ extreme position, i.e. the praise of poverty, which gives man inner wealth (wisdom), which is the true wealth. He agrees even less with the Cynics. According to Anthistenes, just like Rousseau, comfort and civil life make man unhappy.¹¹ Consumption should be reduced as much as possible. For Aristotle, instead, man is fulfilled only in society and through adequate consumption.

However our philosopher places strict limits on legitimate consumption: needs must be “natural”. As a result, development itself becomes unnatural, since production has to be confined to reproducing what was consumed in the previous year. This is why Aristotle is highly suspicious of trade and even of handicrafts (Aristotle, *Politics*, 1255b, 1291a). They always risk going beyond their natural role (namely to provide men what they really need) and feeding the senseless race for riches.

This thesis had an enormous influence in the following centuries. It became a postulate of pre-modern culture, repeated again and again. But, from a dynamic viewpoint, it relies on an error in logic. The critics of the increase in consumption consider natural only the needs and the goods they traditionally know and use. Thus for them new goods are artificial, and the needs they satisfy, unnatural. Once again Aristotle interprets in a most rigorous way the rationale of the pre-modern economy, where the wealth produced does not increase and in general new goods do not appear.

Aristotle's view is incompatible with the modern economy. The latter is based on the permanent growth of wealth. This necessarily implies creation of new goods, that is, of new needs. Yet the Aristotelian approach to the question was so deep-rooted that we have to wait for the Enlightenment to have an explicit criticism of it. It was above all the Scottish school and Antonio Genovesi, who put forward the most effective criticism.¹² Genovesi made it clear that the distinction between natural and unnatural needs is unfounded. All needs are at the same time natural and cultural; because all of them are generated by human evolution.

Nevertheless the refutation of the Aristotelian thesis was far from solving the modern problem of consumption. The debate on consumption had started in the 17th century, when the religious moralists and the Free-Thinkers confronted each other on this issue. The former criticised the consumption of new goods (produced by development) because it was contrary to the Christian virtue of renunciation (such an approach was common to Bossuet, Bourdalou, Fénelon, etc.). On the other hand, the Free-thinkers – as we have already seen - extolled greater consumption, maintaining that commercial society and enrichment were based on self-interest and were incompatible with Christian virtues.

Notice that the moralists criticised the increase in consumption by the bourgeoisie and the middle-classes, but did not utter a single word against the traditional luxury consumption of the aristocrats. In fact they feared that the increase in consumption would endanger the old hierarchy and privileges. They essentially opposed development and defended the pre-modern social structure. On the other hand, the Free-Thinkers, while defending any kind of luxury consumption, opposed high wages, that is, the increase in consumption by the lower classes. In fact they defended development as a support to the enrichment of the bourgeoisie.

During the Enlightenment there was a widespread debate on "luxury", which led to a more complex and balanced view. Apart from the physiocrats,¹³ authors bitterly attacked the luxury consumption of the aristocrats. They defended the increase in consumption by the bourgeoisie and the middle classes, but also supported higher wages. Aristocratic consumption, they argued, was made up of ostentatious or unbridled luxury. It took immense amounts of wealth away from annual reproduction.¹⁴ In contrast, the "moderate luxury" of the productive classes encouraged labour and production, qualified the workforce and therefore fostered development.

On the other hand, while totally sharing these views, Adam Smith also talks about the basic virtue of capitalism being parsimony, which allows accumulation to go on. Enlightenment authors did not see these two tendencies as contradictory. Parsimony was opposed to aristocratic waste. They regarded economic development as being due to both increased investments and increased consumption. They were able to do this because they distinguished between productive and unproductive consumption (i.e. the consumption of productive or unproductive classes).

Soon afterwards, however, this balanced view disappeared. During the industrial revolution, higher wages no longer served for accumulation. Classical economists built up their analysis on the opposite postulate of subsistence wages.¹⁵ Their growth model did not acknowledge any increase in final consumption.

On the other hand, the defence of increased consumption reverted to being a defence of privileges. Most of Smith's followers clearly disagreed with their master on just one point. They rejected his distinction between productive and unproductive labour.¹⁶ Since the latter involved most of the higher classes, such a distinction would mean that the conspicuous consumption of these classes would be unjustified from the viewpoint of accumulation. However, at the end of the 19th century, Veblen seems to go back to Enlightenment's thesis. He bitterly criticises the "leisure class" and its useless consumption (Veblen, 1899).

In the second part of the 20th century the attitude toward consumption took a new turn. The long boom of the 1950-60s made developed countries overcome once and for all the poor pre-industrial economy. Accumulation was based more and more on the growth of consumption. The latter was finally extended to the poor classes. Consequently there was a spectacular improvement in the living standard. The "affluent society" (as Galbraith called it) was born, with its consumption rituals. For the first time conspicuous consumption became a model, a way of life, offered at a mass level.

Many authors have pointed out that a society organised on mass consumption, and on its continuous increase, tends to be superficial and dull. Galbraith stresses that consumer society pushes people to get more and more goods, even the most futile, while public services and public goods are neglected (Galbraith, 1952; 1974). Erich Fromm describes a society which measures personal value on the basis of what one possess, not of what one is (Fromm, 1977). Riesman depicts the loneliness to which the individuals of mass society are condemned (Riesman, 1950). Finally Hirsch effectively explains how consumer society promises each person many more goods and a much higher status than it is able to give (Hirsch, 1976).

Since then the criticism of consumer society has been continuously growing. In the end it has become a commonplace. Many cultural tendencies converge in it: the religious call for detachment from wealth and goods; the moral condemnation of luxury; the disappointment with the increasing gap between wealth and poverty in the world. To all this an increasing preoccupation is added with environmental destruction. The way of life based on conspicuous consumption causes a huge waste of resources, unsustainable pollution, and unmanageable quantities of waste. An

enormous social pressure pushes people to consume and waste goods faster and faster.¹⁷

The core of this attitude has much in common with Aristotle. Both views stress that the indefinite pursuit of wealth and consumption is illusory and deceiving. People are told they will reach happiness and satisfaction in a way (by consuming more and more) that unfailingly makes them unhappy and unsatisfied. Consumer society has forgotten what Aristotle insisted on: the economy and wealth are only means to an end. Thus they are limited in themselves. They cannot be infinite.

5. Consumer Society: From Hyper-Growth to Impoverishment (Back to Aristotle)

However, when we criticise consumer society, we should never forget that it was born because of the implementation of the welfare state. This fact should remind us of two things. First, the huge increase in social consumption in the developed economies during the 1950s-70s radically changed the living standard of the lower classes for the first time. But this only happened about eight centuries after economic development had started in Europe. Up to then the poorer classes had benefited very little from the growth in wealth.

Moreover, criticisms of the consumer society led many authors to criticise the increase in consumption as such. But increased consumption is the very basis of both economic development and modern civilization. In fact some critics have passed from the criticism of consumer society to the criticism of modern civilisation as if it were the same issue. They forget that modern civilisation means things like: a much higher life expectancy; far fewer deaths of infants and mothers during childbirth; newspapers and broadcasting; education for all; a huge increase in transport and communications, etc. Are we really ready to give up all this? We should simply distinguish between increased consumption and the degeneration of consumption.

Against the possible degeneration of an indefinite increase in consumption, Aristotle had established two rules. First, to confine oneself to the consumption that satisfies real needs, in other words, to useful consumption. Second, always to look for a balance, a middle way between extremes. Are these remedies still valid for the present degeneration of the consumer society? *Mutatis mutandis*, yes, they are.

If we replace the Aristotelian natural/unnatural distinction with the modern one of useful/useless, we arrive to the principle that contemporary economics has assumed for the analysis of consumption, namely, utility. Such a view assumes that, insofar as a good or service is bought and sold, it gives utility to the buyer and an income to the seller. For the same reason work is always productive, insofar as it produces an income for the performer. With this argument economics stated that the distinction between productive and unproductive labour was senseless.

However, this argument is a truism if it refers to the individual level (the only approach that many economists regard as scientific). However, if it refers to the social level, it may be untrue. Let's see why.

We can say that social wealth is the sum of the utilities present in an economy while the social costs of production and distribution form the sum of disutilities. The latter consist of a loss of wealth. However, when we take individual enterprises into account we notice that, in most cases, not all the costs/disutilities due to their processes of production are calculated in the respective budgets. An increasing part of these costs is charged directly to the community, not to the income provided by that particular investment. Thus we have many investments which add up to a positive budget for the individual enterprise (with profit and other incomes higher than costs) but make a negative contribution to the social budget (the general balance between utilities and disutilities produced). The system of national accountancy overshadows this fact because it is implemented in terms of individual incomes.

There are two ways in which this discrepancy manifests itself. The most blatant, which nowadays is widely acknowledged, lies in the innumerable production processes which cause environmental destruction. They can cause pollution or overuse of limited natural resources (used as raw materials, etc.). In most of these cases the loss of social wealth is far higher than the incomes produced.

The second way receives less attention, but is no less important. An increasing proportion of products provides the consumer with an extremely low marginal utility, because of the excessive number of items consumed. This excessive consumption can be of several types.

One is related to the "positional goods" illustrated by Hirsch (1976, ch. 3). These are goods whose value depends on their exclusiveness or at any rate on their limited availability. For example, holiday houses or cars. If too many people buy these goods, their utility disappears: the second house no longer provides the expected pleasant environment, nor the car the speed it promised. However, notices Hirsch, consumer society promises these utilities to all people. It therefore makes false promises.

Another and more important type of tumbling marginal utility comes from what we can call "repetitive goods". The present market is still dominated by the traditional sectors of industrial economy, which are based mainly on private, material goods. The difficulty in opening new sectors of production, together with the enormous increase in productivity, is driving the traditional sectors towards a glut. This tendency forces enterprises to try any sort of efforts in order to keep their market open.

On the other hand consumers are induced to buy repetitive goods because the market does not supply an alternative, in terms of new goods, despite the fact that there are new needs and a potential demand for them. Think for instance of the possibility of paying for a less polluted environment or for more green areas in the cities, instead of buying a third mobile telephone or TV set.

Such an impediment to the transformation of needs into effective demand produces another market distortion. The lack of Keynesian policies increases the differences in income distribution, thwarting efforts to keep markets open. An ever-larger part of society is excluded from a growing number of traditional goods.

The most frequently used ways of keeping markets open are: obsessive advertising (which increases costs but not the utility of products); fashion (which determines distribution, and pushes consumers to change goods when they are still useful); use of materials which spoil faster instead of using more durable materials; variations of the product which do not increase its utility; big distribution chains, sales, etc.

Another way is the more and more widespread use of throwaway goods or of goods whose cost consists, to a very high degree, of the package. Both kinds of goods enormously increase waste management costs, which are charged to the community. The tendency towards throwaway goods is fostered by the disappearance of the activities of repairing, due to the increased cost of labour.

Such expedients push or force consumers to change goods when they are still useful, and/or to buy new items of the same good with no - or very little - increase in utility. The dramatic fall in marginal utility goes hand in hand with the huge increase in the costs that the community is charged. Besides, social costs increase also for another reason. Market gluts provoke ruthless competition, in which the number of failures in the production race increases. This means that a larger part of production than usual is destroyed.

In the end, there is a large part of social production which does not produce real utility. Then the final balance between utilities and disutilities is not favourable. However even in such cases there can be utilities for the individuals (entrepreneur, workers, buyers) which add to the social loss (appear as disutilities at the social level). The prevalence of disutilities in social terms means that in that case disutilities are shared by all the members of a certain economy – whether they are aware of it or not.

This involves huge consequences. First of all, the capitalist tendency to privatize gains and socialize losses is confirmed, not as an exception but as a general rule. Second, the very core of the contemporary economy reproduces a situation in which the Aristotelian principle holds “what one gains, another loses”. Such a principle would seem to be linked to a static economy (of “simple reproduction”). In fact it describes the consumer society as well. The modern version of it means that the income of production with a negative balance is paid for by the community’s losses. But it also implies that consumer society generates a growing inequality in income distribution. This is due to the burden that grows on the shoulder of the whole economy. Such a burden makes it more and more difficult to implement Keynesian policies and increase demand.

6. Conclusions

So today we witness a strange phenomenon: development (that is, increase in wealth), if unchecked, can drive us back to a pre-modern situation, i.e. to the absence of real development. Because of the enormous increase in productivity, modern accumulation tends to glut the market faster than the tendency to find new needs to

fulfil and new sectors to invest in. We arrive at this paradox: consumer society has been produced by the increase in wealth, but now encourages a decrease in wealth.

Such a conclusion may appear to be an abstract deduction, with no reference to the real economy. But in the last two decades the situation of a growing number of people in the lower or middle classes has been getting worse. For them real wages are diminishing, employment is becoming more and more precarious, working conditions and pensions are deteriorating. It is now commonplace that, for the first time since the beginning of the industrial revolution, our children will be worse off than us.

Thus, it is time to revive Aristotle's warning: *the unbridled race for growing wealth makes human beings unhappy*.

Notes

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² Aristotle, *Politics*, 1258b, 1-2; *Nicomachean Ethics*, 1132a-b.

³ See for ex. Jerome (*Epistulae*), Ep. cxx, *Ad Hedibiam*, columns 980-1006. Thomas Aquinas, *Summa theologiae, Secunda secundae*, vol. 41, Q. 118.1, reply, 2. Alberti (1432-41, 3, p. 315); Bracciolini (1428-9, 275); Montaigne (1580, b. 1, ch. 22, 153).

⁴ For a review and an interpretation of the question, see Perrotta (2004b).

⁵ See Quesnay (1765), Le Mercier de la Rivière (1767), Le Trosne (1777, Disc. X, 447). McCulloch (1853, 435). Comp. Daire (1846, 438); Schumpeter (1949, II.4.3.c, p. 234).

⁶ Aristotle, *Politics*, II.2; II.3-4. II.6, 1265a.

⁷ Bayle (1704, par. 124, pp. 359b-61b). Mandeville (1705-23). Pascal *Pensées*; Boisguilbert (1695 ; 1707, *Diss.*). Nicole (1675). Cp. Kaye (1924) on Mandeville; Horne (1978) and Monro (1975), on Bayle and Mandeville; Faccarello (1986) on Boisguilbert; Perrotta (2009) on the whole subject.

⁸ See for example, about education, Smith (1776, b. V, part III).

⁹ Aristotle, *Nicomachean Ethics*, 1095a-b; 1097a-b; b. X, chs. 7 & 8. *Politics*, 1267a; 1326b, 1328a; 1332a.

¹⁰ Aristotle *Politics*, 1256b; 1257b-58a; 1267a-b; *N. Ethics*, 1096a.

¹¹ Cp. Laurenti (1973, 99-100); Diogenes Laërtius (*Lives*), vol II, IV.1, VI.8; Trever (1916, 131). Rousseau (1754).

¹² See Kames (1774, 127); Dubuat-Nançay (1773, 140-1); Ferguson (1767, 246-7, 278-80); above all Genovesi (1765, X.10, 231n; X.13, 234-5; XIX.8. 1767, I.17.4).

¹³ Quesnay defended the luxury consumption of agricultural goods. See for ex. Q. (1767, note to maxim VIII, 963; and first note to maxim IX, 964).

¹⁴ See for all Pietro Verri (1760, 333-4. 1765, 339-40).

¹⁵ Malthus (1836, b. 1, ch.4). Ricardo (1821, ch. 5). Marx (1867, chs. 7, 8, 23).

¹⁶ See for all McCulloch (1824, p. 58;1825, pp. 489-91, 501-10; etc).

¹⁷ See for ex. Korkotsides (2007); Riesman (1964); Bauman (2007); Latouche (1991).

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The Applicability of Modern Economics to Forms of Capitalism in Antiquity: Some Theoretical Considerations and Textual Evidence

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Abstract. The applicability of modern economic conception to forms of capitalism in antiquity has been controversial at least since the debate between primitivists and modernists (the Bücher-Meyer-Controversy, revived by Finley, among others). The Debate and its present extensions are of interest to ancient historians, archaeologists, economic historians, sociologists and economists. I shall try to contribute by means of a critical assessment of Max Weber's texts on capitalism (not modern capitalism!) in antiquity and by using some textual evidence, primarily taken from Plato's *Nomoi* and Xenophon, in order to identify fundamental reasons why the core of modern neoclassical theory is at best of limited applicability. The great variety of model building in modern economics blurs the result, since one often can construct some variant of a model that seems fit to represent some aspects of a pre-modern formation. I shall argue, by contrast, that there are still good reasons to regard the economic rationality of the ancients as sufficiently different from ours to expect differences between mainstream economics and analytical or verbal approximations to the economics of antiquity in the description of economic processes.

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1. Theory and History: A Methodological View

Except for the tritest statements, all observations on past and present economic phenomena reflect some theoretical views, since "facts" are seen as "economic" by relating them to the "economy" as a subsystem of societal

intercourse. Human acts or their results are seen as economic, if they help the material reproduction of society, and the act itself is seen as economic, if the goals are pursued rationally, given the means (Polanyi 1977). Although these definitions of the economic are restrictive and controversial, they suffice to establish the point: References to economic facts refer explicitly or implicitly to theoretical views. Most people know little or no economic theory, but all people have some implicit knowledge about the functioning of an economy. They expect prices to rise, if costs rise, they expect wages to fall, if unemployment rises, and simple regularities seem clear to them, such as the fact that land rents tend to be higher near cities than in a sparsely populated countryside.

But if our observers are historians who look back to ages different from ours, they will sometimes have to doubt whether the expertise in economic knowledge, which one gets from the observation of the contemporary world, applies also to the past. The overinvestment, which can lead to a crisis in a modern economy, if the goods produced are not sold, can hardly occur in those pre-modern economies where production of handicraft goods mainly takes place at the order of consumers. Consumer credit must be frequent in barter economies or where only small amounts of silver coins circulate, but credit for large investments is absent or difficult to obtain (Dopsch 1968). Runaway inflation is possible with paper money, but inflation remains limited if money consists of coins with an intrinsic value.

More obvious and more fundamental are differences in the form of production: Is production based on wage labour or on slavery, on cooperation or on hierarchy, is land communal or private, is capital free to move or restricted? Large differences occur in the organisation of state activities and the underlying institutions. Primitive societies rely on custom and kinship for their coordination; they can be fairly egalitarian. Monarchic rule can include some centralised production and authoritarian distribution. Feudal princes get their revenues from their domains under their direct control, while the princes of the early modern states instituted taxation and increasingly separated the court from the administration. Thus, links between the culture and the economy become visible. The knight and his castle, his warriors and his servants, his hospitality and his barns, filled by his serfs, belong together, as do a modern government and its bureaucracy, the infrastructure of the modern state and the system of taxation, the freedom of the citizen and the markets for goods and services.

One can emphasise the permanence of some economic laws and their abstract formulation or one can point to the changing forms of economic intercourse. Both approaches were pursued by the classical economists of the late 18th and early 19th century. Adam Smith would analyse the differences between African kingdoms and nomadic peoples or between the feudal remnants in Scotland and the modern commercial society, while David Ricardo concentrated on the theory of commodity production and price

formation and only recognised that the relationships of economic power and distribution would change in the process of accumulation. The success of his abstract theory provoked a reaction from historically oriented economists. Richard Jones (1964 [1831]) in England, the Historical School in Germany as an outgrowth of German cameralistic traditions tried to capture changing economic forms by means of historical concepts. They took account also of changing forms of motivation. It is often thought that modern economies rely on self-interest, with the implication that there was more altruism in older times. This position leads to frequent mutual accusations: The defenders of self-interest call the hypothesis of more extended altruism in the past naive; the others reciprocate with the reproach of cynicism. Frequent wars and conflicts in or between pre-modern societies do not indicate general altruism, while charities are proof of altruism on the part of influential entrepreneurs and managers today. The problem is not solved by generalities; we rather have to identify the historically changing domains where altruism is expected or self-interest tolerated. The liturgy system of the Athenian democracy (Boeckh 1886) relied to some extent on altruism for the financing of some activities of the state, which today are financed by means of taxation. Today, it is both legitimate and customary not to pay more taxes than one is expected to pay according to fixed criteria. The question then is how and why the Athenians managed to mobilise altruistic feelings in contexts where this would not be attempted today, although the Athenians were probably as selfish as any modern person, when it was a matter of trading in the market.

Other motives related to culture also may play a role in the economic sphere. There may be audacity in entrepreneurship, negligence or perseverance. The seafaring merchant needs bravery when colonies shall be established, while the industrialising entrepreneur needs patience in order to overcome countless technical obstacles in the process of innovation. Max Weber's (Weber 1991 [1923]) analysis of the changing forms of economic rationality is complex and cannot be summarised here, but one element is crucial: modern theory takes for granted an institutional change which took place in early modern times, when the household and the firm became separate entities with distinct aims. The firm maximises profits and accumulates capital – competition forces it never to lose this aim from sight. The household maximises utility, according to the prevalent theoretical interpretation. This means that the household has ordered and consistent preferences concerning the goods and services it sells or buys, in order to reach the best possible satisfaction of the member of the household. Firm and household were one and the same in antiquity and during the Middle Ages, however, so that these two rationalities could get into conflict which each other, resulting in erratic and inconsistent behaviour (Sombart 1923 [1913]). It is plausible that the cultural context matters more for the economic process, if firms and households coincide.

The simplest and earliest concept to identify different economic forms in history was that of stages. We still distinguish economic stages according to technological criteria such as energy use. We speak of an age of fossil energy use: Early economies used regenerative sources. One travelled by means of sails on the sea, by means of horses on land, one used wood as fuel and oxen for the plough. The future may either bring back the use of regenerative energy sources at a higher technological level or it may involve nuclear energy (Schefold 1977, Meyer-Abich/Schefold 1986). Similarly, we probably mean a stage when we speak of globalisation: new systems of communication overcome the separation of economies and societies by geographical obstacles. Stages were observed already in antiquity by Aristotle, Dicaearchus and others. They would distinguish e.g. between hunters, nomads, agriculturalists and traders.

Another concept is that of economic system. It was mainly popular at the time of the confrontation of planned and market economies. The German economist Walter Eucken (Eucken 1940) started from the interpretation of the economic process as an allocation of goods and services, which was coordinated by markets or by planning so as to allow the production of consumption goods for immediate satisfaction and of investment goods for the future growth of the economy. Different models could describe different ways to achieve this allocation. Planning could be centralised or limited to the activities of individual firms. It could also, in-between, apply only to industry, while the distribution of the goods produced by industry was left to the market – perhaps only to the market of consumption goods, while the allocation of investment goods was planned. The markets could be perfect or characterised by imperfect competition, even by monopoly, and the exchange of goods could be facilitated by means of different monetary arrangements. These elements could be combined to form different economic systems. They would not all be equally viable; Eucken believed to be able to show the superiority of the market system with perfect competition. An active economic policy should be directed at keeping the order of the system stable, by breaking up cartels and monopolies, were necessary, by securing a steady monetary policy and by supporting those unable to work.

Economic systems evolve and new institutions are created, for instance in order to regulate markets, where the competitive process tends to degenerate because of a natural monopoly like the network of the railways which cannot be made accessible for an indefinite number of railway companies. The competitive process of firms trying to grow faster than their rivals in the pursuit of profit is now replicated at a higher level as a competition between nations, which create new institutions in order to foster economic growth and prosperity. The rivalry of nations then seems to become an economic struggle for supremacy in which cultural factors play no essential role. I regard such an evolutionary approach as insufficient, however, since the institutions created are not shaped and do not survive only

according to economic criteria, but are determined to a large extent by cultural factors. Different traditions and different know-how lead to different systems of education for the workers and managers of the future even today, and the development of the institutions of higher education is influenced by cultural preferences.

The economic style is a useful concept to designate the economy in its dependence on subjective cultural factors. Arthur Spiethoff (1933) distinguished five criteria:

1. Economic spirit
2. Natural and technical base
3. Economic constitution
4. Social constitution
5. Economic dynamic

He mainly had the contrast between medieval feudalism and modern industrial capitalism in mind. The economic spirit then means primarily either the influence of religion on the attitude to work or a modern rationality. Technique is not only a matter of technical knowledge but also of the attitude to its use. The economic constitution refers to factors such as the organisation of artisans in guilds as opposed to free competition. The social constitution includes the discussion of the family structure. The economic dynamic was a special concern of Spiethoff who regarded the near stationarity of medieval economies and the dynamism (growth and cycles) of modern economies as distinctive features, which could not simply be reduced to the other four characteristics.

One can reinterpret some of the most famous historical texts of antiquity in this light. Pericles' funeral speech for the fallen contrasts the intellectual freedom, the openness and the versatility of the Athenians with the stratified society and the harsh military discipline of the Spartans. In so doing, he touches many aspects of the daily political life of the two *poleis*, therefore the social and political constitution, which are related to economic matters. The Athenians trade, they have a vast empire, their openness reflects a cosmopolitan character. The Spartans have their farms and a dependent population to work the fields, their empire is land-based, their laws are old and unchanging. The differences of the institutions are partly caused by, partly they result in, a difference in mentalities. Similarly, Herodotus contrasted the world of the Greeks and that of oriental Persia. Here, too, the difference he mainly has in mind is political. The Greeks live in free cities, the Persian rule is autocratic. Herodotus observes many peculiarities of the social constitution – manners, which appear strange and remarkable to the Greek observer. He mentions that there are no market places in Persia; a Persian city has no agora. This does not imply a total absence of markets and a pure command economy, but it does imply that the double function of the

agora in Greek cities (a place for popular assemblies and for market exchange) is lacking outside Greece. There seems to be an awareness in Herodotus that life in its political, social and economic dimensions must fit together, expressing the basic idea of an economic style.

There are also modern applications of the concept. Famous in Germany is the interpretation of the Social Market economy as an economic style in which there is a reconciliation between the principles of efficient allocation, including a remuneration in proportion to effort, and a redistribution of the surplus produced in favour of those who are unable to work and to face the challenges of the markets. The economic spirit then consists in the ability to establish a compromise according to a feeling for social justice, which must be shared by a majority of citizens in a democracy (Scheffold 1999).

The economic style is therefore not to be characterised by homogeneity in all aspects, but through the procedures to deal with conflicting interests. This is easier if there is some homogeneity, therefore if there are parallel developments to be observed in different dimensions of the economic style, therefore if – to use a more modern term – there is a co-evolution of the characteristics in different spheres of action.

The reader will have noticed that the three concepts that we have been discussing – economic stages, economic systems, economic styles – require different methodological approaches (Scheffold 2004). The discussion of economic stages seems to be founded merely on empirical generalisations. Some theoretical generalisations are indispensable even for an inductive empirical approach, however. As an example, consider the theory of stages of Karl Bücher (Scheffold 1988). He thought of a sequence of the type: household economy, city economy, national economy, world economy. It was based on the gradual improvement of means of communication and the consequent integration of markets. Abstract economic theorising in the form of model building, which underlies the distinction between different economic systems and analyses of their functioning, requires predictable reactions of economic agents to given circumstances in order to formulate a coherent causal chain in the description of economic behaviour (a model cannot be constructed, if this behaviour is erratic). The assumptions made most frequently are those of profit maximisation on the part of firms and of utility maximisation on the part of households or individuals, but it is also possible to postulate regularities in the formation of expectations and in the actions based on them. For instance, the economic agents may expect that prices rise, if the Central Bank lowers interest rates and allows the money supply to increase, and if prices are expected to rise, firms will set higher prices, workers will demand higher wages, and inflation will set in and prices will in fact rise. However, the recent crisis shows that, although such a mechanism is plausible and may be assumed in a model of inflation, there can be exceptions. If investment demand is low in a state of pessimism, prices can

even fall in spite of the endeavours of the Central Bank to animate the economy. Theorists therefore prefer to assume that agents maximise profits or utility, which helps to construct models with predictable outcomes. Such behaviour is called "rational". The question then arises as to how general such rational behaviour is and, in our context, to what extent it applies to pre-modern economic systems. We already saw that this is not a matter of course.

Finally, there is the question of which methods apply for the analysis of economic styles. The inductive methods of the empiricist and the deductive ones of the theorist may here also be useful, but the distinctive feature is the understanding of the economic spirit, and this will, at least in historical contexts, have to be based on the hermeneutic understanding of texts which suggest in which ways rationality deviates from the "modern" forms of the maximisation of utility and profits. Tradition, altruism, conflicts between role expectations, an adventurous or belligerent spirit may lead to significant deviations from "modern" forms of rationality. The ideas of the economic styles suggests that there may be some unity of motivation nevertheless.

Different forms of rationality were mainly analysed by means of historical comparisons up to the Second World War. Economic psychology and sociological considerations also came in. More recently, however, economists have begun to develop a novel method to test forms of rationality by means of game theory and experiments. A famous example is the ultimatum game: the first of two players is offered a sum, say 100 Euros, and asked to propose a partitioning of the money between the other player and himself. The second player then considers the proposed division and accepts or rejects it. In the former case, the money is distributed according to the proposal of the first player, in the second case neither player gets anything. It turns out in experiments with students, that students of law or theology tend to propose fair "divisions" of first players, say 50:50 or 60:40, and rather not to take any money than to accept an unfair division of, say, 90:10. Students of economics tend both to propose and to accept also unfair divisions, and this is rational according to economic theory, for it is "rational" for the second player rather to accept a small sum than nothing. Students exhibit this type of behaviour already at the beginning of their studies; it would thus seem, that economics is chosen as a subject by young students who spontaneously exhibit a propensity to act according to modern economic rationality (Carter and Irons 1991). This and similar experiments have been repeated many times among people from different origins and in different cultures, with some characteristic results. There is therefore some concurrence between the old historical approach, which ascribed different rationalities, linked to different customs, to different peoples in history, and the modern experimental approach.

The sources accessible to us for the analysis and the understanding of ancient economies are quite limited; we therefore have to look for all kinds of evidence. The self-interpretation of their economic behaviour on the part of

the ancient writers plays an important role. Archaeological evidence can tell us much about the material culture of a society of the past, by informing us about means of production and communication and distribution of goods. But it can inform us at best only indirectly about motivations, attitudes to work, entrepreneurship, the understanding of the role of the state etc. We distinguish for the modern world between the history of the economic theory and economic history. Economic history assembles the facts about industrialisation, for example. The history of economic theory informs us what the economists of the time, Adam Smith and David Ricardo in England or their followers on the continent, thought about the driving forces behind this transformation and why certain economic policies were pursued. In a like way, the textual sources of antiquity help to see the meaning in the economic arrangements which are visible in the material remains uncovered by archaeology. The significance of textual sources becomes clear if we compare our knowledge of two ancient societies, which have left behind comparable archaeological remains, but where we have written sources only from one of them.

The role of the archaeological evidence for our understanding of economic problems of antiquity has increased all the time since the late 18th century, when systematic excavations began, but the textual sources were of tremendous importance for the German economists of the 19th century (the Historical School), for these economists had almost all had a good education in the humanist tradition, while their knowledge of anthropology was only moderate. They tried to understand the problem of economic development by investigating the evolution from the Middle Ages to modernity. Their interest was not only dictated by historical curiosity, but also by the desire to learn how to influence the modern development so as to foster the economic growth of Germany as a latecomer in European industrialisation, and in order to enrich their knowledge about the necessary institutions which would help not only to build a sound economic basis, but also to educate the population, to promote learning, to elevate culture, to strengthen the social work and to render social life more just and equitable. The lineage from the Middle Ages to the present seemed on the whole to represent a process of steady growth and progress. Ancient economic history, in particular Greek economic history were important in this context in order to contrast the own world with a different culture – related, but nevertheless contrasting, because the development of antiquity seemed to be cyclical; there was rise and decline.

This phenomenon made the debate between primitivists and modernists so important (Finley 1975). The originator of the debate, Karl Bücher, was fascinated by what he perceived as a primitivism of classical Greek culture. He saw a classical Greek economy in which the role of the market was limited, in which a different rationality prevailed, in which gift-giving was frequent, the degree of autarky of households and cities high, hence he saw an economy which was the basis of an admired culture, where

capitalist forces seemed subdued, whereas his opponent, the "modernist" Meyer tried to interpret the same economic history of ancient Greece as one of progress which resembled that of Northern Europe in the transition from the Middle Ages to the early modern phase.

This debate has flared up repeatedly. Finley had much sympathy for the primitivists (Bücher 1904 vs. Meyer 1924, Finley 1979). One has moved since towards a compromise, which combines elements of both schools, but an ancient historian like Millett (1991), is, by comparison with another ancient historian like Cohen (1992), more primitivist in the analysis of the monetary institutions of classical Athens.

2. Elements of Greek economic thought

It is difficult to overestimate the influence of Aristotle's economic views on subsequent developments. His ideas determined scholastic economic thought, they resurfaced in humanist and cameralist economic writings, they influenced Adam Smith and they were again of great and direct importance for the Historical School and for Austrian economists. He influenced Arab (Ibn Khaldun) and Osman economic thought and Marx. Criticism was as important as acceptance in this world-historical transfer of ideas. Both the labour theory of value and the subjective theory of value can be traced back to discussions about Aristotelian economics. But who preceded Aristotle? Aristotle clearly summarised and developed ideas about household economics and about monetary matters, which are in part already present in Plato and some lost authors to whom he refers summarily, indicating that they had written handbooks on subjects such as gardening, mining or money-changing. But these concern details. The general ideas, the spirit of the whole is present already in Homer. For Aristotle (Schefold 1992) does not invent a new conception of economics. On the contrary, his economic ideas can be interpreted as the philosophical expression of the poetic universe, which unfolds in the Homeric poems. I mention five examples of how the essence of the myth is grasped conceptually or how at least the attempt to grasp it is made.

(1). Homer introduces us to the rich agricultural estates of the nobles who exert a patriarchal rule over their dependents. They are mighty and influential, but this does not prevent them from cooperating as gardeners, carpenters or elevators of cattle with their slaves, as the example of Odysseus shows. Their wealth is bounded and they take delights in making and receiving gifts to express their mutual obligations. This is captured by the Aristotelian idea of the "good life" which needs a limited amount of means of sustenance and instruments of production. Neither poverty nor relentless wealth-getting are conducive to the good life based on contemplation, be it oriented towards philosophy, statesmanship, the family or agricultural practice.

(2). Such life is severely limited, if it cannot be based on the support of slaves. To become a slave or to be a slave is a horrible fate, however, which Homer illustrates by means of famous scenes, for instance, when Hector predicts and deplors the inevitable degrading subjugation of his wife Andromache, which will follow upon his death and the downfall of Troy. Aristotle, the philosopher, struggles with the impossible task of reconciling the logic of the slave-owner who needs the slave as a condition of his cultural emancipation and the logic of the slave who loses the possibility for such emancipation with his freedom. Aristotle toys with the idea of inferior people who are born to be slaves, but honesty compels him to admit that not all barbarians are so stupid as to deserve slavery and that slaves often are Greeks. Homer's moving contrast between the evocation of the heroic life of the free and the tragic of the debased life of the slaves results with Aristotle in an unsolved contradiction.

(3). This is surprising, but one is most surprised by the discovery that the solution to the dilemma, the idea, that automata or machines might replace slaves and render them unnecessary, is anticipated by the poet in the form of the Bronze maids of the god Hephaistos. The god of the artisans is served by maids, which he has forged and which move by themselves although they are not living beings. Aristotle states that slavery will cease to be necessary as soon as the plectron plays the lyre by itself. Both liberal and communist revolutionaries thought that the time for the realisation of the utopian idea had come in 1848, at the time when the Communist Manifesto was written and when Bruno Hildebrand (Schefold 1998a), one of the founders of the German Historical School, thought that the machines used to industrialise Britain could help to free the worker from the drudgery of daily labour and from exploitation. The communists essentially had the same vision; only they wanted to use the machines collectively.

(4). There are no bankers in Homer, but there are merchants. They are seen as mean and calculating, they lack the heroic spirit; they are indispensable in order to obtain the necessary supplies, but their greed appears as despicable, while the honest work of the poor is not. Aristotle tries to provide conceptual reasons why trade, money dealing, usury and wage labour are unnatural pursuits, which, though perhaps necessary, lead away from the good life.

(5). Is the "good life" a working life? The Greek tradition is ambiguous in this regard. The Homeric heroes enjoy their meals and banquets, their travels and adventures, but they also work: Odysseus manufactures a bed or a raft, his father, a King, retires to till the garden. Similarly, Aristotle praises natural acquisition. It may be true that the slaves do most of the work in the household and in the fields, but the masters have to oversee and sometime to share their activities. The activity is natural and not chrematistic in that it is directed at obtaining a use value, which suits the user; it is not production for sale.

We encounter elements of Greek economic thought primarily in the context of political theory. Plato's *Ideal State* is an abstract philosophical conception, but it reflects some of the real conditions of the Athenian *polis* and hence also economic principles. For the dialogue moves from the discussion of justice in the abstract to justice in communal life, and it is observed that a modest city, with little division of labour, can live peacefully, but it is, because of its simplicity, ironically designated as a "city of pigs". A developed city with cultural riches, with ornaments and pleasures, needs more division of labour, more exchange, hence money, and it must be stratified and needs to be guarded. The guardians are like the citizens of the Athenian *polis*. They must be loyal to each other and to the State, hence it is better if they have no property and share even in their family life. The "communism" of the *Ideal State* concerns only the guardians; the producers have private property and there are markets. Nevertheless, the institutions of a market-based system appear in full only in Plato's Second best State (*Nomoi*). Here, the citizens are landowners, as in the actual *polis*, and their production is the basis for the subsistence as a whole, but Plato worries about the conflicts which arise from inequality and proposes a redistribution as soon as the wealth of the richest citizen exceeds that of the poorest by a factor of four. Although utopian in many details such as this, the dialogue contains much information about the actual institutions of a Greek city state and – and this is relevant here – it shows how the author thought that the institutions hung together; insofar, the dialogue provides information about the economic understanding of the philosopher (Salin 1967). For instance, interest is thought to be necessary in order to prevent borrowers from postponing a due repayment of their debts.

Plato's city characteristically is largely closed; it is not a vast territorial state. The idea to encompass the known world in one state appears as a cosmopolitan turn in early Stoic thought. Zeno of Kition wrote a book, unfortunately lost to us, in which a world state was envisaged without slaves and money. Plutarchos, who reports on it, designates it as a "dream". The amazing and inspiring variety of Greek political thought with its underlying thought experiments about the economic conditions, under which different forms of state might be realised, reminds us of the Greek practice of colonisation, when new states were actually founded and not only invented, and when new institutions could be tried.

The most systematic account of the city economy is that by Aristotle; Aristotle's description of the basic institution and of the logic of their functioning is so compelling that it has often been taken as a reality.

We mentioned briefly the fundamental opposition between natural forms of acquisition, characterised by Aristotle primarily as activities for which there is a natural limit, and the unnatural or chrematistic forms of acquisition, which are unlimited. Aristotle regards as natural a production for use, as unnatural a production for exchange. He thought that the production for use with the producer completely dedicated to the task of producing a

good piece of work such as a shoe, which would fit the feet of the customer, always had a limited aim; one produces the means for a good life. No such finite goal is visible in the pursuit of monetary gain. Dedication to good work was an ideal, which has lasted (Schefold forthcoming). It is tempting to connect Aristotle's norm of good work with the high quality of the products of Greek artisans, although they were in general not citizens and did not enjoy much prestige as artists.

The Aristotelian text provides many examples of natural and unnatural forms of acquisition in a kind of hierarchy. There are first natural activities in the household, which are not acquisitions in the literal sense, but elementary beginnings of house-holding, such as the art of living together, of educating one's children, of guiding the slaves. The forms of existence of the hunter, the fisher, the nomad and the peasant are regarded as natural in the literal sense, because they have analogies in the kingdom of nature. Even robbers have a natural analogue in the form of predators – a very archaic idea at the time of Aristotle, but not surprising in view of the Homeric tradition. These professions provide their means of subsistence for themselves. Other professions can, with the right attitude, still remain limited in scope and natural, although the exchange of production is essential for them: the farmer who sells agricultural products, the cobbler who sells shoes and the physician who sells health. But it is clear, particularly in the latter case, that the aim is not to make money, but to produce health or grain or shoes. Mining and forestry lead to a deeper involvement with the market and appear therefore as less natural in Aristotle's description. The unnatural forms of acquisition, which he discusses, are small trade, the trade of large merchants, usury and wage labour. The status of the small merchant is low, because he deals in money, but without much success and the wage labourer sells his bodily abilities, but his subsistence is meagre. Usury is hated, as Aristotle states, but the large money-lenders seem to command some respect, and similar arguments hold for the big merchant. Aristotle does not wish to prohibit such occupations. He only tries to explain the prevalent order of values, and in so doing, he gives advice to his students. If they are to become influential citizens, they had better look after their landholdings.

Aristotle's theory of justice also is more practical and aimed at the explanation of a prevalent order (Schefold 1989a). The theory of exchange, with which we are concerned here, is only part of it – an application, so to speak.

Justice in distribution is a general principle. Aristotle represents it by means of a geometric proportion, which we can write as

$$\frac{A}{B} = \frac{a}{b} = \frac{A+a}{B+b} \quad (1)$$

If A and B are persons with certain merits, they will each receive a recompense according to their merit, a and b respectively, if (I) holds. What is understood by "merit" depends on the political and social constitution. Aristocrats and democrats use different criteria, observes Aristotle. One remembers that the Iliad centres around the conflict between Argamemnon, the highest commander of the Greek army, and Achilles, the best fighter, as to who should get the highest prize, the maiden Briseis. The principle of distributive justice is based on a conception of rank. The question in Homer is whether the formal rank is more important or the personal excellence.

Commutative justice, by contrast, treats the persons as equals and establishes a just compromise between them in cases of conflicting interests. It also defines just punishment, and it is symbolised by the formula for the arithmetic mean, which in Greek also is called "proportion":

$$\frac{A+B}{2} \quad (\text{II})$$

If one has received too much, the other too little, the just mean is found by dividing the excess. Equality is restored by distribution. If $A > B$, half of the excess $A - B$ is taken away from A and given to B so that equality is restored at the arithmetic mean:

$$A - \frac{A-B}{2} = B + \frac{A-B}{2} = \frac{A+B}{2}.$$

The third principle is reciprocity. Reciprocity is not necessarily just. To take revenge is an act of reciprocity, but revenge is not always permitted. The officer may hit the soldier who has failed in his duty, but the soldier may not hit back. There may be just reciprocity in contributions to the state (Aristotle speaks of *metadosis*). Aristotle here clearly refers to the system of liturgies, the voluntary donations to the state, which we shall discuss below. The contribution (*metadosis*) was seen as an act of reciprocity, because others also had to give according to their possibilities. What is the character of the obligation for the second to give also – or to return a gift – if a first has made a contribution? This question has been much discussed by modern ethnographers, but Aristotle regards it as more wonderful that someone begins with presenting something, and the otherwise dry philosopher remarks that the Athenians erected altars to the Charites in order to encourage such voluntary giving.

He then moves to the direct counter-gift in exchange (*antidosis*); the modern languages do not have established concepts for these differentiated Greek terms. For instance, a cobbler gives the shoes, a builder gives a house, and they exchange the products of their work (they exchange their *erga*).

Aristotle seems to have represented these persons as the upper corners of a rectangle in his teaching, and in the lower corner he represented their works, the shoes and the house respectively. The exchange now meant that a correspondence was established along the diagonals: the cobbler took the house, the builder the shoes. How could the justice of this form of exchange be represented? It has been proposed that Aristotle had a proportion of proportions in mind according to the following formula:

$$\frac{A/a}{B/b} = \frac{A/b}{B/a}, \text{ therefore } a = b. \quad (\text{III})$$

So, if the persons exchanged equivalents ($a = b$), if the shoes are as much as a house, each is, after the exchange, in relation to the object owned, as much as prior to the exchange, compared with the other. This exchange therefore does not disturb the relative status of the persons. If A and B mean the measure of the status of the persons on the left-hand side of equation III prior to the exchange and if A and B mean this status after the exchange on the right-hand side of III, $a = b$ implies that A/B remains unchanged. Mere exchange is just, if it does not transform the hierarchy. We do not learn here how inequality arises in the market, but why it is preserved.

But why is a certain amount of shoes equivalent to a house? Aristotle's text became historically important, because it suggested this question and even more because it seems to suggest certain answers, though Aristotle himself was more concerned with the problem of how it was possible to equate heterogeneous objects like a heap of shoes and a house. The alternative answers suggested by his consideration are two:

The first possibility is to note that he designates the objects as *erga*, as pieces of work, hence the later explanation in terms of cost of production, in particular of labour cost. But why are the different kinds of labour, shoe-making and house-building, comparable? And what could this mean in the Greek context, where some work was done by slaves, some by the free? The authors of antiquity did not travel far on this road of investigation. It would need an entire lecture course to explain how it led to the labour theory of value and what became of that.

The other investigation led to the theory of subjective value and utility; it was equally long and contorted. Aristotle himself observed that the exchange of equals required that they had to be estimated, that all had to be measured, and that the estimation in terms of money, which had been invented for such estimation, was essentially the same thing as the estimation in terms of goods. His theory of money is essentially that of a metallic currency. The estimation then is, as he says explicitly, accordingly to 'need' (*chreia*). I hesitate to interpret this in terms of utility, since the 'need' for

Aristotle seems to dedicate what is necessary for the good life, and the good life is not reduced to utilitarian principles or pleasure, as is clear from Aristotle's criticism of hedonism in the seventh and the tenth book of the *Nicomachean Ethics*. His concept of *chreia* (need) seems to fit in better with his vision of natural acquisition within the households: to the extent that they are not autarkic, they exchange surpluses to satisfy their needs. This may sound anachronistic in view of the development of the market in Athens in the 5th and 4th centuries, but it was a vision, which was in line both with the tradition and with Socratic philosophy.

Aristotle's economic considerations still reflect the experience of the disruption of the old order of life by the expansion of the monetary economy. He accepts money as a mean of exchange. He is aware that coins developed out of the use of the precious metals as general equivalents of other commodities. Bars of gold and silver were traded, one had the idea of denoting the weight of a bar by means of a stamp, and from there the minting of coins originated. Plato's account had been more modest. He had suggested that the value of money could be fixed by convention. This may have been true for copper coins of lower denomination. Plato feared the inequality, which results from monetary accumulation, wealth-getting and money-hording for its own sake. This was the origin of the Aristotelian theory of *chrematistics*.

What Aristotle denounces as *chrematistics* must have been defended by others. The *Oikonomikos* by Xenophon (Schefold 1998), though also in the Socratic tradition, gives a more realistic picture. The core of the dialogue consists of a discussion between Socrates and Ischomachos, the latter being a rich landowner; it takes some time to discover whether he pursues his agricultural interests for the pleasure of gardening or as a business. We first hear much about the pleasures of farming, and its natural character is here proved by pointing out that nature itself teaches how to plant and to harvest – the arts of gardening and farming are visual, one learns from observation with a little instruction by experienced persons.

But Ischomachos has often to be absent in the city. He seems to be engaged in considerable liturgies, of which he is proud, but he has to fight off exorbitant claims to pay even more. At any rate, he needs a supervisor for his estate, and he admits paying a large salary (*polùn misthón*) for a supervisor (*Oikonomikos* I, 4) who is able to enlarge the estate (*aúxein tòn oíkon*). It seems not to be a matter of living the good life on an estate, with modest and definite needs, but the question is how to improve it and to get more out of it. The management requires to keep order and discipline among the slaves – rewards, not only punishment, are needed, and so the dialogue offers us also some insight into the life of the family. Ischomachos seems to be a man in the middle of his life and he has married a very young wife. We imagine a sweet young person who is overwhelmed by the prospect of having to look after such a large estate with many dependents. We hear her asking shyly but

determined to fulfil her duty: "Hó ti àn egò poioúsa synáxoimi tòn oíkon?" – "By doing what might I help to enlarge the household?" (*Oikonomikos* VII, 16). To improve the estate thus appears at first as an extension of the natural activities. One should do well what one does. The wife should therefore help to keep good order among the male slaves and the maids, among the instruments – is the good life not one in which one feels the pleasure of improvement?

This is what Ischomachos suggests (though he does not use the term "good life"), but Socrates then asks from whom Ischomachos got the estate and what he wants to do with it in the long run. Gradually, it turns out that Ischomachos has bought it, that he is going to sell it with a large profit, because of the improvements, and that he has learnt the art of buying estates, improving them and selling them again with a profit, from his father and that he has exerted it many times. He is unmasked: He strives for money and operates farms not for the love of farming. As Socrates puts it: He loves his estate like a corn merchant loves his wheat (*Oikonomikos* XX, 29).

As far as I am able to tell, Xenophon came closest to a modern understanding of economic laws among all the authors of antiquity. He shows in his *Poroi* that he had some idea of a normal price in the long period, which covers cost of production, and of the mechanism by which it is established. He wrote: "... For if the number of copper smiths becomes too big, they abandon the craft, because their copper products become too cheap, and the iron smiths do the same". (*Poroi* IV, 6) This is the Marshallian idea: There is a certain demand for the product of each industry at the normal price, which covers costs. If there are too many suppliers, the short-run prices will fall below costs and some producers must leave the business. Xenophon contrasts this with the demand for silver. "But nobody ever required so much silver, that he could not make use of more. If, however, one had a big amount of it, one is no less pleased to bury what is superfluous, than to use it." (*Poroi* IV, 7). Silver is the monetary commodity, hence there is no limit to the accumulation of silver, as Aristotle also states in his theory of chrematistics. Xenophon even expresses the idea that there are diminishing returns in agriculture in that it is of no use to multiply the agricultural workers on a given amount of land indefinitely, and he identifies the external effects of agglomeration with his famous observation on the division of labour: The cooks are more diversified in their production in the large Persian cities than in Greece, because more can be sold. This is the Smithian idea: The division of labour depends on the extent of the market. It is difficult to trace the path by which these ideas travelled through history to modernity. Xenophon was translated very often by humanists. Hence he may have influenced Serra, who is often thought to have been first to formulate laws on increasing and diminishing returns at the beginning of the 17th century (Schefold 1994).

The ancient reflections on political life and political constitutions were in part motivated by economic considerations and led to economic

experiments. Xenophon suggested to use the proceeds from silver mining in Athens, carried out by means of state slaves, to provide for the basic needs of the poor citizens. Politicians gained influence by means of public services. This remained true also among the Romans. Cicero, in his *De officiis* where he on the whole follows Panaitios (Schefold 2001), thought that it was wise to spend for public purposes, but not to the extent of damaging the family fortune. In his comparison of *beneficentia* and *liberalitas*, he gave advice rather to render services (*opera* were regarded as praiseworthy) than spending money (*pecunia*). There was the danger of spending too much and of being involved in corruption ("*Tota ... ratio talium largitionum genere vitiosa est*" (II 52, 60). Services, which one did as a lawyer, were applauded: "... *opera ... tum in universam rem publicam, tum in singulos cives conferuntur. Nam in iure cavere, consilio iuvare ... et ad opes augendas pertinet et ad gratiam.*"(II 65).

Many other examples could be given to show that the monetisation of the economy continues to be seen as disruptive force for the cohesion of the state down to later times in antiquity. But how far was the money economy developed under these circumstances? This has been a point of much debate among primitivists and modernists. As far as Athens is concerned, we get some insight into the business practices of the *trapezites*, following the orators, but their business was not analysed systematically in philosophical reflections transmitted to us.

It is clear that the multiplicity of currencies led to frequent and extensive money changing, so much so that the so-called law by Gresham must have been a common place, for Aristophanes (*Frogs* 717–733) compares the political expulsion of good citizens to the export of good money. In order to appreciate the analogy, the public must have known that bad money drives out the good because the good coins in circulation are taken out and sold abroad, so that only the bad ones remain in domestic circulation.

We know a great deal about the coins, because many have been preserved, but we know much less about the credit system erected on the basis of the metallic circulation. There were personal loans given without interest, and the habit of giving credit no doubt preceded the monetary economy, for if I have wheat and you have horses, and I want to buy one of your horses by means of my wheat, but you don't want wheat, you rather want nails, I ask you to give me the horse and I promise the nails, which I shall be able to give only, once I have found one, who gives me nails for my wheat. Such a postponement for payment for lack of adequate means must have been common as long as money had not been introduced or was very scarce, and it was probably a credit-giving without interest, since everybody was affected randomly by the problem of having to postpone payment. Providing credit for a larger enterprise, such as the buying of an agricultural estate or the financing of a merchant ship, was different. We know that interest rates for

maritime loans were much higher than for land loans. Although the sources do not tell us much about the reasons for this difference, it is plausible to explain it by the difference in risk.

But the *trapezites*, who were money changers serving also as bankers, giving credit and receiving deposits, operated in a risky business, which Demosthenes defined as follows: "hè d'ergasía prosódous échousa epikindúnous apò chremáton allotríon" (*Dem.* 36. 11). The banker works with the money of others and gets incomes beset with dangers.

However, the bank was not a firm but a person. As Max Weber has observed, one of the most important differences between pre-modern forms of capitalism and the beginnings of modern capitalism rests on this distinction. The household of antiquity is also the firm, hence the curious ambiguity of *Ischomachos* in *Xenophon*. His household is centred on the good life, of husband and wife, with their children, but it is also an agricultural estate, which is supposed to grow in order to be sold with a profit. Firm and household are separate in modern times, and the theory ascribes different forms of behaviour to each. The firm is supposed to maximise profits, the household utility. What about the bank? The dealings of the *trapezite* are made in person, but the banking business extends over years. Can an old and frail banker be trusted if he accepts a deposit for an indefinite number of years? Cohen (1992) has drawn attention to the fact that the lack of the legal institution "firm" leads to tensions within the household which show that Weber was pointing an important connection. The banker, in order to be trustworthy, accepted his main slave, who was responsible for much of the business, as his heir. The slave was liberated in the banker's testament and the testament also arranged for this former slave to marry the banker's widow. The banker-heir thus was integrated into the Athenian society and could continue the business. We know of several such cases.

We thus see that the Athenian economy was neither capitalist in the modern sense nor devoid of capitalistic elements, but it exhibited specific institutional arrangements, which we are inclined to interpret as transitory, although they were connected among themselves and made up a specific whole. This is true also in the system of *liturgies*, which we already mentioned. Some interpreters have emphasised the voluntary, some the forced character of the contributions. To the former, *liturgies* are like gifts, to the latter like taxes. *Liturgies* are mentioned frequently in the literature, which has come down to us, with the social pressures accompanying them. The advantage of the *liturgy* system was that the bureaucracy of a tax-collecting authority was needed and that the citizens retained more freedom in their personal transactions. The *liturgy* system mobilised not only financial resources, but also material gifts and personal services; the *liturgy* consisting in having accepted the obligation to equip a ship meant not only to pay for equipment, but also to see to it that it was installed and possibly to participate in the manning of the ship. Many defendants in the texts of the orators boast

with the liturgies, which they have provided, in order to show that they are good Athenians, accused unjustly. The main recompense for giving was honour. If someone challenged another: "I have given more than you, but you are richer than I", the challenged could reply: "If you think that I am richer, let's exchange our wealth", and each would have to leave his house and to move to the house of the other with his family. The details of this arrangement are controversial among ancient historians (Boeckh 1886). The regulation, whatever the details, was meant to ensure that each should give roughly in proportion to his means, hence the link with the Aristotelian theory of distributive justice and of exchange (*analogia, metadosis, antidosis*).

An important difficulty of the liturgy system was that not all wealth was visible as emphasised above. In particular, the loans which someone had outstanding were not known. The contracts were often made only by word of mouth, with only a few witnesses present. The consequent distinction between visible and invisible riches appears frequently e.g. in Lysias; rendering wealth invisible facilitated the evasion of liturgies. It was a distinction of two kinds of capital, which had an important meaning in the Athenian economy, but it would not have any in ours.

The Athenians probably had quite a good understanding of how their economy worked. According to Plutarchos, Pericles saw the employment effects of his project of building the temples on the Acropolis. However, that many would get a job was a side effect, not the primary aim, of temple building. No project was proposed just for purpose of creating employment, as Keynes suggested. Athenian policies encouraged the provisioning of the city with wheat, but they would not explicitly advocate an export-oriented strategy in order to earn the purchasing power for potential imports as the mercantilists would do. There was fear of excess population from Hesiodos to Alexander the Great and fear of depopulation afterwards according to Polybius, but the measures to influence demographic development had to be compatible with the existing religious and moral frame of the society; religious rules were not changed to serve the economy.

3. Modern Economic Concepts and Limits of Their Applicability in the Context of Antiquity

I try to show how a number of modern economic concepts might usefully be modified or reinterpreted for their application to the economy of ancient Athens in the light of what we have seen.

Equilibrium: We may speak of demand and supply, but the clearing of markets probably often obtained through work by command at habitual prices.

Value in use: We cannot even speak of uniform prices, where values in use have not yet been standardised. Some standardisation did take place, some products were regarded as typical for certain cities or regions; the different

styles of different types of pottery are an example. Xenophon speaks of a regional specialisation in textile production – at least, he has examples for that in his *Memorabilia*. But there is also the emphasis on the individuality of products, adapted to the needs of the buyer, and the dedication of the artisan to the individual quality of his product. To this extent, prices could not be standardised.

Needs: Not so much individual marginal utilities, but needs, determined by tradition and roles, seem to have determined demand, to the extent that one is not dealing with luxury goods.

Agricultural Prices: According to Aristotle, farms did not produce for the market, but for the sustenance of the extended family of the farm; only surpluses were exchanged. If this was true, the prices of agricultural products depended the more on the success of the harvest the more surpluses arrived on the market after the fulfilment of the needs of the producers, so that prices fluctuated a great deal. But this would have been an incentive for corn dealers, whose speculations would have helped to stabilise prices.

Prices of handicraft products (ergasteria): Individual artisans produced for customers, but there is limited evidence also of *ergasteria*, of workshops, in which slaves manufactured more standardised commodities – the famous shield-"factory" mentioned in Lysias (XII, 19). The owners of *ergasteria* probably used advantages of mass production only to a small extent (reduction of fixed costs, refinement of the division of labour, economies of scale, mechanisation), hence the reluctance of primitivists to speak of "industrial" production, although this did develop in some sectors later in antiquity (oil lamps, *terra sigilata* etc.). Max Weber thought that the comparison with industrial production was not licit, because he thought that the intensity of slave labour necessarily fluctuated more than that of free labours, who are more disciplined because they receive piece wages.

National accounts: National accounting is in principle always possible, but there are some major difficulties in its application to ancient Athens. Production for one's own need is usually neglected, but to neglect it in this case would be erroneous, and the invisible economy was probably large so that its representation would present problems somewhat analogous to the representation of the shadow economy today.

Money, silver and credit: The quantity equation ($P = MV/T$) does not lead to an explanation of the level of prices according to the quantity theory, because the cost of production of silver relative to the cost of production of any other regularly produced commodity would directly determine their relative prices in the long run. Silver was also held as treasure and ornament outside monetary circulation. If we accept the quantity equation as an accounting identity, it would determine, together with the direct determination of prices via cost of production, how much silver was kept in monetary circulation. If more silver was in circulation than was needed at given cost-of-production prices and the given velocity of circulation, silver

prices would rise temporarily, which meant that silver coins were cheap in relation to commodities, hence coins would be taken out of circulation, melted down and used for ornament. If it was forbidden to do this at home, it would be done abroad. Credit was a flexible substitute for money both in the case of big loans and smaller consumer credits, which facilitated the circulation of silver coins at their metal value, set apart a small charge for the cost of minting. The purchasing power of debased coins, of coins with a relatively higher share in the cost of minting and generally of coins of low denominations was less directly, if it all, governed by the value of their metal content.

Distribution of income: We may speak of wages and wage rates, of land rents and land prices and of interest rates, but it would be more problematic to speak of profit and of a return to capital in the case of the Athenian economy, because the values of the total assets of an enterprise were not assessed – indeed, the boundaries of a firm were not defined, since it was mixed up with the household. There is one late example where interest is used to calculate the rate of return on an investment (in Columella III, 3, 8–15), but it does not properly take account of compound interest.

Growth and crises: Population and the accumulation of equipment (ships, ports, mines, plantations), not so much the progress of technical knowledge, would determine a growth process which clearly took place between the 7th and the 4th century B.C., as it is obvious from archaeological and literary sources; it could be seen in the growth of public and private buildings as well as in infrastructure. We have no clear evidence of endogenous economic crises, caused by overinvestment and financial panics. If they occurred, they were superimposed by political and natural events.

4. Another Rationality?

If we look for economic laws as in the previous section, we are compelled to introduce modifications relative to the economics of the modern world as in the case of the quantity theory of money, or the laws appear only in a rudimentary form, as in the case of increasing returns to scale. But this negative approach, which only investigates which modern regularities are missing, fails to identify other regularities and institutions, which were specific for this economy of the past. The liturgies are an institution, the difference between land-based and maritime loans a regularity, which do not appear in modern textbooks of economics. The outlook or the perspective, according to Max Weber the "rationality", on economic matters was different. I want to develop the Weberian theme in this section by means of examples. I believe that much remains to be done in this area.

One sometimes contrasts a religious interpretation of worldly processes with a more illuminated one and ascribes economic inefficiencies to the former. An example is the merchant who is to cross the Mediterranean

with his ship and his load and who sacrifices a ram for safe arrival. Weber would have spoken of a traditional rationality in such a context, which led to an unnecessary cost. But von Mises (1933) criticised him, saying that the merchant was rational in his wish for a safe voyage, he only made an error concerning the means to achieve his end. This distinction is not of material importance. Clearly, the sacrifice can be described either way. The advantage of Weber's formulation is to emphasise the historical context, that of von Mises to focus on the economic problem.

A similar example is provided by the backward-bending supply curve of labour (Launhardt 1934 [1885]). It was observed in the late 19th century that migrant Polish workers, on large Prussian estates, would work less, if they were offered higher wage rates as usual, because they could attain their conventional standard of life with a smaller effort, and their aim simply seems to have been to earn as much as was necessary to sustain the standard of life to which they with their families were used. Similar observations had already been made by the mercantilists. Weber interpreted such behaviour as a traditional attitude to work, which seems correct, and he sees a contrast in this with modern rationality. But what is the latter? If it means utility maximisation, Weber was wrong, for Launhardt had already shown that a backward-bending supply curve of labour could be derived in the framework of utility maximisation (Schefold forthcoming-a). This backward-bending supply curve is to be found in most modern microeconomic textbooks. It can be derived for an individual family and will hold for the aggregate, if all the families to be aggregated are sufficiently similar. A possible solution to this conundrum is to say that the labourers with their traditional habit are formally rational in that the derivation of the backward-bending supply curve shows that their behaviour can be derived from a consistent set of assumptions as the expression of a definite aim. One could then argue further that the material or substantive rationality was traditional, for the reasons advanced by Weber.

I propose a more radical interpretation of Weber's thesis by combining it with his observation that the problem of a pre-modern rationality was connected with the identity of household and enterprise in all European economies prior to the late Middle Ages. The Pseudoaristotelian *Oeconomica II* contains in the beginning the following phrase: (idiotikè) anòmalos ... dià tò deîn mè pròs héna skopòn oikonomeîn – the art of housekeeping is without law because one must keep the house not for one single aim. In other words, housekeeping, even if it is a matter of natural acquisition, is concerned with several purposes, and it is therefore not as clear what one has to do as it is for a city which wishes to maximise its revenues. For that is the purpose of *Oeconomica II*: to explain how a sufficient revenue can be gathered by means of different forms of taxation and economic action. Rational economic action is concerned with given aims, according to modern theory.

The list of the possible contrivances open to cities, which wish to enhance their revenue, is long in Pseudoaristotle, and very varied. It

interested cameralist authors who were trying to solve the same problem such as Klock (Klock 2009 [1651], Schefold 2009); Klock therefore made insightful comments on Pseudoaristotle, which might interest modern interpreters, but this is not our concern here. I want to illustrate by means of a stylised example how the head of an Athenian household might have had to pursue conflicting aims. The head of a household would have to fulfil the roles of father, warrior and philosopher, and when he identified with any one of them, he would adopt the corresponding values and preferences. On the other hand, he would, at times not necessarily under his control, be confronted with different tasks, of household management, defence of the city and statecraft. Let us suppose that he had cyclical preferences, as shown in the following table:

		Role		
		Father	Warrior	Philosopher
Activity	Household management	1	3	2
	Defence of city	2	1	3
	Statecraft	3	2	1

At a time, when our Athenian was busy as father, educating his children, he might suddenly be called upon to perform a function in the state. As our table shows, he would not like to do that in his present role. Our Athenian thus would be happy, whenever the task at hand would correspond to the first preference according to the role in which he happened to be acting, but since

both the roles and the tasks would often change in an unpredictable manner, he would as often be in doubt as to his real duty. It would be impossible to derive a constant set of preferences for all actions from an aggregation of the preferences of the different roles, at least in this case, which is characterised by cyclical preferences. The result is analogous to the impossibility theorem of welfare economics: it is in general not possible to aggregate the preferences of different individuals to a consistent social welfare function.

Two remarks may be made in a historical perspective. Greek moral philosophy centres around the Socratic question of the Good; its platonic representation in dialogues informs us about the amazing variety of different perspectives which come to life in the utterances of Socrates' opponents. The urgency with which answers to the question as to how one should live are sought is at least in part due to the heterogeneity of the life forms which had become possible but for which a definite order had not yet been found. In fact, Plato establishes a parallel between the parts of the soul and the different ranks of the state (book IV of *The Republic*). Injustice results if each does not act within his own sphere and pursues his own profession. Justice is obtained if the passions of each obey reason as the citizens obey the government. The Ideal State is so organised as to avoid the role conflicts.

Hence, the Weberian conclusion: Modern life is institutionally more structured, which helps at least to reduce role conflicts, although modern permissiveness opens up new possibilities for forms of behaviour which earlier generations would have regarded as intolerable. There is the separation between firm and household. One acts in a business-like manner in the firm and enjoys the familial role at home. The politician and the soldier become professionals. The modern society leaves many freedoms, but the economy canalises them; this what has remained of Weber's (1992 [1905]) image of the "iron cage".

Modern rationality may also be bound up with intellectual discoveries and, in particular, with advances in economic analysis. A simple model is needed to make an example. Suppose a machine is used during T years to produce corn at a price p by means of labour l_1, \dots, l_T and a corn input k_1, \dots, k_T . The wage rate is w and the rate of profit is r . The capital in year t consists of the corn capital k_t and the machine at age $t-1$; it is advanced at price p_{t-1} . The production results in one unit of corn produced at price p and a machine, which has grown older by one year and is of value p_t . The new machine must also be produced: by means of corn k_0 and labour l_0 ; the value of the new machine is p_0 .

Hence we get to the following equations:

$$\begin{aligned}
(1+r)k_0p + wl_0 &= p_0 \\
(1+r)(k_1p + p_0) + wl_1 &= p + p_1 \\
(1+r)(k_2p + p_1) + wl_2 &= p + p_2 \\
&\dots \\
(1+r)(k_Tp + p_{T-1}) + wl_T &= p
\end{aligned} \tag{I}$$

This system of equations is a special case of the theory of fixed capital by Sraffa (1960). We cannot analyse it in detail here. The unknowns are the prices of corn and of machines at various ages. It is assumed that the machine at time T is worn out and cannot be used anymore. One can measure prices in terms of a numéraire, e.g. by putting $p = 1$, so that prices are measured in terms of corn. If a rate of profit is given, the prices and the wage rate will then be determined, hence also the level of real wages.

The prices of the old machines are here determined as the prices of joint products. This determination will happen in this simplified economy, if there are markets at which all these commodities are traded, including the old machines. Most machines become less efficient as they grow older. This means in our example that old machines require more labour to be operated and perhaps also more corn in order to produce the same output. Hence older machines will be of lesser value than newer machines, and this will be true even if the efficiency of machines is constant, since the machine at age T will be without value. The system of equations thus determines the depreciation of machines. A number of relationships describe this depreciation (and amortisation) of machines in different circumstances. They can be calculated easily (Scheffold 1989). The point to be made here is only that this depreciation will follow from a determination of prices in the market for old machines, if such a market exists.

But we know that the markets for old machines often do not exist or that trade in them takes place only very rarely. Now it is interesting to see that the system of prices can also be solved without such markets. If the equations are multiplied by appropriate powers of $1+r$ and added, a so-called integrated equation results, from which the old machines have been eliminated:

$$(1+r)^T p_0 + \sum_{t=1}^T (1+r)^{T-t} [(1+r)k_t p + wl_t] = \sum_{t=1}^T (1+r)^{T-t} p \tag{II}$$

In this equation, there is only corn and labour. Given a rate of profit, this equation will, together with the first equation of equations (I), determine the wage rate and the price of the new machine, if the price of corn is taken as the numéraire. This determination will happen in a market in which the sellers of

corn sell corn at a price, which reflects both the proceeds and the costs in terms of corn and labour at the various stages of the process. The prices will be the same as those obtained from system I, and we can imagine that this determination takes place in a competitive market for labour, corn and new machines. Markets for old machines are then not necessary. But "correct" prices for old machines can be calculated by entrepreneurs who are interested in knowing them for accounting purposes, using the formulae for depreciation which we referred to.

Now to the interpretation, which the reading of Max Weber, combined with the reading of Sraffa, suggests. We know the rationality of modern capitalists. It consists in using theories of price determination of type (II), combined with calculations of the depreciation of machines. The latter are needed for firms, which have to ascertain from year to year how their value changes with the changing in ages or vintages of their machines and their changing efficiency, in order to assess their profitability. By contrast, system (I) demonstrates that the abstract accounting processes are not needed and that the values of the capital (machines) employed can be determined in markets, provided they exist, are sufficiently stable and provided there is a sufficient volume of old machines exchanged. In this case, competition will regulate the prices not only of new machines, corn and labour, but also of old machines, without any explicit calculation of depreciation being necessary.

Weber made the point that the accounting practices did not exist in antiquity, but that they would have been needed to calculate the value of "machines" in an important and wider-spread case, if one wanted to assess the profitability of enterprises rationally. The case Weber had in mind, of course, is that of the latifundia, operated by means of slaves. Economically, slaves (but also e.g. horses) are like machines in that they are instruments of production, which last for many years, with characteristic efficiency profiles. Slaves learn, they are, at least for physical work, most productive when they are young and later efficiency diminishes and so diminishes their value. But a rational assessment of their value was not possible, at least according to Weber. He thought that slave prices were heavily influenced by wars, so that they would fluctuate widely. He thought that the efficiency of the work done by slaves was difficult to assess, because they had to be nourished, whether they were working hard or whether they were working less or even if they were idle. They did not change hands very often. Hence the markets for a determination of slave prices according to the simple rationality of system (I) was absent, but the rationality of system (II) had not yet been developed. Therefore, even if the owners of the latifundia had intended to operate them like modern, profit-oriented enterprises, they would not have been able to achieve their end, because the institutional basis for an assessment of the economic success by means of the markets was incomplete and because the accounting practices to substitute markets were not known.

This Weberian argument did not provide a positive characterisation of how the latifundia (Weber thought mainly of the large Roman agricultural enterprises) worked; Weber only showed that, to this extent, the capitalism of antiquity was not developed, was deficient, was "not modern". Weber characterised the capitalism of antiquity as not fully rational. A positive characterisation followed from the political orientation. Rationality was different in that the rich would strive for political influence, for the big opportunities to make money were obtained by governing a province or being charged with the equipment of an army. Later forms of capitalism were similarly not rational in Weber's eyes, because they were oriented towards rapid gains by means of adventurous expeditions such as those of the times of discovery. The steady accumulation of modern capitalism was facilitated by the growth of the worldly asceticism of the Puritans. Modern capitalism involved the steady willingness to save and the systematic entrepreneurship of the industrialist who took strategic action over long time horizons.

A number of characteristics of the rationality of the Athenian economy may perhaps be worked out by using these contrasting forms of other capitalisms as means for comparison. For instance, Weber's characterisation of the Roman latifundia may be contrasted with the smaller estates of classical Greece, where the roles of slaves were differentiated and where educated slaves were regarded as very valuable and worthy of personal attention. There was the perspective of liberation, and we know that slaves not only could become bankers but also philosophers, once they were free. By contrast, slaves in some States in the south of the United States were, according to Cohen (1992), by law not to be taught even reading. And as the role of slaves fluctuated between abject submission and respectability, so did that of the household between the preservation of the traditional life and a profit-oriented firm. The Athenians had to establish compromises and to find middle ways between opposing tendencies. The same is true of the modern world, but the important contradictions within which one has to move are not necessarily the same.

5. From the Negative to the Positive Characterisation: Economic Styles

The concept of economic style, introduced in section 1, remains indispensable – whether we call it by this or by some other name –, because we cannot characterise economic forms such as that of the Athenian economy without taking the programmatic views of the participants into account. We have to live with the obvious difficulty that the contrast between the programmatic content and the realisation of the economic style may be considerable. Take our own case: A Social Market economy exists today in each European country, with some aspects varying in accordance with different histories and different political wills, while other aspects are fairly common. There is some provision by the state for the unemployed, some

redistribution, some interference in health care everywhere, while there are different views as to whether the welfare state should be enlarged or diminished. Some, especially in the larger countries, regard policies to enhance competition as important. Others feel that, with open borders, monopolies and strong concentrations of industries cannot be permanent and are therefore not so dangerous. The ideal of the Social Market economy is shared generally, institutions to support it exist, but there are controversies within and between countries as to the precise nature of the ideal and as to measures required to reduce the tension between ideal and reality.

The Athenians had to reconcile their economic and politic freedoms with the presence of a large number of non-citizens and the slaves. They felt concerned about a steady provision of food supplies, about a financing of the state sufficient to keep the poor employed, religious and cultural celebrations flourishing and military independence secured. Their freedoms did not exclude intense interest in what others were doing and criticisms of deviant forms of living. Traditional forms of life in agrarian households and market orientation were not only alternative economic strategies, but represented different life-styles with political connotations. To describe the Athenian economy as a system with a certain mode of reproduction, with a certain combination of market elements and state intervention, is a task for the economic historian who is concerned with the real "functioning" of the economy, as opposed to ideological representations. It is a task for the historian of economic thought to reconstruct the economic ideas even in the absence of a coherent economic analysis and an identification of the economy as a subsystem. But none of these projects can be realised in a pure form, and the analysis of the economic style represents these different approaches in their interdependence, as well as that can be done.

To analyse economic styles became the ultimate project of the Historical School (Schefold 1994a), but I think I can show that it was also the project of earlier economists, whenever different economic systems, associated with different cultural forms and economic orientations, came to clash and had to be contrasted. The age of mercantilism was also that of the discoveries, of geography and of a growing awareness of the multiplicity of nations and the differences between them. Hence it is perhaps no coincidence that I found one author, Kaspar Klock, who attempted to describe the economic styles of the different nations of Europe and the contemporary world at the time of the War of Thirty Years. He published a monumental treatise *De aerario* in 1651, in the first part of which he tried to characterise each country by showing how its history, its economic institutions, typical cultural traits and the chosen system of financing the state fitted together, sometimes well, sometimes less so. He explicitly stated that he wished to analyse these countries in the following five dimensions:

1. Ratio Reipublicae
2. Populi natura
3. Regnorum jura
4. Populi conditio
5. Reditus Regnorum.

These dimensions are similar to those, which we have described for an economic style in section 1. Ratio Reipublicae was the reason of state, Raison d'état, Ragione di Stato, which had been under discussion in Europe since the publication of Machiavelli's *Principe* and since it had been understood that the political systems were not just the formal structures of monarchy, aristocracy, democracy etc., but that the nations, represented by their governments, had their orientations. These were rooted in the character of the population (Populi natura), they showed in the legal system (Regnorum jura), they were connected with the social and economic conditions (Populi conditio) and with the finances of the state with its expenditure and revenues, which Klock would discuss under the title Reditus Regnorum.

And Klock, based on the limited information available to him in his time and in the difficult conditions of the terrible war, achieved his end, thanks to his privilege of still being able to remain somewhat naive and unscientific, in a way in which later authors could never achieve it, when information had grown to such an extent that nobody could master it fully anymore. Klock wrote about Ancient Rome (in many ways his measuring rod), the Empire, France, the Ottomans, the other European states, each with specific traits. The Holy Roman Empire was the example of precarious – in the end failing – nation building, France represented success, Spain with its colonies was overextended, Scandinavian countries relatively democratic, Poland backward and agrarian, Russia despotic, Turkey a permanent threat etc. Klock extended beyond Europe, describing India, China, Japan (although it was closed), even African kingdoms south of the Sahara. The fiscal institutions of Ancient Rome were still regarded as a model and, as already stated, Klock analysed closely what could be learned from the manifold ideas on fiscal imposition and state expenditure contained in the Pseudoaristotelian *Oeconomica II*.

The example of Klock does not teach us much about the ancient economy of Athens, but perhaps we can learn from this old author how to obtain a comprehensive view of it. It was still natural for him to see the economic and the cultural institutions in their interdependence, not in the sense of a conceptual analysis, but in that of a vivid description of the phenomena. It demonstrates an intuitive understanding of the connection not only in the case of his own familiar, but also in that of foreign nations.

It is probably necessary to have a number of different such attempts before one's eyes, made in history at different times, in order to appreciate their similarity as representations and their differences in what they show. I

invite the reader to have a second look at Herodotus and Thucydides, the comparison between Persia and Greece and the other comparison between Sparta and Athens, in this light. We thus get an understanding of the potential and of the limits of the application of modern economies to the Athenian form of capitalism in Antiquity and reach a fair compromise between primitivism and modernism.

Notes

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Health, Economics and Ancient Greek Medicine

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Abstract. An analysis of ancient Greek medicine from the perspective of modern health economics improves our understanding of the ancient world and provides new insights into contemporary society. Ancient Greece pioneered secular and scientific medicine, but equally noteworthy is the prominence of healing cults, such as that of Asklepios. The simultaneous emergence of a scientific and rational approach to medicine and the proliferation of religious medicine provides an interesting vantage point for a study of the current market for alternative medicine. The underlying mechanism in both periods is hypothesised to be increased uncertainty in everyday life.

Keywords: Health, Economics, Medicine, Ancient Greece, Alternative medicine

JEL classification: I11; N33

1. Introduction

More than 2000 years separate us from ancient Greece of the Classical period. There are perhaps few areas where the apparent differences between our societies are as striking as in medicine. The great advances in medicine during the last century range from our understanding of the mechanisms involved at the molecular level to high-tech interventions and documentation of the importance of life-style factors. Nevertheless, current economic theory can shed light on the market for medical services in classical Greece. Furthermore, I hypothesize that similar factors account for the double-sided nature of the health market in both ancient Greece and the industrialised world, where religious and alternative medicine coexists with secular and scientific approaches.

1.1 Then and now – the setting for the provision of medical services

The intellectual heritage of ancient Greece has been extremely influential in shaping our perceptions of the world. This influence encompasses, for example, politics, literature, art, science and economic life. The Classical period of Ancient Greece (c. 500-323 B.C.) shares many features with modern society, and this is particularly true of ancient Athens.²

On the political side, classical Greece witnessed the first formalized democratic institutions (and the first use of the word “demokratia”). The Athenians developed a far-reaching direct democracy, which notably gave rights only to male citizens (excluding foreigners and slaves). It was a striking transformation of a traditional oligarchic society. The democratic institutions exhibited remarkable tenacity, and survived in Athens for some 150 years, despite, for example, the defeat in the Peloponnesian War.

The achievements in art and literature are even better known, but will not concern us here.³ More important for our purpose is the birth of natural science. From Thales and onwards, the Greeks speculated about their natural environment, and made empirical observations in order to enhance their understanding of the world. At the same time, Greece in general, and (yet again) Athens in particular witnessed an increased reliance on market relationships during the Classical period, especially in the fourth century.

1.2 Then and now – the double-sided market for health and health care

All of this means that ancient Greek society had much in common with the modern world that has evolved since the 19th century. At the cross-roads between medicine and economics, several interesting issues present themselves.

In fifth-century Greece, illness was no longer necessarily viewed as bad luck or the influence of evil spirits. Instead, it came to be believed that physicians could diagnose the cause of ill health, and, with the help of empirical observation, suggest a remedy – one that did not necessarily involve an appeal to the Gods. The private practitioner was a common feature in ancient Greek society.

Another similarity across the millennia is the simultaneous presence of secular and religious medicine. A conspicuous phenomenon in classical Greece was that the birth of secular medicine in no way caused the demise of religious medicine. On the contrary, it appears that religious medicine (healing cults) took an upswing around this time. At least, this is the period when several healing sanctuaries, such as the Asklepieion in Epidauros, were established or expanded. To the modern reader this may seem like a paradox at first sight, mainly because we are so used to the successes of scientific medicine (and its disregard for traditional or alternative healing methods).

Closer scrutiny, however, quickly brings the realisation that we have a similar situation in our society today. The fact that we spend some 10-15 percent of GDP on scientific medicine in the rich OECD countries does not stop the population from making extensive use of so called complementary or alternative medicine.

Furthermore, we who belong to the scientific tribe sometimes forget how widespread religious beliefs are today. In a recent World Values Survey, people in different countries were asked if they believed in a life after death. Arguably somebody who answers yes to that question has a belief that is at least unsupported by modern science. It turns out that such a belief is widespread all over the globe. In the highly secularised Nordic countries around 40 percent of the population believe in a

life after death, and many industrialised countries have shares well above 50 percent (for example, the USA 81 percent, Italy 73 percent, and the UK 58 percent).⁴

We note in particular that healing cults have not disappeared from the scene, not even in the western and more secularised society. Visiting a place like Lourdes in southern France is indeed an unforgettable experience.⁵ Seemingly endless rows of the sick – in wheel-chairs or on stretchers or on crutches – approach the holy place, light candles, etc., in the hope of being cured. In 1999, the 66th miracle in Lourdes was officially acknowledged (400 physicians had failed to find any other explanation for the fact that a man suffering from disseminated sclerosis suddenly became healthy).

In short, the successes and great resources of modern scientific medicine have not eliminated non-scientific medicine nor in particular religious medicine. How should we understand the co-existence (indeed simultaneous thriving) of secular medicine and healing cults in Classical Greece, which is mirrored by the simultaneous presence of scientific, alternative and religious medicine today? We will return to this question in section 6 below.

2. The Economic Background of Ancient Greek Medicine

In Classical Greece, many people became dependent on the market for their supply of necessary goods. “Extensive specialization of labour made it inevitable that the average Athenian [...] would have dealings with those outside the restricted circle of family, neighbours, and friends. When he bought and sold, he thus had to enter the world of market relations” (Harris, 2002, 76). “In bad years most and in normal years many Athenians had to buy their cereals. Aristophanes tells us about a peasant who carries his wine to the market to sell it and buy flour instead” (Hansen, 1987, 12). Athens and several other city-states were notorious importers of grain from, for example, the Black Sea region and Egypt (Hansen, 2006).

It is obvious that prices fluctuated with demand and supply, and that people were aware of this. This is clear from several remarks in the comedies of Aristophanes (for example, people rushing to buy cheap sardines in *Knights* 640ff). Loomis (1998, 254) shows that “economic forces of supply and demand are a [...] likely explanation for differences in wage rates across occupations and over time in Athens in the fifth and fourth centuries.”⁶

The growing importance of the market is illustrated by an innovation in language; the word “agora” originally signified public meeting place, but by the middle of the fifth century a new verb, “agorazo”, that is “I buy”, had appeared (Davies, 2007, 335).⁷

It is hard to escape the conclusion that the increasing reliance on market relationships gradually changed the behaviour of individual citizens, so that behaviour became more and more economically rational (Lyttkens, 2010a). The Athenians, in particular, are likely to have become more and more like “economic man”. This change in behaviour was mirrored in a change in attitudes towards economic activities. By the fourth century, many prominent citizens had become deeply involved in commercial enterprises. Bitros and Karayiannis (2008) argue that the

development towards a market economy was encouraged both by a value system conducive to entrepreneurship and by measures that facilitated private contracting.

3. Secular Medicine and Healing Cults in Classical Greece

3.1 *Secular medicine*

Classical Greece pioneered the development of secular medicine.⁸ The two most famous schools were those of Kos and Knidos, the former associated with the most famous physician of all times – Hippocrates. Much of our knowledge of secular medicine in the Classical period comes from the so-called Hippocratic Corpus, which contains material from different schools, authors and periods. Hippocrates himself was probably a contemporary of Socrates (469-399).

While the physicians belonged to different schools, with different theories about illness, they had in common the belief that illness was not connected to the supernatural. Their theories about illness were at the same time often widely off the mark, partly because mortems were not practised on humans at the time. The Hippocratic physicians were famous for prognosis and excelled in clinical observation. Dietetics was used to cure internal disorders but also as preventive medicine. According to the medical doctrine, the whole of the patient should be treated.⁹ An important source of medical knowledge was the gymnasium, but that will not be discussed here.

The typical physician in the classical period was like an itinerant craftsman (Edelstein (1987) [1967], 87ff). He travelled from city-state to city-state and offered his services (just like the sophists, who appear in the fifth century as itinerant men of higher education and taught various subjects, most famously perhaps methods of persuasion). The physician received his training through apprenticeship, which he may have had to pay for. A few became body physicians of powerful men. Finally, some cities paid a physician to be their “public physician”.

Particularly famous is the career of the sixth century physician Demokedes: troubled with a harsh-tempered father at Croton, with whom he was unable to live, he left and went to Aegina. Settled there he excelled over all the other physicians. In his second year, the Aigenetans paid him a talent to be their public physician; in the next the Athenians hired him for a hundred minae; and Polycrates (tyrant in Samos) in the next again for two talents.¹⁰ While serving under Polykrates, he was captured and enslaved by the Persians, and later came to be used by the Emperor Dareios as his body physician. He managed to escape from the Persians and returned to Croton, but had to leave again towards the end of his life because of political difficulties (Herodotos III: 125-131). In other words, Demokedes experienced all three ways of earning a living mentioned above, as well as being enslaved.

Demokedes was of course exceptional. Some additional wealthy physicians are known (Cohn-Haft, 1956, 20 with n. 58) but we have very little information about what the income of an average physician would have been.

3.2 *Healing cults*

To the modern mind, a natural assumption is that there must be a sharp divide between the scientific accomplishments of the ancient Greeks and their religious beliefs, just as we tend to draw such a line between modern scientific medicine and alternative medicine. However such a distinction would have seemed strange to the inhabitants of the ancient world. The physicians in Classical Greece rejected magic and superstition, but there is no indication they were hostile to religious medicine. They regarded Asklepios as their patron deity and made sacrifices to him. Illness and disease had natural causes but this did not exclude the possibility that divine intervention could cure the disease. Dreams were important at the sanctuaries (cf. below) and the physicians also used dreams in setting diagnosis, just as dreams were used in a variety of situations in the ancient world (Edelstein, 1987 [1967], 241ff; Nielsen, 2003).

Whether or not they believed in Asklepios and other deities, the ancient Greeks had to acknowledge the reports on successful cures that came from the sanctuaries. It cannot be disputed that many people believed that they had been cured by Asklepios.¹¹

In many parts of the world today, scientific medicine is not available, so the demand for health care is directed towards traditional healers of various kinds. We can safely assume that in ancient Greece, as in any pre-modern society, a significant portion of the health care needs of the population was taken care of by traditional healers, the wise old woman in the village etc. What is special about ancient Greece is the existence of a highly institutionalised form of religious medicine, and it is only this form that we will deal with in this paper.

The healing cults became a significant feature of ancient Greek society. As noted above, the expansion of the healing cults was preceded by the emergence of rational thought about the universe, beginning with Thales of Miletos. The outstanding representative of religious medicine in ancient Greece was the sanctuary of Asklepios – the Asklepieion. Asklepios gradually replaced Apollo as the God of healing, his cult expanded rapidly in the second half of the fifth century, and in the Hellenistic period he was “universally” recognized (Burford, 1969).

Epidauros and Kos became famous centres for the Asklepios cult in the fifth century. These establishments expanded in the fourth century and many more sanctuaries came into being in the following centuries.¹² The sanctuary in Epidauros dates back to the end of the sixth century (when Asklepios’ recognition as a God began to take off) and was expanded considerably after 370. The Asklepios temple in Epidauros was built around 370, but would have been built earlier if it had not been for shortage of skilled craftsmen.¹³ The building cost of this temple was between 23 and 24 talents. The total building activity in Epidauros between c. 370 B.C. and 250 B.C. ran to some 240-290 talents (Burford, 1965). Presumably it was financed partly by public revenue and partly by private donations (Burford, 1969, 81ff). Public revenue in Athens was 400 talents per year in the 340s, and the revenue in Epidauros must have been considerably less.

The cult of Asklepios was established in Athens in 420 and that of the healing God Amphiaraos in Oropos around the same time (Nielsen, 2003). This means that the expansion of healing cults also took place at a time when reliance on market relationships had become an important feature in Athens. The expansion of the healing cults was contemporary with Plato (429-374) and Aristotle (384-322). The proliferation of healing cults was also contemporaneous with the emergence of secular medicine.

Large numbers of patients congregated at the sanctuaries, sometimes staying on for several years. The larger shrines could be equipped with baths and libraries. The treatment usually included the so-called incubation: after some religious preliminaries, the patient was laid to sleep in a special building; either the patient was cured by the morning, or received instructions for the cure in a dream.¹⁴ The cases cured at the shrines range from comparatively trivial matters (migraine) to “hopeless” cases (blind without any eyes). Grateful patients informed other visitors of their good fortune and the successful cures by paying for inscriptions, votive gifts etc (Aleshire, 1992).

4 The Market for Secular Medicine

4.1 An economic attitude in medicine

For being a pre-modern society, Classical Greece was a rapidly changing one. The archaic and classical periods witnessed extensive institutional changes, including the introduction of written law, formalised political institutions etc. Furthermore, as we saw above, economic life changed and market relationships came to play an important role. Correspondingly, an economic way of thinking must have become more common, in the sense that the common citizen found it natural to seek out economically advantageous transactions, and to expect economically rational behaviour from his fellow citizens (Lytckens, 2010a).

We see this rational attitude perhaps most clearly in how the Athenians set up their government bureaucracy. It was characterised by extensive audits of anybody who handled public money. The overarching principle behind the extensive rules and regulations was “that absolutely nobody is to be trusted” (Davies, 1994, 204, who attributes this characterisation to David Lewis). Similarly, “The Athenians had the characteristic of being honest with themselves about themselves. [...] they went on the basis that, given the chance, every one of them would have his hand in the till and make a profit out of political activity, and they took every possible means to limit the chances” (Hansen 1991, 310).

It seems natural to assume that the economically rational attitude carried over to the medical market. Accordingly, when we turn to the ancient testimonies regarding physician practices, we are justified in looking for evidence that the market for medicine was influenced by economically rational behaviour and that it may be useful to apply our economic paradigm.

In general, it is obvious that physicians affect their patients demand for health care – the question is *how* they exert their influence. A substantial literature in health

economics is devoted to demonstrating that it would be rational for patients to expect a doctor to be influenced by his own self-interest. Put another way, it is *not* the case that the treatment given to a patient is only a function of the health needs of the patient.

Economists have been preoccupied with showing that physicians change their treatment of patients when the 'economic environment' changes, for example when the physician/population density varies. The most well-known issue is whether there exists physician-induced demand (PID), which, in the words of Thomas McGuire (2000, 504), can be defined to occur when "the physician influences a patient's demand for care against the physician's interpretation of the best interest of the patient." PID has been notoriously difficult to prove. One of the most convincing cases is the Gruber & Owings (1996) study of caesarean sections in the US, where a 10 percent reduction in fertility rate in a state was associated with a 0.6 percent increase in the caesarean section rate. Studies of price changes and 'natural experiments' have been relatively more successful in documenting the fact that physician behaviour changes with changing economic incentives (McGuire 2000). Hence the treatment provided to patients by physicians is not purely determined by the health problem of the patient.

4.2 Private physicians

4.2.1 Market power and price discrimination

Let us now apply the modern health-economic tool-kit to the market for physician services in ancient Greece. Secular medicine was mainly practiced by private physicians, typically in the role of itinerant craftsmen, travelling between cities in search of demand for their services. The travelling physician had to make a living and hence show an interest in money. It has been said that "...physicians wanted to make money and were not ashamed of admitting it" (Edelstein, 1945, 175). The medical ethics ordained that he should not be preoccupied by money, but not that he should be *indifferent* to money (Edelstein 1956).

This setting has several implications. Firstly it allowed the physician to serve a larger market than a single city-state (*polis*). Secondly, it reduced the probability that the physician and a particular patient would meet again and, thirdly, a physician would often have had a local monopoly when he came to a city. Even with other physicians present, his situation would have been one of monopolistic competition rather than perfect competition, since patients were unlikely to see different physicians as perfect substitutes and there would have been costs involved in switching between physicians (McGuire, 2000). The same situation – a downward sloping demand curve – would arguably apply if the physician faced competition from healing cults. A physician would presumably have planned to stay in a community until he came to a point when it seemed more lucrative to move to another place (the marginal revenue of extending the volume of his services locally would have been too low).

The features noted above regarding the market for physician services (downward sloping demand curve, potentially no long-term relationship with patients) had several implications for the contract between the patient and the physician. Firstly, there was no price regulation, and with a local monopoly the physician could be free to set the price for his services. In fact, since it is normally not possible to resell medical care, the physician could potentially use price discrimination, that is, charge different prices to different patients. This would have maximised the physician's income for a given level of production. Since the rich would likely have been the ones with the higher willingness to pay, such a strategy could be advertised as charity – “look how benevolent I am – I only charge a small fee to the poor.”

This feature of “charitable” behaviour has been noted in connection with the claim by US doctors that they were being charitable when they charged income-related fees (in the pre-insurance days), a proposition that has been challenged but also received some support (Kessel, 1958; Ruffin & Leigh, 1973). In this perspective, it comes as no surprise that we find in the Hippocratic writings a recommendation to the physician that he should adjust his fee to the means of the patient and that it is presented as charitable behaviour:

”I urge you not to be too unkind, but to consider carefully your patient's superabundance or means. Sometimes you give your services for nothing, calling to mind a previous benefaction or your present reputation.”
(Hippocrates, Precepts VI)

The fact that prices fluctuate with demand and supply is obviously common sense and requires no ‘economic theory’, just some powers of empirical observation. The same is true, I would argue, of the insight that you can increase your profits by adjusting your fees to the patient's ability to pay. Remember that the Hippocratic physicians were famous for their powers of empirical observation.

4.2.2 The principal-agent relationship and the importance of reputation

In any economic transaction there is an element of trust (Arrow, 1972), and so called relational contracts depend on the trust that can be created when parties have repeated dealings with each other. However, there are also elements of rational calculation present, which means that some contracts are unlikely to be efficient or even exist.

We know from the principal-agent literature that important issues in contracting are whether the payment from the principal to the agent depends on the agent's effort or only on the outcome (the effect of treatment is typically also influenced by factors other than the effort of the agent – “Nature”). Whether the level of payment should be decided before or after the agent has performed his task (cf. below) is also an issue.

Suppose quality of treatment can be enhanced by the physician by expending effort. Effort is costly for the physician though, and never contractible (not verifiable in a court). Assume additionally that patients infer (imperfectly) the physician's effort

from the outcome. Effort is not directly observable because, as noted by Weisbrod (1978), it is not just that it is difficult for the patient to judge the quality of the treatment before the purchase, but also that it is very difficult after the purchase. Ever since the seminal article by Arrow (1963), the asymmetry of information that exists between the physician and his patient is seen by economists as possibly the most salient feature of the health-care market.¹⁵

Consider now the possibility that the patient should pay before receiving treatment. Suppose, furthermore, that it is a one-shot game. The latter is a reasonable assumption for many of the contacts between physicians and patients, especially when the physician moves around constantly. If the physician is paid in advance he has no reason to supply any effort (he will betray the implicit trust shown by the patient). The patient, being rational, anticipates this, and backward induction suggests that the patient will not accept paying in advance.

The physician is more likely to supply effort if he has (or expects), for example, repeated dealings with the same patient. Alternatively, the physician may have a reputation to think of, which may lead him to supply more than minimum effort. The Greek city-states were usually small and in close contact with each other; they obviously learned from each other when it came to institutional design. Movement of goods, traders and artisans provided information channels. Hence, it could be useful for the physician to invest in a good reputation by providing effort. The reputation mechanism was more likely to induce effort in communities sufficiently large so that the physician did not have to move to another place. With a stationary physician a prospective patient is likely to be aware of the physician's reputation. Conversely, if he moves around constantly, the benefit from a good reputation would be smaller.

If we make the reasonable assumption that physicians are heterogeneous in their levels of skill, not being known in a community would be relatively advantageous for a low-skill physician. Staying in the same locality can then function as a signal of having great skills.

Instead, suppose now that the payment is decided after the treatment.¹⁶ We can think of this as an implicit contract set up before the treatment. The level of payment can then depend on the effort of the physician, or on the outcome, that is, the patient's health. If the agreed payment depends on the effort of the physician, the problem is again that this is not verifiable (and not necessarily observable). So if it is a one-shot game, and if the physician has made a great effort, the patient will rationally defect (betray the trust) and only pay a low-effort fee (or nothing at all). The physician – realising this – will again not supply any effort. If the patient instead expects that he will have repeated dealings with the physician (the latter stays in the community) he may however honour the implicit contract and pay a high-effort fee. Similar problems easily arise if payment depends on the health outcome instead, because it will often be the patient that decides whether there has been any positive effect, again with the “true” effect not being verifiable in court.

Consequently, we would expect the market to be characterised by physicians expending low levels of effort, unless they stayed in the same place for a longer time and/or found it valuable to have a good reputation. The latter was a likely situation, but building a reputation was not necessarily easy in ancient Greece (cf. below).

The outcome may also entail high levels of effort if physicians are altruistic in the sense of caring about the health or utility of their patients. In many health economic models, an argument is included in the physician's utility function to reflect such preferences. For example, it is frequently assumed that the physician experience disutility from using his discretionary power to manipulate the patient's demand (Evans, 1974; McGuire, 2000). Finally, the nature of the doctor-patient relationship itself may be conducive to high levels of trust and trustworthiness.

4.2.3 Building a reputation without necessarily curing patients

Given the level of medical knowledge, it was no easy thing to build a good reputation in ancient times: there were many conditions that the physician could not treat with any hope of success. In that situation, an important possibility was that a physician could build a reputation by being able to diagnose an illness and correctly predict the outcome. Prognosis – emphasised by the Hippocratic School – was a way to signal skill. It essentially served the physician's concerns rather than the patients' (Horstmanshoff, 1990). And it would be natural if such a reputation carried over to high-quality care and trustworthiness. The ability to diagnose hopeless cases entailed a double benefit for the physician's reputation – he showed his own knowledge and avoided giving a treatment that was unsuccessful. Viz.:

”I hold that it is an excellent thing for a physician to practice forecasting. For if he discover and declare unaided by the side of his patients the present, the past and the future, and fill in the gaps in the account given by the sick, he will be the more believed to understand the case, so that men will confidently entrust themselves to him for treatment.” (Hippocrates, Prognostic I)

This seems like good advice in view of the analysis above. It is also more likely that a physician who was regarded as skilful because of his powers of prognosis had greater success with his treatment. This follows because the placebo effect (cf. section 6.2) is apparently affected by “ceremony” and by the doctor's own beliefs about the usefulness of his cure.

The uncertainty regarding expected efforts and degree of benevolence of the travelling physician means that the famous Hippocratic Oath is naturally interpreted as a signalling and commitment device:

“into whatsoever house I enter, I will enter to help the sick, and I will abstain from all intentional wrong-doing and harm, especially from abusing the bodies of man or woman, bond or free” (Hippocrates, *Oath*).

The physician swears by the Oath that he will not take undue advantage of the patient's trust. As we noted above, the individual was increasingly involved in market relationships in classical Greece. This entailed, perhaps most importantly, a change in the individual's view of fellow citizens. Given the Greek propensity for rationality, there is no reason why this sober view of fellow citizens should not include the physicians. In practice, it seems that it did:

"Just as physicians, you know, by way of building a towering reputation, are want to diagnose insignificant troubles as greater ones and to exaggerate real dangers" (Menander, *Phanium*).

This quote reflects the insight that there are two different ways for the physician to convince the patient that he has made great efforts: either by actually doing so or by convincing the patient that the outcome without the physician's services would have been very bad.

In summary, both the ancient physicians and their patients seem to have shown considerable interest in the physician's reputation and this concern makes perfect economic sense.

4.3 Public physicians

Turning finally to the public interventions in secular health care, there was no quality regulation as we invariably have today. The ancients themselves marvelled at (and sometimes deplored) the degree of freedom they had granted to physicians; nothing prevented a person with only rudimentary training from acting as a physician.¹⁷ Instead, the market had to self-regulate, and the famous Oath may have been part of this as it took a strong stand against certain behaviours which certainly were practised, such as euthanasia and abortion (Edelstein 1987 [1967], 12-13). It helped define just which school of medical thought the physician subscribed to and to bolster his reputation, as noted above.¹⁸

An intervention that did take place, however, was that occasionally a physician was paid to reside in a particular city (such as Demokedes above). Eventually, payment to a so-called public physician (*demosios iatros*) became a widely spread practice in the Hellenistic period (Cohn- Haft, 1956, 7). When this practice was first discovered by modern scholars, it was thought that it had been part of an ancient "welfare state," and that the public physicians had provided services free of charge to everybody. However, it has since been recognized that there is no evidence that they practiced free of charge, and in fact there is evidence to the contrary.¹⁹ Hiring a public physician was rather like establishing a social health insurance with considerable co-payments.

So the purpose was most probably to persuade the physician to be present in the city, which means that the objective must have been either to secure a supply of medical care or to ensure that the supply came from a highly skilled physician. Cohn-Haft (1956) argues that the most usual reason for hiring a public physician was simply

to ensure the residence of a physician in the community. With physicians moving around there was no guarantee that you could get hold of one when you needed him (just as lack of skilled sculptors, masons etc delayed the building of the Asklepios temple in Epidauros for two generations (Burford, 1972)). However evidence also shows that city-states occasionally strove to enlist a highly skilled physician.

In fact, it is likely that hiring a public physician both ensured his presence *and* served to increase the quality of his services. As mentioned above, a good reputation is likely to have been of considerably greater value for a physician who stayed in the same city for a longer period, compared to one who moved around. Thus a contract with a physician to stay in a city made it more profitable for him to invest in a good reputation. In other words, the quality of his services was likely improved by the contract, even if it only stipulated that he was to remain in the city.

At the same time, there is an important difference between availability and quantity supplied. It is not to be taken for granted that paying a physician to stay in a city meant that the *quantity he supplied* to the citizens increased. He now only produced for his city of residence, which tended to increase the amount of services he provided in the city. Still, a fixed income that did not depend on the quantity of services supplied made the physician better off, and so more able to afford leisure (an income effect). This effect unequivocally reduced his supply of services. Finally, the overall demand for his services would have increased, because his reputation for being highly skilled would have increased (as argued above), which suggests that he could charge higher fees (a substitution and an income effect).

By now it should be obvious that using public revenue to hire a public physician was not necessarily to the benefit of everybody in the community. He would have become more expensive to consult and the quantity supplied may have decreased. This suggests that it would primarily have been the more affluent in the population who would have benefited from his presence, whereas everybody would have felt the opportunity cost of using public funds to pay his salary.²⁰ This was hardly seen as a problem by the ruling elite in *poleis* ruled by oligarchies (and note that Demokedes moved to Athens when it was ruled by the sons of Peisistratos, that is, by tyranny). Phrases commending public physicians for treating all who came to him are common in the inscriptions (Cohn-Haft, 1956, 37), suggesting that such a practice could not be taken for granted.

In general, the ancient Greek avoided direct taxation of citizens as it was seen as socially degrading. Hence it is noteworthy to find a special “doctors’ tax”, the *iatrikon* (Andreades 1979[1933]). It is usually surmised that this was a head-tax used to finance the services of a public physician.²¹

5. The Market for Healing Cults

Usually, the healing cult centres did not charge an entrance fee (Oropos being an exception). However, sacrifices, dedications etc were expected, with the expenditure expected to reflect the affluence of the suppliant. This, again, suggests either price

discrimination or charity. In Oropos, the thankful patient was expected to throw silver and gold coins into the holy spring (Pausanias I, 34).

Payment after treatment was the norm. This practice may have been facilitated by the fact that organised religion may have been able to achieve a higher success rate than a physician could because the placebo effect was probably stronger, cf. section 6.2 below. Ex post payment would also have been facilitated to the extent that those who came to the sanctuary feared retributions from an angry God if they defaulted on payment. I have assumed that the Gods in question did not exist, but that does not mean that Asklepios did not exist in the patients' view of the world. Edelstein & Edelstein (1945, T. 423: 22) report the following testimony: "Hermon of Thasus. His blindness was cured by Asclepius. But, since afterwards he did not bring the thank-offerings, the god made him blind again."²²

A high success rate could also help explain that the healing cults achieved a considerable market share despite the disadvantage – compared to the itinerant physician – of patients having to travel to the sanctuary (whereas the doctor would appear on the patient's doorstep). That travel costs were important can be seen in a quote from Plato (Republic): "A carpenter,' said I. 'when he is sick he expects his physician to give him a drug which will operate as an emetic on the disease, or to get rid of it by purging or the use of cautery or the knife. But if anyone prescribes for him a long course of treatment [...] he hastily says that he has no leisure to be sick [...] he bids farewell to that kind of physician, enters upon his customary way of life, regains his health [...] or [...] he dies and is freed from all his troubles."

One should not forget that the sanctuaries were efficient at enhancing their reputations, by votives, inscriptions from satisfied patients etc. A quote from Attic comedy shows that the Greeks were aware that those who administered the organised religion might have had objectives of their own:

"Then to the precincts of the God we went
 There on the altar honey-cakes and bakemeats
 Were offered ...
 There laid we Wealth as custom bids ...
 soon the Temple servitor
 Put out the lights, and bade us fall asleep
 ... And I could catch no slumber ...
 Then, glancing upwards, I behold the priest
 Whipping the cheese-cakes and the figs from off
 The holy table; thence he coasted around
 To every altar, spying what was left.
 And everything he found he consecrated
 Into a sort of sack"
 (Aristophanes, *Ploutos* 659-683)

6. The Dual Nature of the Medical Market

It is time to look more deeply into the most intriguing aspect of the market for health in Classical Greece – the simultaneous thriving and expansion of religious and secular medicine. This duality still exists in the intellectual descendant of ancient Greece – the western world today.

To clear the ground, it was *not* the case that the healing sanctuaries *solely* represented a convenient dumping-place for ancient physicians so that they could get rid of particularly difficult cases that they did not want to treat. We find both trivial cases and complicated ones at the sanctuaries.

In general, there are of course many and complex social, economic, political, psychological etc. factors involved when a religious cult spreads across countries and population groups. For example, in the early days of the *polis*, a function of sanctuaries was that they helped to mark the boundaries of *poleis* and establish territorial rights (Osborne, 1996, 102; Polignac, 1994). In sixth-century Athens, the tyrant Peisistratos fostered public cults probably to reduce the influence of the traditional aristocracy.

Furthermore, sanctuaries had complex relationships with the *polis* economy – they could have public revenue allocated to them, they served as banks in the sense of safe-keeping valuables for governments and individuals, they provided employment, they attracted visitors, the building activities required import of skilled labour, etc.

However, I will focus on the demand side, that is, what brought the scores of visitors that made healing sanctuaries such prominent features of the ancient Greek society?

6.1 A question of income?

Following, for example, the Grossman (1972) model, we would expect individual investments in health and prevention to increase if income from work increases. With increasing wage levels it becomes more profitable to be able to work, and there is also a consumption motive to invest in your health (health directly increases your utility). So, one explanation for the expansion could be that living standards improved so that people could afford more of these goods and/or found it more advantageous to make such investments.

That the standards of living have increased tremendously in the last 100 years goes without saying. To take a concrete example, the consumption of living space has increased in Sweden from one room per person in the 1950s to two rooms today (with an average space per person of 44 square meters).²³

For ancient Greece, Morris (2004, 2005) has estimated that living standards rose by at least 50-100 percent over the period 800-300. A typical Greek house increased in size by 350 percent. Furthermore, it seems likely that living standards improved significantly in the fourth century. Scheidel (2010) estimates that the real daily wage in and around Athens increased from 8-9 litres of wheat in the late fifth century to 13-16 litres in the late fourth century, i.e., by some 50-100 percent. Even in

the absence of major technological progress, productivity could increase as a result of trade, specialisation, better organisation etc.²⁴

So incomes increased both then and now, but it seems doubtful that this alone has produced the upsurge in non-secular or alternative medicine in recent years. In Sweden, the number of people who report that they have used herbal remedies or similar products in the previous two weeks increased by more than a factor of 4 from 1980 to 2005, and the proportion who reported that they had gone to see a practitioner of alternative or complementary medicine in the previous twelve months increased by a factor of 5 (cf. table 1). GDP per capita, on the other hand, also increased, but only by a factor of 1.7 (over the same period).

Similarly, temple building was no cheap activity. For example, the great temple in the Asklepieion in Epidauros cost 23-24 talents in the 370s (Burford, 1965), which corresponds to, for example, 500-600 yearly wages, or one sixteenth of the public revenue of the Athenians in the 340s and probably more than 50 percent of the public revenue of Epidauros itself. The temple was built in a few years and the running costs of the sanctuary remain to be accounted for.

	1980/1981	1988/1989	1996/1997	2004/2005
Have used herbal remedies the last two weeks (%)	4	8	11	17
Have visited a practitioner of alternative medicine the last twelve months (%)	2	8	7	10

Source: Data from *The Swedish Survey of Living Conditions* (ULF)

6.2 A question of placebo?

One potential explanation for the success of the healing cults, which should not be overlooked, is the possibility that the “treatment” did in fact make people feel significantly better because of placebo effects (Egense, 1996).

In fact, both the ancient physicians and the healing cults may have had more success with their patients than one would spontaneously assume, given the crude nature of medical knowledge. The placebo effect is powerful. One third of patients will often improve on the basis of placebo alone, and in some cases the proportion with symptom relief can be 75 percent (Guyatt et al., 1986). It has been found, that in gastric ulcer treatments, two sugar pills are less effective than four sugar pills (Goldacre, 2009, 66-67).

A reason why sugar pills work is that there is also what Goldacre calls 'ceremony' involved (a nice choice of terminology in view of our theme). It is not just taking pills; it is how they are taken, how often, what colour they are etc. For example, it has been shown that pink pills are better than blue pills in maintaining concentration (op. cit., 68). The value of ceremony is nicely demonstrated when it is shown that injections with salt water are better than sugar pills for, for example, blood pressure and headaches (op. cit., 69). Note that neither of these two interventions has any physical effect related to blood pressure or head aches. Nor is placebo only a psychological reaction: patients with Parkinson's disease who receive a placebo treatment show increased release of dopamine in the brain.

Hence a possible interpretation of the success of the healing cults in Classical Greece is that the Greeks inadvertently discovered and made systematic use of the placebo effect and its properties.²⁵ Among the conditions cured were migraines, ulcers, paralyses, which may all have had a considerable psychosomatic component. So the sanctuaries should perhaps more aptly be denoted Spas with placebo facilities. The pure Spa-effect should not be ignored – it may have been good for people to go to a sanctuary to rest, drink water, read, breathe the air etc. But the placebo effects are by far the most likely candidate for the majority of reported recoveries (under the no-God assumption). Since ceremony seems to be an important part of the placebo effect, it seems likely that treatments at an Asklepieion would have had a greater likelihood of success than treatments administered by a physician. There was clearly more ceremony involved in travelling to a sanctuary, preparing, lying down to sleep in the hall for the incubation etc.

Another aspect of the success of the Asklepios sanctuaries comes from economic psychology. To go to a sanctuary for incubation etc would presumably have been more costly than seeing a physician. The former probably entailed travelling a considerable distance, the cost of sacrifices, votives, etc, and likely exceeded the physician's fee. Furthermore, going to an Asklepieion was not something that could be done without other people knowing about it. This meant that fear of cognitive dissonance would have made people inclined to report to their neighbours and friends that they had been cured by Asklepios. We like to think of ourselves as smart people and admitting to ourselves (and others) that we have made an unwise choice would conflict with that mental image (hence lead to cognitive dissonance).²⁶ In other words, people who went to an Asklepios sanctuary were unlikely to tell others that it did not help. They were more likely to manifest the smartness of their action by paying for a votive at the sanctuary.²⁷ These aspects of human behaviour probably gave the healing cults a better reputation than doctors, because seeing a doctor was less costly.

Furthermore, what the doctor says and what the doctor believes have an effect on healing. The patients of doctors who believe they are administering a useful treatment get better than patients of doctors who do not believe so (Goldacre, 2009, 74). This implies, for example, that doctors who acquire confidence by being able to

make correct diagnoses are perhaps also more likely to have (placebo) success with their treatments.

6.3 A question of uncertainty?

A possible factor behind the proliferation of healing cults is that it – at least partly – was a reaction due to a perceived increased uncertainty in the lives of ordinary people. Human beings dislike uncertainty.²⁸ By this I do not simply mean risk aversion or ambiguity aversion, but a much more fundamental trait. We dislike it when we do not understand the world or what is happening to us and around us. We also dislike it when life is subject to random shocks beyond our control.

A striking similarity between Classical Greece and the 20th and 21st centuries A.D. is the comparatively high pace of social change. Both are periods of great changes in the lives of ordinary people.

Douglass North famously has noted that “institutions are the rules of the game in a society [...] the humanly devised constraints that shape human interaction” (North 1990, 3). If we are lucky, our institutions promote efficient economic behaviour. Less often noted is his observation that the “deep underlying force driving the human endeavour [is] the ubiquitous effort of humans to render their environment intelligible – to reduce the uncertainties of that environment” (North, 2005, 4). Over time, North observes, humans have conquered the physical environment. We understand and control Nature. We are (better) able to stop floods (though sometimes our actions cause them), drought no longer leads to famine in certain parts of the world, and so on. At the same time, however, the uncertainty that is generated by human interaction has grown in importance.

6.3.1 Then

In ancient Greece, significant advances were made in understanding and controlling nature. Together with the notion and experience that democracy is a Good Thing, this is perhaps the most important part of the intellectual heritage handed to us from this period.

Another important aspect of ancient Greek society is that it seems indisputable that the uncertainty stemming from human interaction increased rapidly. Firstly, there was an increasing reliance on market relationships, coinage replaced barter and coins were struck in small denominations useful for everyday use already in the sixth century (Kim 2002). This provided new opportunities, but also new responsibilities. It was no longer satisfactory to farm the land in the same way as previous generations. Furthermore, reliance on the market for necessities meant depending on people you did not know, and market forces that you were unaccustomed to (and perhaps understood poorly).

It is common today to talk about the effects of globalisation, and the ancient Greeks must have experienced something similar. Many came to depend on imports of grain (and sales of their own products). The growing importance of long distance trade was part of an exchange of goods and ideas across the eastern Mediterranean,

which increased steadily from the low ebb in political and economic contacts after the fall of the Mycenaean societies around 1200 BC. The political situation was changed by the expansion of the Persian Empire in the sixth century, and the Persians became a power in Greek politics for many years to come. In the middle of the fourth century, Macedon took on the role of an imperialistic aggressor. Economically, with increasing trade across the Aegean and the Mediterranean and up to the Black sea, events in many different parts of the world could suddenly affect living conditions in Greece.

In brief, the world became more uncertain in the domain of human interaction. Important factors were less and less under your control. The ordinary farmer probably also found it more difficult to comprehend what was going on.

When you are rapidly being deprived of the possibility of acting in an unreflective and traditional way, and increasingly have to take responsibility for choosing your line of work, for choosing a trading partner etc, you experience escalating demands on your capacity for rational choice. In addition to being unpleasant, such a situation with high demands and low level of control causes harmful stress, as social epidemiology has shown.

In such a situation, we would expect individuals to try and find ways to self-insure (reduce the probability of loss) and self-protect (reduce the size of loss) (Ehrlich & Becker, 1972), but also to find ways to make life less demanding and increase their control over the situation.

An obvious way to mitigate the increase in uncertainty is through religion, because religion usually offers both an explanation of the world and also ways of affecting your own situation and prospects (prayers, sacrifices etc.). In this perspective, it comes as no surprise that there was an increased interest in individualised religions (often imported) in Classical Greece and the healing cults were a part of that development. The healing cult entailed a direct relationship between the suppliant and the God, and seemed more likely to provide comfort and mitigate the increased uncertainty compared to the traditional Olympian cults.

There were also secular solutions being marketed. In the fourth century, the cynics, such as Diogenes, taught that you should strive for independence and self-restraint, and that you would achieve freedom by learning to make do with little. Later stoicism is a particularly conspicuous example (if somewhat outside our period) of the search for ways of handling the increased uncertainty and associated anxiety.

6.3.2 *Now*

Looking at our own time through the lens provided by the ancient Greek experience, we note that one of the most important trends of the 20th century was the individualisation of society (Beck, 1994). In many ways, the individual came to be expected to take responsibility for her future, for her education, occupation, pension, health, lifestyle, habits, marriage, children, children's education etc. For large groups in society, this was a marked change compared to the previous situation when most individuals expected to work in the same occupation as their fathers, live in the same

community, eat the same kind of food etc. If the pace of change was unprecedentedly high in classical Greece, it was still nothing compared to the present. To this we must add the rapid technological development, which represents new opportunities, but also new demands on your abilities. If you cannot use a computer, you will likely be out of a job; if you do not have the latest software you lose in social standing etc.

This process has entailed a change in emphasis away from unreflective habits as a decision process to more consciously calculated decisions. This increasing emphasis on explicit decision making is relatively well suited to those with ample resources, but it is an uncomfortable phenomenon for those less fortunate.²⁹

Another important current trend, as mentioned above, is globalisation in economic, political and social terms. While this seems to have several beneficial effects overall (Bergh and Nilsson, 2010), it also means that we are now affected by wars in regions of the world our grandfathers had never heard of, by poor banking practices in the USA, by crop failures in the coffee plantations in Brazil, etc. Not only has the pace of change quickened, but, due to the new ways of spreading information, we are also aware of the changes to a much larger extent than before. Information of all kinds is nowadays only an iPhone away (and there is sure to be an App for it). We are continuously being made aware of how much we depend on factors totally beyond our control.

For the affluent, these changes may be construed as improvements. It frees the individual from the constraints associated with upbringing and tradition, and enables her to freely choose a life career. It could equally be seen as a burden, as a source of anxiety, and as a loss of control over the situation. This is particularly the case for all those who do not have sufficient resources to engage themselves in explicit calculated decision making. Without sufficient resources, they have to accept that they no longer have the comfort of habitual behaviour as a sufficient and acceptable guide in life. The multitude of choices merely cause stress (high demand – low control) and manifest their lack of control over their lives.

Faced with these changes, the individual will seek comfort and ways to reduce the associated uncertainty. One strategy is to cling to old habits even if they have become dysfunctional. Acting in accordance with a habit is an important way to feel comfort (Lindbladh & Lyttkens, 2002), and probably the only way remaining for those with few resources, who feel that it is a waste of resources to engage in explicit decision making.

Another strategy is to try to turn new behaviours into habits: “I try to make a habit out of it, so it feels nice” as an interviewee said when asked how he dealt with the current demands of choosing a healthier life-style (Lindbladh & Lyttkens, 2002). One coping strategy is alcohol consumption. A very clear example of what increased freedom of choice may do to a population that lacks the means to take advantage of this freedom is the post-iron curtain experience in the former communist countries. In several cases, mortality has escalated, supposedly because of the stress and accompanying use of alcohol (Ajus, 2010). Obviously there are several contributing reasons for this trend in mortality; for example, many have lost their jobs, but I would

argue that the overall anxiety in the new 'free market' is an important contributory reason for the development of mortality.

Incidentally, on a speculative note it is not unlikely, given that many people find comfort in eating, that the search for comfort is a major factor behind the "epidemic" in obesity that is present across the industrialised world; obesity is increasing in all countries albeit at different levels. Similarly, Offer et al. (2010) suggest that "market liberal countries have an environment of greater economic insecurity" which leads to stress (social or financial), which then leads to overeating and obesity.

Just as in antiquity, however, religion in various forms offers control and comfort. The traditional religions maintain a strong following in many countries, and less traditional groups of various kinds seem to find new disciples. The different creeds usually have in common the fact that they offer an explanation of what is going on in society, and more importantly provide a way to influence the future of the believers.

The modern world has not been very successful in dealing with the kind of uncertainty that has been increasing steadily. In Sweden we provide more and more legislation to ensure that everybody is treated equally, and a great many 'dangerous' activities are being prohibited, but that probably only makes individuals badly equipped to deal with all sorts of failure or setbacks in life (Eberhard, 2009[2006]). The impression one gets from the ancient evidence is that the Greeks of the Classical period were more to the point than we are, when they helped establish comfort centres in the form of sanctuaries for healing cults.

6.4 The view of the world?

There is one final observation from the New Institutional Economics that suggests itself in this context. We have already touched upon the importance of the individual's view of the world, namely with respect to how the increased reliance on market relationships likely influenced not only the individual's own behaviour but also what kind of behaviour he expected from others. We may assume that the individual is self-interested and rational, but how that attitude translates into behaviour depends on how the individual believes the world to function.

In contemporary society, the possibilities of controlling "nature" and the advances in scientific medicine may have produced a view of the world that is overly optimistic. It seems to me that the tremendous progress in modern medical technology has fostered an expectation among the citizens that *any* illness can be cured. This is obviously an erroneous belief – an incorrect view of the world. Nevertheless, a belief that any illness ought to be "curable" may easily make people turn to alternative medicine in some situations when they are dissatisfied with the prospects offered by scientific medicine. It seems less obvious that this was a factor behind the medical market in ancient Greece; something similar may conceivably have occurred though as a function of the de-mystification of nature.

If I am right, this would not be the only situation where technological advances make people believe that anything can be accomplished. What springs to mind is the Swedish minister Ines Uusman, who commented upon the unsuccessful attempts to drill a railway tunnel through a mountain ridge in southern Sweden. She expressed confidence that the tunnel would soon be ready – after all, she said, if we can put man on the moon we ought to be able to build a tunnel. This was said in the early 1990s, when the estimated costs were SEK 1.2 billion and the job was planned to be finished by 1995. Today (winter 2010) the tunnel is expected to be ready in 2015, and the estimated costs now exceed SEK 10 billion.³⁰

7. Conclusions

Market relationships and, with them, economically rational behaviour gradually became more important in ancient Greece in the Classical period. Consequently, it comes as no surprise that modern health economics and principal-agent theory help us understand the functioning of the medical market in antiquity, such as the importance of reputation and the usefulness of paying a doctor to stay permanently in your city.

The similarities between then and now include the concomitant development of secular and scientific medicine on the one hand, and a proliferation of healing cults and alternative medicine on the other. In economic terms, secular medicine and healing cults seem to have been complements rather than substitutes. There are many factors involved in this development, but a common and important theme – despite the 2500 years that separates us – is our need to feel that the world is comprehensible and predictable. Both Classical Greece and modern society have witnessed a considerable growth of uncertainty in people's everyday lives, an uncertainty that stems from human interaction. Individuals are trying to find ways to mitigate this uncertainty. Science helps us conquer nature, but has not helped with uncertainty from other sources.

Looking at the ancient world from the vantage point of health economics is useful, as is looking at contemporary trends through the lens provided by the ancient societies.

Notes

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² In this essay, "Greece" is used as shorthand for the areas settled by Greeks in antiquity, that is, including the coast of Asia Minor, southern Italy etc.

³ A pity, but there it is. The Apollo statue from the west pediment of the Zeus temple in Olympia (a superb example of the severe style) as well as the archaic Peplos Kore from the Acropolis of Athens are both among my all-time favourite pieces of art.

⁴ Some Catholic countries come out unexpectedly (?) low, for example, France 45 percent and Portugal 47 percent Results reported in the daily Swedish newspaper *Sydsvenskan* 2008-11-02.

⁵ The author witnessed this a summer evening in 1997.

⁶ Even Sir Moses Finley found it necessary to point out that Aristotle “knew perfectly well that prices sometimes responded to variations in supply and demand” (Finley, 1970, 13-14). Otherwise, the position associated with Finley is that the ancient economy was “embedded” in other relationships, and that market forces essentially played no independent role (Finley 1999[1973]). There are two problems with this position. Many economic transactions are also embedded in the modern world, so the difference is one of degrees (Lyttkens, 2010a). Secondly, the position is increasingly being challenged by scholars who do in fact find market forces and market relationships in ancient Greece in the fifth and fourth centuries.

⁷ Herodotus, writing after the middle of the fifth century tells us how Cyrus (Persian ruler c. 557-530) replied to a Spartan embassy, “I never yet feared men who have a place set apart in the midst of their city where they perjure themselves and deceive each other,” by which he meant the Greek market place (Herodotos I. 152-53).

⁸ I will not discuss whether their practices should be described as truly scientific, or whether that epithet has to wait until the school of Alexandria in the Hellenistic period. Cf. Horstmanshoff (1990).

⁹ In the third century B.C., the centre of medicine, like so many other sciences, shifted to Alexandria. Great advances were made by scientists such as Herophilos and Erasistratos. They contributed to anatomy, physiology, surgery etc., described the nervous system, and almost discovered the circulation of blood. This development, however, is beyond the scope of this paper.

¹⁰ According to the Attic standard, 1 talent = 60 minae, 1 mina = 100 drachmas, 1 drachma = 6 obols. Towards the end of the fifth century, an ordinary craftsman earned about 1 drachma per day (traditional view).

¹¹ In this study, the possibility that Asklepios existed is not explored. If this is an erroneous assumption, it would be an example of a “No-Good No-God assumption” (Lyttkens, 2009).

¹² Cf., for example, Pausanias guide to ancient Greece.

¹³ Burford (1972).

¹⁴ It was also possible to approach Asklepios privately in prayer. The most popular method, however, appears to have been incubation at the temples (Edelstein, 1945, 148)

¹⁵ It is acknowledged that similar conditions exist in many other markets as well, for example, the market for legal advice, or plumbing. In health care, this asymmetry is

regarded as a major factor behind spontaneous solutions such as licensing of physicians, medical ethics, the importance of not-for-profit organisations, etc.

¹⁶ Postponing payment until after the treatment facilitates price discrimination, as it allows the physician time to get to know the patient and his household. Again it can be given a charitable interpretation:

“For should you begin by discussing fees, you will suggest to the patient either that you will go away and leave him if no agreement be reached, or that you will neglect him and not prescribe any immediate treatment. So one must not be anxious about fixing a fee. For I consider such a worry to be harmful to a troubled patient, particularly if the disease be acute. For the quickness of the disease, offering no opportunity for turning back, spurs on the good physician not to seek his profit but rather to lay hold on reputation. Therefore it is better to reproach a patient you have saved than to extort money from those who are at death’s door” (Hippocrates Precepts IV).

¹⁷ Edelstein (1966), Kudlien (1970). Cohn-Haft (1956) argues that the system was sufficiently self-regulating through the apprentice system.

¹⁸ Horstmanshoff (1990). The famous Oath probably reflects the position of physicians associated with Pythagorean ethics (Edelstein, 1987 [1967], 3ff; Phillips (1987) [1973], 114ff.)

¹⁹ Cohn-Haft (1956), Ch. 3, Hands (1968), 134-138, Horstmanshoff (1990).

²⁰ In the area of health one could for example point at alternatives such as the construction of water facilities.

²¹ Andreades (1979[1933]), 249-250 n. 10, provides an analogous example: in Dubois in Wyoming, a poll tax was used in the 1920s to pay the only physician to stay put. However, it seems that so little is known about the *iatrikon* that it could even have been a tax on doctors instead, just as there were taxes on resident foreigners, freedmen, and prostitutes. One of the few places where we have evidence of this tax is the island of Kos, well-known for its great sanctuary to Asklepios and for being the birthplace of Hippocrates. So one wonders if it was designed to subsidise the services of the physicians or to tax the competitors of the cult of Asklepios.

²² Asklepios seems to have understood moral hazard effects: “Hush, he [Asklepios] gives to those who desire it, but you do things that irritate and aggravate your disease, for you give yourself up to luxury” (Edelstein & Edelstein, 1945, T. 397).

²³ *Housing statistics in the European Union 2004* & Persson (2007).

²⁴ On specialization, cf. Harris (2002). Note in particular that productivity could increase even in the absence of technological advances. It seems that an increased real wage is often ignored as a possibility in the literature, possibly due to the long-lasting influence of Finley (1999[1973]), cf. Lyttkens (2010b).

²⁵ This means that religious medicine as practiced in ancient Greece could have been an exception to the general result (Bhagwati & Srinivasan, 1986) that organized religious activity (priests, temples, etc) is a waste of resources if it cannot influence heavenly welfare.

²⁶ On the economics of cognitive dissonance, cf. Akerlof & Dickens (1982).

²⁷ How many of your friends come back from an expensive vacation and tell you that they had a lousy time?

²⁸ Uncertainty adds to the fundamental existential anxiety that is there in all of us. See also the psychometric literature on risks, which shows that the dread of risks is influenced by several factors other than the probability and size of loss (Slovic, 1987)

²⁹ Lindbladh & Lyttkens (2002). Obviously everybody uses habits to a great extent; otherwise life becomes unmanageable (Hodgson, 1997).

³⁰ So far the project has killed fish, drained wells, poisoned construction workers and agricultural land, etc. It seems that the ancient Greeks were more successful, *vide* Polykrates' tunnel project on Samos in the 6th century B.C.

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Character, Knowledge and Skills in Ancient Greek Paideia: Some Lessons for Today's Policy Makers

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Abstract. The efforts to alleviate poverty by increasing social budgets have failed everywhere in the world and now the question is what else can be done to support those that are left behind. In this paper we search for illumination in the approaches to education that Athens and Sparta adopted in the peak of their power. Our findings indicate that both city-states confronted their challenges successfully because they managed to mold into the character of their citizens “ethos” compatible with the integrity of their institutions. On this ground, and given that “knowledge” and “skills” as engines of economic growth are in the interest of the individuals to accumulate, we conclude that an alternative policy to check the trend towards extreme individualism is to place priority on the character of citizens and pursue it through appropriate restructuring of educational curricula in the direction suggested by ancient Athens.

JEL Classification: B11, I20, N30

Keywords: ancient Greek paideia, education, economic performance, morality

1. Introduction

If one asked parents today why they would send their children to school, the answer would be standard. They would send them to get an education that would enable them initially to enter a university, which with some luck might help them eventually to earn a comfortable and financially rewarding life. The answer that one would not probably get is that they would send them to school to develop respect for the laws and sensitiveness for the prerequisites of living in a cohesive social environment. This

situation was not always the case. In earlier times, parents demanded and educational programs assigned more emphasis on the efforts to influence the “character” of students and less on transferring to them “knowledge” and “skills”. Why has this shift taken place, it is not hard to explain. As economies become more open, in order to raise living standards they are forced to rely on an ever-increasing extent on the production and application of new “knowledge” and “skills”. In turn, this increases the demand for scientists, engineers and other highly trained professionals and induces educational programs to adjust accordingly by reallocating teaching efforts toward the latter and away from emphasis on the character of students. As a result, education systems across the world deliver today graduates who are more self-centered and more individualistic than in previous times.

Is this trend necessarily bad? Not really, because it all depends on the implications. More specifically, in countries with well functioning institutions for keeping law and order, caring in instances of unexpected personal misfortunes, and distributing the fruits of creativity and risk-taking in a socially sustainable manner, the appropriate education system may well be one that strengthens the individualistic instincts of students by placing dominant emphasis on their “knowledge” and “skills”. This is so because such human inclinations go hand in hand with entrepreneurship in the benevolent meaning of the term. On the contrary, in countries where institutions are weak or non-existent the same education system might prove to be a disaster, because strengthening the individualistic instincts of students might undermine economic growth and social cohesion by leading to low moral standards and generalized corruption.³ In the light of these considerations the recommendation that comes to mind is that governments in the latter countries should strive to design and enforce a system of *paideia*⁴ that balances the emphasis between the “character” of students, on the one hand, and their “knowledge” and “skills”, on the other, so as to conform to the nature and the functioning of their institutions.⁵ But this is easier said than done, because there are no general guidelines for setting up such arrangements. So their problem is how to stem the trend towards extreme individualism, which feeds corruption and erodes the feeling of belonging among citizens.

To mitigate these undesirable effects, the response of governments in these countries in recent decades has been to increase the percentage of public expenditures in gross national product that go for the provision of services and other income supports to those left behind. Yet numerous studies have shown that the effectiveness of social budgets in alleviating poverty varies inversely with the level of corruption and social policies fail worse in places where they are needed most (see e.g. Mauro, 1995; Bardhan, 1997; Tanzi, Schuknecht, 2000). Thus, the prospects for counterbalancing successfully the onerous effects of increasing individualism have faded; and now in countries like Greece⁶ the question is what else can be done. Unfortunately there are neither easy nor obvious answers and this is that motivated us to search for illumination in the analyses of ancient Greek writers and philosophers and the approaches to *paideia* that Athens and Sparta adopted in the peak of their power in dealing with exactly the same problem. Our findings indicate that, while the challenges they faced led them to organize vastly differently, both city-states confronted them effectively, to a large extent they managed to mold into the character of their citizens “ethos” compatible with the integrity of their institu-

tions. On this ground, and given that “knowledge” and “skills” as engines of economic growth are in the interest of the individuals to accumulate, we conclude that for governments in general, and European governments in particular, an alternative policy to check the trend towards extreme individualism is to place top priority on the character of their citizens and pursue it by encouraging appropriate restructuring of their paideia systems in the direction pursued by ancient Athens.

The paper is organized as follows. Section 2 starts off with a brief account of the challenges that Athens and Sparta faced in classical times. In our view, the social, political and economic arrangements each city-state put in place were deliberately designed to maximize the likelihood of confronting their challenges successfully. Drawing on this conceptualization, Section 3 goes on to describe the institutions to which each city-state entrusted the efficient operation of the chosen arrangements. The purpose for doing so, is to identify the differences in their institutions since it is these differences that determined the differences in the moral norms that they adopted. Section 4 explains the structure and objectives of paideia in each city-state and confirms the preponderant role it assigned to character education relative to knowledge and skills. In Section 5 we conduct a comparative assessment of the two paideia systems and draw some hints relevant to the above dilemma, and, finally, in Section 6 we provide a summary of the main findings and a synopsis of our conclusions.

2. The Challenges That Ancient Athens and Sparta Faced

The size of city-states in ancient Greece was small. Generally, they covered an area not exceeding the limits of a contemporary municipality. But Athens and Sparta stretched over exceptionally large areas. In particular, as mentioned by Glotz (1928, p.34), when Sparta added to Laconia the region of Messinea in the middle of the 7th century BC it became the first power in Greece, because it controlled a land of 8.400 square kilometers, whereas when Athens added to its territory the island of Salamis and the district of Oropos in the 6th century BC, it extended over an area of 2.650 square kilometers.

Turning to the population, a simple average of the estimates mentioned by Amemiya (2007, p.36) points to a size for Athens in 430 BC of about 300000 inhabitants, whereas from the estimates quoted by Andreades (1928, p. 65, ft.2) the population in Sparta during the same period was about 250000. As for its composition, the same sources indicate that while in Athens lived 180000 citizens, 50000 resident alien (*metics*) and 70000 private slaves, Sparta was inhabited by 15000 citizens (*Homoioi*), 80000 non-citizens neighbors (*Perioikoi*) and 155000 public slaves (*Helots*).⁷

By implication, while Athens was at a disadvantage relative to Sparta with respect to the availability of land per capita, the latter was at a disadvantage relative to the former in terms of security, because, due to the limited number of citizens in her population, it faced constantly serious threats mainly from domestic sources. Actually the disadvantage of Athens was even more significant because, as documented by Fleck, Hansen (2006), the fertility of soil in Sparta was far superior to that of Athens and more grain could be produced there with less effort and investment.

3. Differences in the Institutions of the Two City-States

Thinking rationally, each city-state might be expected to adopt an organization to alleviate the factors in which each were disadvantaged. In the case of Athens this was the size and fertility of land. As the latter could not produce enough grain to feed the population, the city-state of Athens opted for an organization, which on the one hand provided incentives to farmers to increase the productivity of their farms, and on the other facilitated the necessary imports from grain producing areas of the Aegean and beyond. On the contrary, since it was rich in grain producing lands and slave labor, Sparta elected to adopt an organization that generated incentives to achieve military strength. In turn, these choices led to the establishment of vastly different political and economic institutions.⁸

3.1 Institutions in Athens

Three bodies governed the city-state of Athens. These were: the Assembly (*Ekklesia tou Demou*), the Council (*Boule*), and the 10 Generals (*Stratigoi*). The Assembly was the supreme decision-making body with executive, legislative, judicial and auditing powers. The citizens who participated in the Assembly were in charge of all city-state authorities and were educated on the job by carrying out their duties.⁹ That is why ancient Athens has been acclaimed as the inventor of democracy. However, ancient Athenians had gone through a lot of hardships to trust that direct democracy was sufficient to safeguard their liberties from would-be tyrants. That is why for them the ultimate guarantee for good governance was the dispersion of political and economic power as widely as possible. To this effect the city-state institutions were supplemented with the following additional main arrangements: There existed private property rights, so that farmers had all the incentives to work and invest in their farms. Citizens got elected to the various positions of responsibility by lottery and served only for a limited tenure in order to diminish the level of corruption. Taxes were moderate and democratically approved. All who deviated from expected behavior became subject to public uproar and denigration, whereas those who failed to observe the law and were found guilty by courts were liable for stiff penalties.¹⁰ Market driven production and distribution of goods and services secured enough surpluses of mining and manufacturing goods to exchange for the required imports of grain. Last, but not least, Athenians maintained a strong naval fleet to keep open and safe the routes to grain producing areas.

3.2 Institutions in Sparta

In Sparta the government was in the hands of few. At the top was the senate (*Gerousia*). This body had mostly consultative and judiciary powers and participated in the determination of the subjects that were introduced in the popular assembly (*Apella*). The *Apella* was made up of all citizens above 30 years of age and was presided over by five Ephors, who were elected for one year. Therefore, the real rulers of Sparta were the Ephors and that is why Aristotle (*Politics*, 1270b, 10-30) argued that the

way Sparta was governed seemed to be an oligarchy.

After annexing Messinea, which rendered it self-sufficient in grain, what Sparta needed most was a strong military to keep the slaves (*Helots*) peaceful, to defend from external threats, and perhaps to extend its hegemony beyond its borders. For this purpose, it adopted the following significant institutions: Through a series of laws it suppressed the natural urging of human beings to amass wealth in the form of fixed and personal property assets. As a result, citizens lost their economic independence and were attached for their survival to the city-state. To mold the minds of citizens so as to think only about their obligations to the city, it instituted living in communes, which performed many functions ranging from the provision of food and shelter, to the bestowing of honors for heroism in wars, and to the passing of judgment for questionable behavior. By prohibiting the holding of gold and silver coins, Sparta adopted mainly barter in economic transactions, and, finally, to insulate the city-state from bad influences from abroad it closed its borders to foreign trade and imposed a regime of isolation and self-sufficiency (see Bitros, Karayiannis, 2010a).

3.3 Summary

In classical times Athens was short of fertile land, whereas Sparta was short in security. To meet these challenges the two city-states adopted sharply different institutions. Athens was governed by direct democracy. Courts enforced the laws and the city-state ordinances; and goods and services were produced and distributed through markets. During this period, although direct democracy did not function perfectly, institutions managed to keep extreme individualism under control.

On the contrary, in Sparta the political power was concentrated in the hands of a few citizens. Government was conducted as if domestic and foreign enemies threatened its survival and thus had to live under a permanent state of siege. The economy functioned essentially on a barter basis and was closed to outside influences, while citizens had no private lives since they were constantly in the service of the city-state.

4. Structure and Objectives of Paideia in the Two City-States

To safeguard the integrity of their institutions, i.e. their functioning without much corruption and high transaction costs, Athens and Sparta put in place formal and informal mechanisms for imposing sanctions in cases of transgressions. But both were well aware that ultimately the effectiveness of institutions depends on the moral norms embraced by citizens and enforced through pressure by the general public. Thus, as their institutions were vastly different, so were their moral norms and this explains why they adopted different approaches to paideia.

4.1 Paideia in Athens

In as much as Athenians believed in the strength of their institutions, they were weary of the adverse influences that unfettered individualism might exert on their integrity. So in addition to the mechanisms for the dispersion of economic and political

power they had adopted a lifelong system of paideia, which comprised two processes: one that addressed the “ethos” of citizens, by which they meant the bonds that tied Athenians to the objectives and institutions of their city-state (Plato, *Republic*, 423 E- 424 A; *Laws*, 643 D-E, *Protagoras*, 425c-326a), and another that concerned the “knowledge” and “skills” that each ought to possess in order to face the demands of day-to-day life (Isocrates, *Areopagiticus*, 44-5). That is why the term paideia encompasses all efforts by the city-state itself, the parents, the instructors, and the trainers in preparing young Athenians to become worthy citizens. Below we explain briefly the structure and the objectives of paideia in Athens.

4.1.1 Structure

Paideia in ancient Athens was voluntary. It was offered to male children born to Athenian families (free-born) and families of metics and generally consisted of four stages.¹¹ In the first stage, which lasted until the age of seven, the responsibility for the rearing of children laid with their parents and it was conducted by the mother with the help of nurses, women pedagogues, who were not necessarily slaves, or the father’s mistress. From the age of seven and until the age of fourteen children were sent to schools where they were instructed by private tutors (Xenophon, *Constitution of the Lacedaemonians*, II, 1-2; Plato, *Protagoras*, 312b; Aristotle, *Politics*, 1337a 1-5) and/or learned a craft by their fathers and friends (Plato, *Protagoras*, 328a).¹² This was the second stage. In the third stage, young Athenians from well to do families pursued higher levels of learning. This lasted until they reached the fourth stage of *Ephibia* at the age of eighteen, during which children were trained in martial arts for one year and immediately after they served two years of military service (see Reinmuth, 1952). According to Aristotle (*Athenian Constitution*, XLII, 3), all living expenses for students and instructors during ephibia were paid for by the city-state (see also the documents in Loomis, 1998, pp. 24, 52).

Of the four stages, the one that was considered most crucial from a social point of view was the second, because presumably it was concerned with the paideia of children during their most formative years. This we know from the particular arrangements that Athens had enacted to regulate the operation of private schools. These arrangements are best described in the following excerpts from Aeschines (*Against Timarchus*, 8-11):

“Now it is my desire, in addressing you on this occasion, to follow in my speech the same order which the lawgiver followed in his laws. For you shall hear first a review of the laws that have been laid down to govern the orderly conduct of your children, then the laws concerning the lads, and next those concerning the other ages in succession, including not only private citizens, but the public men as well. For so, I think, my argument will most easily be followed. And at the same time, I wish, fellow citizens, first to describe to you in detail the laws of the state, and then in contrast with the laws to exam-

ine the character and habits of Timarchus. For you will find that the life he has lived has been contrary to all the laws.

In the first place, consider the case of the teachers. Although the very livelihood of these men, to whom we necessarily entrust our own children, depends on their good character, while the opposite conduct on their part would mean poverty, yet it is plain that the lawgiver distrusts them; for he expressly prescribes, first, at what time of day the free-born boy is to go to the school-room; next, how many other boys may go there with him, and when he is to go home.

He forbids the teacher to open the schoolroom, or the gymnastic trainer the wrestling school, before sunrise, and he commands them to close the doors before sunset; for he is exceedingly suspicious of their being alone with a boy, or in the dark with him. He prescribes what children are to be admitted as, pupils, and their age at admission. He provides for a public official who shall superintend them, and for the oversight of slave-attendants of schoolboys. He regulates the festivals of the Muses in the schoolrooms, and of Hermes in the wrestling-schools. Finally, he regulates the companionships that the boys may form at school, and their cyclic dances.

He prescribes, namely, that the choregus, a man who is going to spend his own money for your entertainment, shall be a man of more than forty years of age when he performs this service, in order that he may have reached the most temperate time of life before he comes into contact with your children.

These laws, then, shall be read to you, to prove that the lawgiver believed that it is the boy who has been well brought up that will be a useful citizen when he becomes a man. But when a boy's natural disposition is subjected at the very outset to vicious training, the product of such wrong nurture will be, as he believed, a citizen like this man Timarchus. Read these laws to the jury”.

From these details we have a fairly good idea how schools operated and how substantively the city-state of Athens intervened to make sure that young Athenians got a *paideia* that prepared them to become worthy of citizenship.

4.1.2 Objectives

The system of *paideia* in the city-state of Athens pursued three objectives. In particular, it aimed at: (a) infusing into their character ethical norms and good manners, (b) teaching them skills to practice a craft as well as other honorable ways of living, and (c) transferring to them the knowledge that had accumulated up to that time and stirring up their curiosity and interest to push into new frontiers. To achieve these objectives, the efforts were directed along the following lines.

Ethical norms

Pedagogues (i.e. teachers) instructed and through persuasions and admonitions in-

duced young Athenians to become virtuous by embracing certain ethical values, on the one hand, and repentant in cases of violations, on the other. In particular, acting in a positive way, they honed children to develop respect for:

- The gods, the laws and the rulers (Sophocles, *Antigoni*, 365-370, 660-675; Isocrates, *Areopagiticus*, 41; Plato, *Laws* 659 D-E, 797 B);
- The elders and caring for their parents (Isocrates, *Areopagiticus*, 49); and
- The rights of others. Since the life in Athens was based on voluntary transactions, this implied that all involuntary ones, which according to Aristotle (*Nicomachean Ethics*, 1131a, 1-5) included: "... theft, adultery, poisoning, pandering, enticing slaves away from their masters, assassination, and false witness, or violent, as assault, imprisonment, murder, rape, mutilation, slander, and contumelious treatments," were unethical and ought to be avoided.

The prospect for children who lived by these ethical norms was *honor*, because as Thucydides (II, 44.4) explained:

"...the love of honor alone is untouched by age, and when one comes to the ineffectual period of life it is not gain as some say, that gives the greatest satisfaction, but honor".

One's honor and fame was so important for Athenians that they had erected statues for modesty and fame (Pausanias, *Attica*, 17.1). At the same time, however, pedagogues knew that children would face plenty of temptations in their lives to deviate from expected social behavior. So to deter such inclinations, they molded into their character the feeling of disgrace (*aidos*) (Lowry, 1987, p. 170) to remind them of the losses in social esteem and reputation that awaited them in cases of actions not befitting the citizens of the city-state of Athens. In short, as Thucydides (IV, 18; V, 16,43) maintained, choosing honor over *aidos* the citizens of Athens tried very hard to inherit to their descendants what was most valuable, i.e. their good fame.¹³

Young Athenians were instructed also to be industrious, because *labor was the source of private property and accumulation of wealth*. Certain philosophers considered working as vulgar occupation. But the majority of citizens did not distinguish between noble and menial undertakings. Two examples in point are: first, that the Athenians were the first Greeks who worshiped the goddess "industrious Athena" ("Athena Ergane") (Pausanias, *Attica*, 24.3), and second, that they regarded as fruitful work even that of mercenaries (Thucydides, I, 31; IV, 52). In addition, some influential men such as the Sophists and Isocrates (*Areopagiticus*, 24, 44) stressed that the labor of free citizens must be regarded an honorable activity. Pericles (Thucydides, II, 40.1), in particular, argued that the Athenians employ wealth:

"...rather as an opportunity for action than as a subject of boasting; and with us it is not a shame for a man to acknowledge poverty, but the greater shame is for him not to do his best to avoid it".

In addition, pupils were influenced to develop a *high degree of altruism*. Raw models in this regard were the rich citizens who offered loans without interest to poor (Xenophon, *Oeconomicus*, XI, 9-11; Isocrates, *Areopagiticus*, 31-5; *To Demonicus*, 28; Aristotle, *Politics*, 1263a, 30-5; 1263b, 5-15) and financed voluntarily large public expenses (*liturgies*) (Thucydides, VI, 31). With respect to the latter it should be noted that Athenians applauded this type of giving and bestowed special honors to those who demonstrated altruism by contributing to public expenditures voluntarily over and above the taxes they paid (Bitros, Karayiannis, 2006).

Last, but not least, ideal ethos required every citizen to love Athens, be proud of its accomplishments, stand up for its laws, and be ready to sacrifice his life for its defense against foreign aggressors. That they were committed to these principles we know because citizens “freely sacrificed to the city the fairest offering it was in their power to give (meaning their lives)” (Thucydides, II, 43. 1-2, brackets added).

Good manners and honorable ways of living

The second objective of paideia was to mold into the character of children standards for good manners and honorable ways of living (Isocrates, *To Demonicus*, 4). Such meritorious attributes characterized youngsters who demonstrated *prudence* (Euripides, *Hippolytus* 915-920), *shame* in the face of social admonitions (Euripides, *Heraclidae*, 200-202), and pursued *glory* through deeds approved by society (Euripides, *Andromache*, 317-325). On the contrary, Athenians scolded those youngsters who gambled, visited whores, etc. (Isocrates, *Areopagiticus*, 47-48). They followed this approach, because in the words of Lycurgus (*Against Leocrates*, 10):

“For there are two influences at work in the education of the young: the punishments suffered by wrongdoers and the reward available to the virtuous. With these alternatives before their eyes they are deterred by fear from the one and attracted by desire for honor to the other”.

Thus, molding good manners and honorable ways of living into the character of children was aided significantly by the views that prevailed among the general public and which, according to Alford (1993), were succinctly expressed by the tragedians.

Athenians were well aware that the accumulation of wealth together with pleasure and social reputation are among the main motives of any human undertaking (e.g. Isocrates, *Antidosis*, 217). To tame this powerful instinct and exploit it to the benefit of all citizens, they encouraged the economic and social advancement of all males (free citizens, metics and slaves) through industriousness and entrepreneurship (see Bitros, Karayiannis, 2006; 2008). But they knew also well that such activities might render the distribution of wealth too unequal and thus erode social cohesion. For this reason, to keep the effects of animal spirits in check, they stressed that: a) the supreme purpose in life was virtue, not the accumulation of wealth for its own sake

(e.g. Isocrates, *To Demonicus*, 6-7); b) consumption was considered acceptable if it consisted only of the necessary goods for a noble and non-luxurious life; c) wealth was well spent if it financed various public expenses (“*liturgies*”); and d) wealth was well spent if it were used to offer loans without interest to friends and to fellow citizens (see e.g. Isocrates, *To Demonicus*, 27-8). To enforce these standards, they relied on character education, on the one hand, and social mechanisms of incentives and disincentives, on the other. As Aeschines (*Against Ctesiphon*, 246) stated:

“For be assured, fellow citizens, it is not our wrestling halls or the schools or our system of liberal studies alone that educate the young, but far more our public proclamations”.

In particular, Athenians were very critical of those rich citizens and metics who did not undertake with willingness public expenses commensurate with the amount of their wealth and showed no respect to rich and idle people who spent their wealth and property in luxury consumption (i.e. idle consumers) (Demosthenes, *Against Aphobus II*, 22; *Against Stephanus I*, 66), whereas they esteemed rich citizens who employed their resources for productive and trade activities and then “shared” their wealth with the rest of citizens through the voluntary undertaking of public expenses (see Bitros, Karayiannis, 2008). However, despite all social pressure to the opposite, from Aristophanes (*Ecclesiazusae*, 265-273) we learn that there existed even particular dressing and hair styling for the rich and from Braund (1994) that conspicuous consumption was quite widespread. Thus, as there were no any direct prohibition on luxurious living, the Athenians applied an indirect mechanism to check the prodigal life of the young.

Knowledge and skills

In the early years of their schooling children were taught reading and writing, arithmetic, using numbers based on the letters of the Greek alphabet, elements of geometry, music, and gymnastics.¹⁴ This was the elementary phase and for children who aspired to a career in politics or other public office it was followed by another one of higher learning in schools where they were taught mainly rhetoric, philosophy, and geometry. Moreover, they were educated in poetry, which, according to tragedians, improved their ethos, virtue, socialization, etc.

Children who could not afford the fees of the schools, but also children from well to do families who indulged in gymnastics, philosophy and other educational pursuits, learned various vocations to keep busy (Isocrates, *Areopagiticus*, 44-5, 55). Usually young Athenians, whose families were farmers, handicraftsmen, merchants, etc., were inclined to continue the vocations of their parents (Plato, *Protagoras*, 328 a). But many became apprentices under the supervision of appropriate masters to learn medicine, sculpture, architecture, navigation, and various other occupations specialized in the sector of handicrafts, export-import trade, etc. (Plato, *Laws*, 643C; Aeschines, *Against Timarchus*, 40).

Lucian of Samosata (2nd century A.D.) in his *Anacharsis* (20-1) describes as

follows what Solon said about the objectives and processes of paideia in Athens:

“But our first, our engrossing preoccupation is to make our citizens noble of spirit and strong of body. So they will in peace time make the most of themselves and their political unity, while in war they will bring their city through safe with its freedom and well-being unimpaired. Their early breeding we leave to their mothers, nurses, and tutors, who are to rear them in the elements of a liberal education. But as soon as they attain to a knowledge of good and evil, when reverence and shame and fear and ambition spring up in them, when their bodies begin to set and strengthen and be equal to toil, then we take them over, and appoint them both a course of mental instruction and discipline, and one of bodily endurance. We are not satisfied with mere spontaneous development either for body or soul; we think that the addition of systematic teaching will improve the gifted and reform the inferior. We conform our practice to that of the farmer, who shelters and fences his plants while they are yet small and tender, to protect them from the winds, but, as soon as the shoot has gathered substance, prunes it and lets the winds beat upon it and knock it about, and makes it thereby the more fruitful.

We first kindle their minds with music and arithmetic; teach them to write and to read with expression. Then, as they get on, we versify, for the better impressing their memories, the sayings of wise men, the deeds of old time, or moral tales. And as they hear of worship won and works that live in song, they yearn ever more, and are fired to emulation, that they too may be sung and marveled at by them that come after, and have their Hesiod and their Homer”.¹⁵

In conclusion, Athenians were brought up in a lifelong system of paideia, which stressed ethos, based on virtue and justice, not for their own sake but for their consequences to individuals and to the city. To be virtuous, meant to live ethically by giving measured priority to wealth, to have respect for the other citizens, to be industrious, altruist and live in honor. On the other hand, to be just meant to uphold and stand up for the laws of the city and to avoid committing involuntary transactions. From them we are led to surmise that the rule of law that prevailed in ancient Athens was to a high degree the outcome of the character education of citizens when they were young and the pressure they felt from society to maintain their ethos throughout their lives.

4.2 Paideia in Sparta

Up to the age of seven, children born to Spartan citizens stayed home. But after this age males followed the system of paideia, which was operated by the city-state itself. In the presentation below we explain briefly its structure and objectives.

4.2.1 Structure

Newborns, after being recognized by the city-state as well built and sturdy, received the first rudimentary character education in their family environment.¹⁶ During this period, Plutarch (*Lycurgus*, 16. 2-4) informs us that:

“On the same principle, the women used to bathe their newborn babes not with water, but with wine, thus making a sort of test of their constitutions. For it is said that epileptic and sickly infants are thrown into convulsions by the strong wine and loose their senses, while the healthy ones are rather tempered by it, like steel, and given a firm habit of body.

Their nurses, too, exercised great care and skill; they reared infants without swaddling-bands, and thus left their limbs and figures free to develop; besides, they taught them to be contented and happy, not dainty about their food, nor fearful of the dark, nor afraid to be left alone, nor given to contemptible peevishness and whimpering. This is the reason why foreigners sometimes bought Spartan nurses for their children.....

But Lycurgus would not put the sons of Spartans in charge of purchased or hired tutors, nor was it lawful for every father to rear or train his son as he pleased, but as soon as they were seven years old, Lycurgus ordered them all to be taken by the state and enrolled in companies, where they were put under the same discipline and nurture, and so became accustomed to share one another's sports and studies.

Thus from their eighth year of age, young Spartans left home and started to live and train in groups with youngsters of similar age. In the following passages Plutarch (*Lycurgus*, 16. 5-7) describes how these groups were organized and what learning activities were involved:¹⁷

“The boy who excelled in judgment and was most courageous in fighting was made captain of his company; on him the rest all kept their eyes, obeying his orders, and submitting to his punishments, so that their boyish training was a practice of obedience. Besides, the elderly men used to watch their sports, and by ever and anon egging them on to mimic battles and disputes, learned accurately how each one of them was naturally disposed when it was a question of boldness and aggressiveness in their struggles.

Of reading and writing, they learned only enough to serve their turn; all the rest of their training was calculated to make them obey commands well, endure hardships, and conquer in battle. Therefore, as they grew in age, their bodily exercise was increased; their heads were close-clipped, and they were accustomed to going bare-foot, and to playing for the most part without clothes. When they were twelve years old, they no longer had tunics to wear, received one cloak a year, had hard, dry flesh, and knew little of baths and ointments;

only on certain days of the year, and few at that, did they indulge in such amenities.

They slept together, in troops and companies, on pallet-beds which they collected for themselves, breaking off with their hands—no knives allowed—the tops of the rushes which grew along the river Eurotas. In the winter-time, they added to the stuff of these pallets the so-called lycophon, or thistle-down, which was thought to have warmth in it.”

The training, which increased in difficulty with age, continued until they were twenty.¹⁸ From that age on and until they became thirty they ate and slept in dormitories, remaining always ready to be called into the military,¹⁹ whereas at the same time they were encouraged to get married and bear children so as to maintain the number of citizens and the available manpower for the army. However, from Plutarch (*Lycurgus*, 24.1) we know that:

“The training of the Spartans lasted into the years of full maturity. No man was allowed to live as he pleased, but in their city, as in a military encampment, they always had a prescribed regimen and employment in public service, considering that they belonged entirely to their country and not to themselves, watching over the boys, if no other duty was laid upon them, and either teaching them some useful thing, or learning it themselves from their elders.”

Briefly then this is how the process of paideia was organized in Sparta and its objectives should be obvious.

4.2.2 Objectives

In particular, paideia was designed to endow the dominant male segment of citizens with moral norms, good and honorable ways of living, and knowledge and skills compatible with a collectivist mind set, which considered it natural that nothing else in life mattered aside from the survival of Sparta and its institutions. That this was the ultimate objective we know from Plutarch (*Lycurgus*, 25. 3):

“In a word, he trained his fellow-citizens to have neither the wish nor the ability to live for themselves; but like bees they were to make themselves always integral parts of the whole community, clustering together about their leader, almost beside themselves with enthusiasm and noble ambition, and to belong wholly to their country. This idea can be traced also in some of their utterances”.

So the task now is to identify the intermediate objectives through which it was pursued. To them we turn immediately below.

Ethical norms

We have seen that young Spartan were raised and trained to be part of a group, in which all had to obey orders, bear punishments without objections or arguments, sleep in open air, walk barefooted, withstand hunger, etc. Therefore, their selfish and individualistic impulses vanished and each of them lived to serve the best interests of his group, and hence of Sparta. In this framework, behaving ethically required:

- To obey the laws, the rulers and the elders (Xenophon, *Constitution of the Lacedaemonians*, 2.10-11, 8.1, 10.7).
- To value bravery and kindheartedness (Ibid., 9. 1-5, 10. 1-2,4).
- To aim for glory and feel sorry when blamed and proud when praised (Plutarch, *Lysander*, 2), and
- To detest wealth but be resourceful in survival.

Resourcefulness was considered particularly important and that is why a good part of the training of young Spartans involved the finding of food. In particular, those in training were expected to resort to all sorts of machinations to secure their food, because by doing so it was believed that they would become fierce fighters. So stealing of food was not only permitted but it was also encouraged,²⁰ since it was under the protection of Artemis, goddess of hunting, and those who distinguished themselves in these activities were honored by inscribing their names in some of the altars (Xenophon, *Constitution of the Lacedaemonians*, 2.6-8; Plutarch, *Lycurgus*, II, 6-7, 17-8; Powell, 1988, pp. 223-6). Therefore, paideia in Athens and in Sparta differed fundamentally, since in Athens stealing was prohibited and punished by stiff penalties, whereas in Sparta was honored as an accomplishment blessed by gods.

Another striking difference was the killing of slaves as part of their training, an institution called *Krypteia*. Sparta wished to control the number of slaves through it, because over time their population increased at a dangerously fast rate. In doing so they aimed on the one hand at the hardening of the character and the preparedness of young Spartans for war, and on the other to forestall any attempt on the part of slaves to revolt (Plutarch, *Lycurgus*, 28). More specifically, hidden at night and armed with knives the trainees trapped and murdered slaves and in particular those that were most vocal in protesting for their treatment. According to Thucydides (IV, 80) 2000 slaves, who had been liberated earlier in recognition of their bravery, vanished in the Peloponnesian War, without anybody knowing how each of them disappeared. It is no wonder therefore that Plato criticized as unjust the practice of *Krypteia* (Plutarch, *Lycurgus*, 28).

Still another difference lied in the regime regarding work. In Sparta working for income purposes was illegal. Here is how Xenophon describes it in his *Constitution of the Lacedaemonians* (VII, 1-3):

“Nor does this exhaust the list of the customs established by Lycurgus at Sparta that are contrary to those of the other Greeks. In other states, I sup-

pose, all men make as much money as they can. One is a farmer, another is a ship-owner, another is a merchant, and others live by different handicrafts. But at Sparta Lycurgus forbade freeborn citizens to have anything to do with business affairs. He insisted on regarding as their own concern only those activities that make for civic freedom. Indeed, how should wealth be a serious object there, when he insisted on equal contributions to the food supply and on the same standard of living for all, and thus cut off the attraction of money for indulgence's sake?"

From this it follows that, after their military service ended at age 30, male Spartan citizens looked forward to long careers in various government posts without pay. But since they had been trained in stealing their food while in the army, their integrity in safeguarding the efficient operation of Spartan institutions was questionable and that is why the stories about graft and corruption abound (Xenophon, *Constitution of the Lacedaemonians*, XIV, 2-4; Aristotle, *Politics*, 1270b, 10-20).

Good manners and honorable ways of living

It was mentioned above that between the ages of eight and thirty male citizens of Sparta lived in dormitories. For those who had finished agoge and remained in a state of preparedness for military service Plutarch (*Lycurgus*, 25.1) writes:

“Those who were under thirty years of age did not go into the marketplace at all, but had their household wants supplied at the hands of their kinsfolk and lovers. And it was disreputable for the elderly men to be continually seen loitering there, instead of spending the greater part of the day in the places of exercise that are called “leschai.” For, if they gathered in these, they spent their time suitably with one another, making no allusions to the problems of money-making or of exchange”.

This communal way of growing up did not allow young Spartan opportunities to escape the watchful eyes of their elders and their comrades, so group behavior prevailed and competition kept them in line with the established ethical norms.²¹ Good were all manners that enhanced cohesion in the group and in the city-state and blessed ways of living were those that gave top priority to the glory of Sparta. On the contrary, manners and ways of living that emanated from self-serving activities were scorned and punished by all means.

Knowledge and skills

Young Spartans learned how to read and write but generally their intellectual development was not a priority, because the emphasis was to prepare them physically to withstand the hardships of fighting in the city-state's wars. Actually they did not have any need to accumulate practicable knowledge and skills beyond those required to fight victoriously. The reasons are explained wonderfully in the following passag-

es from Plutarch (*Lycurgus*, 24. 2-4):

“For one of the noble and blessed privileges which Lycurgus provided for his fellow-citizens, was abundance of leisure, since he forbade their engaging in any mechanical art whatsoever, and as for money-making, with its laborious efforts to amass wealth, there was no need of it at all, since wealth awakened no envy and brought no honor.

Besides, the Helots tilled their ground for them, and paid them the produce mentioned above. Therefore it was that one of them who was sojourning at Athens when the courts were in session, and learned that a certain Athenian had been fined for idleness and was going home in great distress of mind and attended on his way by sympathetic and sorrowing friends, begged the bystanders to show him the man who had been fined for living like a free-man.

So servile a thing did they regard the devotion to the mechanical arts and to money-making. And law-suits, of course, vanished from among them with their gold and silver coinage, for they knew neither greed nor want, but equality in well-being was established there, and easy living based on simple wants. Choral dances and feasts and festivals and hunting and bodily exercise and social converse occupied their whole time, when they were not on a military expedition.”

From this it is clear that the mother of all progress, that is the natural urge of human beings to accumulate wealth through hard work and market tested applications of scientific knowledge and skills, was absent in Sparta but present in Athens.

To summarize, in Sparta citizens did not have private lives. They sacrificed themselves for the well being of their city-state. Hence the moral norms they were trained to follow, both while serving in the army and later on, were compatible with the institutions that had been set up to advance the military objectives of Sparta. As in Athens, these moral norms required them to have love and pride for their country, to support its constitution, and be ready to spill their blood for its victory in wars. These were sufficient to make Sparta the top military power in the period under consideration without much else. Namely, absolute disregard in the production, diffusion and application of scientific knowledge as a means to human progress; absolute enmity to the accumulation of practical skills other than those required for becoming a fierce fighter; no respect for human life; no work ethic; and no altruism by contributing willfully to common causes from one's riches.

5. Assessment and Hints for Today

The city-states of Athens and Sparta faced different challenges. Athens was short in fertile land relative to its population, whereas Sparta was short of security from domestic and neighboring threats. To confront them, they chose different types of political and economic organization. Athens adopted direct democracy, which recognized the sovereignty of its citizens under the rule of law. This implied acceptance of prop-

erty rights, which led to a full-fledged open market economy not very much different than the market economies of today. On the other hand, Sparta adopted oligarchy, in which the needs of citizens were looked after by the city-state in the framework of a closed command-based economy and their only obligation was to obey the rulers of the city-state and fight effectively its domestic and foreign enemies. Given these fundamental institutional differences, the two city-states aimed at different types of citizens and to secure them they put in place two systems of paideia that were vastly different. From this finding follows:

Proposition 1. In order for any country to have any chance in achieving its national aspirations, the structure and objectives of its system of paideia should deliver citizens with traits that conform optimally to the institutions that characterize and drive its organization.

It should be noted that this proposition is necessary but not sufficient, because if the institutions in a country are at odds with its national objectives, wrong choices and design of institutions cannot be overcome by paideia.

In the case of Athens and Sparta we know that both attained their national objectives by reaching unparallel peaks of power and glory. This in turn implies that their systems of paideia delivered citizens with characteristics that conformed optimally to the efficient operation of their institutions. But from the differences in the objectives that their systems of paideia pursued, which were identified above, it turns out that, whereas in Athens the system combined character education with knowledge and skills, in Sparta it stressed only character education. Therefore, drawing on these findings we conclude:

Proposition 2. No system of paideia can deliver citizens with conformable characteristics to a country's institutions without some emphasis on character education.

Certainly the validity of this proposition derives from the particular cases of ancient Athens and Sparta, so one may question its generality. However, judging for example from the experiences of the Soviet system in the twentieth century, and not only, our view is that it holds quite generally.²²

Let us turn now to the structure of the two systems of paideia. Their striking difference was that the city-state of Sparta forced all male citizens to live during their youth and adult lives in a communal mode for the purpose of building tight psychological and ideological bonds among them, and thus securing for life their blind allegiance. This structure was very important, because if the city-state had allowed them to return home after daily training, most likely it would have failed to achieve its objectives, because young Spartans would have been corrupted by the material luxuries their families enjoyed. Thus, from this arrangement and those that Athens had imposed on the functioning of private schools, we conclude:

Proposition 3. Irrespective of the mix between character education, on the one hand, and knowledge and skills, on the other, which is pursued by a system of paideia, the rules that define its structure and the monitoring of their application, determine the degree of its effectiveness in delivering citizens with the expected discipline and mindset.

Put negatively, what this proposition asserts is that, a system of paideia may pursue the right combination of objectives and still fail, because of structural and other implementation defects.

The above propositions represent our assessment of the reasons that explain the success of paideia in ancient Athens and Sparta. So the question now is what hints can we draw that would help policy makers in this area? One hint, and very important at that, is that in adapting either of the two systems, policy makers should not fudge with respect to the core principles on which those systems stood. To highlight this point consider what happened in the former socialist republics of Eastern Europe and Russia. As Sparta did centuries ago, these countries isolated themselves from the outside world, placed paideia under state control, and gave overwhelming emphasis on character education with the objective to create citizens that would put the interest of community above their own. But students remained with their families and material considerations prevented them from acquiring the expected communist mindset. In our view this failure, i.e. the failure to split children from their families during the years of their education and training, contributed heavily to the break down that occurred in these countries in the early 1990s.

If adapting the Spartan model of paideia was very difficult in the first half of the twentieth century, it has become completely obsolete since then, since in view of the rapid globalization that has taken place in communications, trade and tourism, no country can shut out all influences from abroad any more. For example, consider the cases of North Korea, Burma and Iran, which are in our times the most reclusive and isolated countries in the world. Even though their governments have managed so far to shut firmly their borders, it is only a matter of time until they open up, because their people cannot be prevented from knowing how material progress improves the lives of people in their regions and across the world. Consequently, with the Spartan model of paideia out of the way, if any helpful hints may be derived, these should be sought in the Athenian model. So let us turn in this direction.

In Athens, young Athenians were brought up in a family and school environment where they learned how valuable it was for the survival and the glory of their city to conduct themselves in accordance with the precepts of virtue and justice. They were expected to respect themselves as individuals by demonstrating responsibility in their private affairs and by being ready to sacrifice for the city-state the most valuable thing they had, their own lives. But their upbringing did not stop there. As Athenians had discovered the power of knowledge in strengthening the morals of citizens, on the one hand, and empowering them to meet day-today material needs, on the other, they used education to transfer to young Athenians knowledge in the

arts and sciences of the day and skills to practice crafts. So this model was one in which the moral aspects of knowledge and skills took precedent in the formation of character over their role as means for generating utility and wealth. In other words, paideia in classical Athens transferred knowledge and skills to young Athenians not so much to earn higher incomes and amass more wealth, but to become better citizens. The following proposition purports to stress this hint:

Proposition 4. Aside from enabling individuals to earn higher utility, in the form of income and other psychological satisfactions, knowledge and skills carry moral obligations, because those who possess them are expected to be more virtuous and just citizens.

How important is this proposition may be demonstrated by comparing its implications to those from the theory of human capital that permeates all conceptualizations of the process of economic growth. More specifically, A. Smith (1776, pp. 781-4, 788, 796), J. S. Mill (1848, pp. 856-7, 948-9), A. Marshall (1890, pp. 175-7), Mincer (1958), Schultz (1963), Becker (1964) and numerous other more contemporary authors, have explained why education is important for economic growth and development. For an example, here is a famous passage from Marshall (1890, p. 176):

“There is no extravagance more prejudicial to growth of national wealth than that wasteful negligence which allows genius that happens to be born of lowly parentage to expend itself in lowly work. No change would conduce so much to a rapid increase of material wealth as an improvement in our schools, and especially those of the middle grades, provided it be combined with an extensive system of scholarships, which will enable the clever son of a working man to rise gradually from school to school till he has the best theoretical and practical education which the age can give.”

That knowledge and skills can do wonders in elevating countries out of poverty, Athenians knew already from classical times. But at the same time they knew that by amassing wealth, individuals tend to become arrogant, power hungry and quite destructive of social cohesion. To tame these instincts and exploit them for the benefit of their city-state, they were very inventive. As we have shown in Bitros, Karayiannis (2006; 2008), they had adopted policies even to encourage entrepreneurship on the part of slaves. But at the same time, they employed paideia in conjunction with various social pressures to keep extreme individualism in check. That is why in addition to the advantages of having knowledge and skills as means of creating wealth, they stressed the moral obligations that these attributes generated for the individuals. Unfortunately, by absolving those who have knowledge and skills from their social obligations, the theory of human capital has contributed to the adoption across the world of paideia systems that deliver scientists, engineers and practitioners who are more individuals than citizens. As

expected by the above economists this shift in emphasis away from character education and towards knowledge and skills has certainly resulted in higher growth rates. But at the same time, it has given rise to less cohesive societies, particularly in those countries where the institutions are weak to compensate for the rise in the selfish and individualistic instincts of their constituencies. Thus, what the Athenian model of paideia hints to is that there is a delicate balance between character education, on the one hand, and knowledge and skills, on the other, which cannot be ignored in designing system of paideia for economic growth with social cohesion.

In sum, paideia in ancient Athens was more balance in terms of its emphasis on character, knowledge and skills than contemporary educational systems in developed and less developed market economies. This balance, which characterized the quest of the ancient Athenian society for “*metron*”, i.e. moderation, in all its manifestations, served it exceptionally well in achieving a cohesive social environment with unparallel levels of wealth relative to Sparta. On this basis then, contemporary models of education should be adapted along its objectives and structure.

6. Conclusions

According to Isocrates (*Areopagiticus*, 43) the main objective of paideia in classical Greece was:

“To mold the psychic and intellectual powers of children to such an extent that they may become useful to themselves and to their fellowmen.”

Other towering ancient Greeks held similar views.²³ For example, consider the views expounded by Euripides. In one of his tragedies (*The Suppliants*, 910-5) he recommends that juveniles and youth must be taught how to behave so that they may retain these habits until their old ages, whereas in another (*Iphigenia in Aulis*, 560-565) he argues that:

“The training that come of education conduces greatly to virtue; for not only is modesty wisdom, but it has also the rare grace of seeing by its better judgment what is right; whereby a glory, ever young, is shed over life by reputation.”²⁴

Pursuant to these views, Athens put in place a system of paideia that aspired to deliver citizens who were characterized by virtue and justice and had adequate knowledge and skills to meet their day-to-day material needs. On the contrary, Sparta adopted a system in which knowledge and skills beyond fighting wars were considered superfluous.

Even though both models of paideia served well the purposes for which they had been adopted, it is only the Athenian one that holds useful hints for policy makers today. In particular, according to this model there is a delicate balance between character education, on the one hand, and knowledge and skills, on the other, which cannot be ignored in designing policies for economic growth with social cohesion. This hint is particularly useful in countries where the institutions are weak and cannot

control the animal instincts of individual, because then the development of extreme individualism may tear society apart.

To be sure, striking the right balance between character education and knowledge and skills it is easier said than done.²⁵ However, this is where the Athenian model of paideia is at its best. Because, by stressing the principle of moderation in the choices involved, and the moral aspects of knowledge and skills, the state is entitled to keeping a close eye on the providers of paideia services and to intervening at any time on behalf of the public interest.

Notes

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³ However, as Hunter (2000) points out, the same is happening even in more institutionally efficient societies, such as the USA.

⁴ In classical Greece the terms used to describe the upbringing of children were “*agoge*” and “*paideia*.” Aside from education in the language, mathematics, music, gymnastics, etc., these terms comprised a whole range of arrangements that aimed at shaping the moral character of youth from early childhood to adolescence (Xenophon, *Constitution of the Lacedaemonians*, II, 1; Morgan, 1918). So our use of the term “*paideia*” in this paper should be interpreted to encompass over and above education all efforts to influence the character and moral standing of people so as to become more citizens and less self-centered individuals.

⁵ Wilson (1979; 1996) suggests that one issue of education in recent times has been to teach pupils to recognize and put into action truths that are in themselves tolerably obvious and universally accepted, namely truths that other people should do the same thing to the rest in similar situations. Thus, as White (1980) has argued, if an education system follows the principles of a rational procedural morality, it is necessarily committed to a democratic society. Extending this thesis, Althof, Berkowitz (2006) have proposed that any democratic society must concern itself with the socialization of its citizens. By implication, the role of schools in fostering the development of moral citizens in democratic societies necessarily focuses on teaching citizenship, skills and disposition.

⁶ See, for example, Bitros, Karayiannis (2010b) for the various factors that influence the morality of contemporary Greek entrepreneurs.

⁷ Aside from these three classes there existed also the class of “*Hepohomoioi*” or “under-citizens”, which consisted of Spartans who had lost their citizenship. But we have information neither on how large it was nor on its place in the structure of Spartan socie-

ty. Quite likely their class expanded when the inheritance of property to third parties was allowed after the Peloponnesian War.

⁸ For an extended analysis of this argument, see Bitros, Karayiannis (2010a).

⁹ As J. S. Mill (1861, p. 84) rightly comments:

“Notwithstanding the defects of the social system and moral ideas of antiquity, the practice of the dicastery and the ecclesia raised the intellectual standard of an average Athenian citizen far beyond anything of which there is yet an example in any other mass of men, ancient or modern. The proofs of this are apparent in every page of our great historian of Greece”.

¹⁰ An example is the law against “hybris”, which was any action inflicting dishonor and shame, see Demosthenes (*Against Medias*, 47). Another example is the law against corruption, which stated that: “If any Athenian accepts a bribe from another, or himself offers it to another, or corrupts anyone by promises, to the detriment of the people in general, or of any individual citizen, by any means or device whatsoever, he shall be disfranchised together with his children, and his property shall be confiscated” (Ibid., 113).

¹¹ Plato (*Protagoras*, 325a- 326e) describes fairly well some of these stages, emphasizing the close interconnection between teachable skills and virtue.

¹² Even poor farmers tried to cover the various educational expenses of their children (Demosthenes, *Against Adroton*, 65; *Against Timocrates*, 172).

¹³ Laurie (1894, 419) finds that “in Athens the morality of the individual was a civic or political morality, the elements of personality and a free ethics existed even before Socrates, and were powerfully expressed in literature. The Athenian education was in this as in other respects a reflex of the Athenian life”. Moreover, “while leaving the education of the citizens by the parents free... the Athenian state prescribed certain general rules... But the main controlling force seems to have been the force of public opinion” (Ibid., p. 420). Hence, what the Athenians aimed to achieve through paideia was more than the following effects that Ober (2008, pp. 87-8) attributes to education:

“Education (formal and informal) encourages individuals to internalize group norms with respect to making and keeping commitments. Meanwhile, behavioral norms and sanctions, triggered by easily observed misbehavior, serve to control the tendency of individuals to free-ride on other cooperative behavior or to take more than their share from common-pool resources”.

¹⁴ Harris (1995, p. 20) concludes that “if one was to aspire to the life-style of *kalos kagathos*, one of the prerequisites was a good education”. But in ancient Athens not everybody agreed on what constituted a good education beyond the stage of literacy, about which Isocrates (*Panathenaicus*, 209) writes that it is “a science which has so much power that those who understand and use it become apprized not only of the things which have been accomplished in their own time but also of the things which have come to pass in any age whatsoever”. We say this because from Aristophanes (*Ecclesiazusae*, 265-273) and others we know that they were very sarcastic and criti-

cal about instruction in the theoretical fields. For example, Isocrates (*Helen*, 5) maintains that more important than philosophical theorizing is to instruct students “in the practical affairs of our government and train to expertness therein, bearing in mind that likely conjecture about useful things is far preferable to exact knowledge of the useless, and that to be a little superior in important things is of greater worth than to be pre-eminent in petty things that are without value for living”.

¹⁵ Regarding the instruction of young Athenians in the literature, see Arnott (1970), Burns (1981), Morgan (1999).

¹⁶ Regarding the role of family in Spartan education, see Ducat (1999).

¹⁷ A detailed account of the literacy in the Spartan society can be found in Cartledge (1978).

¹⁸ Billheimer (1947) and Tazelaar (1967) have conducted in depth analyses of the age-classes in the Spartan educational system.

¹⁹ In addition to Plutarch’s testimonies, a detailed description of Spartan *syssitia* is found in Singor (1999).

²⁰ To be sure, the context in which Spartan children were trained to steal makes a lot of difference. For if they were trained to steal only from enemies and only in times of war, stealing might be considered a praiseworthy capability. But all indications are that Spartan children were trained to steal from friends and foes alike as a way of expected and commendable social behavior. The only qualification being that they were encouraged to do so not in order to accumulate wealth, of which there was no use, but to survive physically.

²¹ Richer (1999) has studied Spartan cults of various emotive states relevant to the control of individuals, with especial attention to *aidos* and virtue.

²² For example, Yeager (1998) found that practicing good character at an early age in schools sets a foundation for consistent, positive behavior patterns over the life span. Similarly, Nucci (2001) justified the incorporation of moral education into the classroom environment in order to have fruitful results for the character and social behavior of individuals.

²³ Similar views were expressed until the time of Plutarch (1st century A.D.) who suggested (*The Education of Children*, 3.A) that *paideia* determines the character and the behavior of an individual and corrects his deficiencies mainly during childhood. Actually in comparison to wealth, glory, beauty, health and bodily robustness, which he found to be inferior features of human beings, he considered *paideia* as the “only good that is immortal and divine”.

²⁴ In view of these quotations it is not amazing that nearly 15 centuries later Pope Benedict XIV in the following imaginary discussion with Voltaire somewhere in the grateful memory of mankind arrived in the same conclusion:

Voltaire: I still think that philosophers can dispense with morality.

Pope Benedict XIV: How naïve you are. Are children capable of philosophy? Can children reason? Society is based upon morality, morality is based upon character, character is formed in childhood and youth long before reason can be a guide. We

must infuse morality into the individual when he is young and malleable; then it may be strong enough to withstand his individualistic impulses, even his individualistic reasoning. I am afraid you began to think too soon. The intellect is constitutional individualist, and when it is uncontrolled by morality it can tear society to pieces.” (Durant, Durant, 1967, 791).

²⁵ See for example the theoretical and practical orientations of the papers in Nucci, Narvaez . (2008).

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The Runner

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Abstract. The 2500th anniversary of the Battle of Marathon offers an occasion to reflect on links between the legend of Philippides running to Athens to proclaim victory over the Spartans, Walt Whitman's short poem "The Runner," and the author's own history of running. The connection between poetry and democracy, articulated with particular urgency by Whitman, is treated in a roundabout fashion, like a run through the hills of Delphi.

Key Words: Battle of Marathon, Walt Whitman, Poetry, Democracy, Running

The image is iconic: a marathoner collapsing at the finish line. It earned the athlete a place in the collective imagination, with television appearances testifying to the enduring power of a symbol, which in the course of things had taken on a new aspect. For the runner was a woman—the 1984 Olympic Games were the first to host the women's marathon—and on a YouTube video of the event the victorious American runner, Joan Benoit, who seems not to have broken a sweat, is eclipsed by the sight of a woman walking into the stadium in Los Angeles, weaving from lane to lane like a drunk. But Gabrielle Andersen, in a white cap and the red track suit of the Swiss national team, is not drunk. She leans to her left, apparently in great pain, waving off medical personnel: if they touch her, she will be disqualified. And she does not fall into their arms until she has crossed the finish line, a display of determination that prompted commentators to draw comparisons to Philippides, who in 490 BCE is said to have run from Marathon to Athens, in full armor, to announce to the Assembly that the Greeks had defeated the Persians, whereupon he fell to the ground and died—the inspiration for the marathon in the modern Olympics.

It is not certain whether this actually happened. Herodotus, the ancient source of most of the facts concerning the Battle of Marathon, claims that Philippides ran 150 miles to Sparta to plead for reinforcements, and on Mount Parthenion he had an epiphany of the god Pan, who told him to ask the Athenians why they ignored him. The startled runner promised to make sacrifices to the god and continued to Sparta, where he learned that the Spartans would not leave until their religious celebration ended; they arrived three days after the battle, by which time the Athenians were crediting Pan for causing the Persians to panic (pan + ic) at the sight of them running toward them on the battlefield. Herodotus makes no mention of anyone running to Athens to proclaim victory, a story that appears much later, in Plutarch's history of

Athens. (Indeed the name changes in his account.) What is clear is that the popularity of Robert Browning's poem about the run helped to resurrect the Olympic Games in Athens, in 1896.

Then there is the image of the Greeks running across the plain to surprise the Persians, a phalanx joining hoplites and archers, free men and slaves, which in hand-to-hand combat would overwhelm forces double their size. How far did the Greeks run? Where was the Persian cavalry? Had some returned to their ships to sail to Athens, which had been left defenseless? I will leave these questions to historians to debate. What interests me first is the fact that Miltiades offered freedom to any slave willing to fight, and then his decision to order his troops to run, not march, *toward* their enemy, changing the dynamics. Running thus figures in the beginning, middle, and end of the Battle of Marathon, with messengers bracketing the race across the plain. Call it an exercise in democracy, which betokens a new form of political organization.

"So Athens flourished," Herodotus writes.

Now the advantages of everyone having a voice in the political procedure are not restricted just to single instances, but are plain wherever one looks. For instance, while the Athenians were ruled by tyrants, they were no better at warfare than any of their neighbors, but once they had got rid of the tyrants they became vastly superior. This goes to show that while they were under an oppressive regime they fought below their best because they were working for a master, whereas as free men each individual wanted to achieve something for himself. Krentz (2010, 64)

On the 2500th anniversary of the Battle of Marathon, where slaves ran alongside free men to deal a blow to the Persian Empire, it is worth recalling that battles are sometimes won or lost because of the actions of a single individual, who for reasons that may remain obscure to himself chooses to flee or fight. How such decisions are made is the stuff of literature—and that is what I propose to explore in a roundabout fashion, rather like a run through the hills beyond the center in which we have gathered for this discussion.

In 1867, just after the American Civil War, Walt Whitman wrote a short poem which in its simplicity offered a new lens through which to view the world—an act of the imagination, inspired by the art of photography, then in its infancy, that alerts the reader to the importance, the democratic aspect, of the seemingly commonplace:

The Runner

On a flat road runs the well-train'd runner,
 He is lean and sinewy, with muscular legs,
 He is thinly clothed—he leans forward as he runs,
 With lightly closed fists, and arms partially rais'd. Whitman (1987, 129)

Think of the runner as the herald of a new order taking shape in the ruins of sectionalism, a messenger bearing the promise of freedom to an imperfect union, which has been torn asunder by racism, stitched together with blood, sweat, and tears, and then unraveled by the assassination of Abraham Lincoln. Whitman called himself “the teacher of athletes,” (1987), and in his bearing the runner announces the possibility of a new beginning, which may yet fulfill the promise of the Declaration of Independence and the Constitution.

The runner, then, is a figure of democracy, the fruition of which lies always in the future, into which we lean. Just as the Battle of Marathon laid the groundwork for Athenian democracy, whose inheritance provided a model for the founding fathers of American republic and continues to sustain this experiment in liberty, so the Civil War turned these United States into the United States—a project dear to Whitman’s heart. “Words had to complete the work of the guns,” Gary Wills (1992) writes in *Lincoln at Gettysburg: The Words That Remade America*, arguing that just as Greek orators, notably Pericles, commemorated the dead in their funeral speeches, conferring meaning on the ultimate sacrifices paid for the sake of the city-state, so the American president composed a plain-spoken homily to the fallen warriors from both sides, orienting his countrymen toward a different conception of their republic and of themselves, future selves first glimpsed in Whitman’s “Leaves of Grass,” the quintessential poem of the democratic self: “Do I contradict myself? Very well, I contradict myself. I am large, I contain multitudes.” (1987)

Lincoln’s speech, all 272 words of it, delivered on November 19, 1863 at the dedication of the cemetery at Gettysburg, where some fifty thousand American soldiers were killed or wounded, stood in sharp contrast to the two-hour-long oration of Edward Everett, who strained for effect in his attempt to draw meaning from the carnage: a forgettable exercise. What Lincoln accomplished in the wink of an eye was nothing less than the complete reorganization of *these* United States into a singular nation that would become the most powerful on earth.

“The world will little note, nor long remember what we say here, but it can never forget what they did here,” Lincoln said of the fallen. “It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced.” But the world would long remember Lincoln’s speech, which called the American people to a new beginning. His assassination in 1865, which cut short his role in that rebirth, inspired Whitman’s magnificent elegy, “When Lilacs Last in the Dooryard Bloom’d,” a hymn to the leader whose work would remain unfinished. We know the poet was visiting his mother when he heard

the news from Washington. Ed Folsom (1998), who created the indispensable Walt Whitman online archive (www.whitmanarchive.org), reports that “he got up from the breakfast table, walked out into the dooryard, where lilacs were blooming that April day, and, gripped by grief, he inhaled deeply, and the scent of lilacs forever fused in his memory with the news of Lincoln’s death, so that from that moment on, spring, the season of new beginnings, brought a synesthetic memory of death and grief, now bound permanently with birth and spring.” And just as Lincoln uses the carnage at Gettysburg to announce a new birth for this nation, so Whitman (1987) mingles birth and death to suggest how they are intertwined:

When lilacs last in the dooryard bloom’d,
And the great star early droop’d in the western sky in the night,
I mourn’d, and yet shall mourn with ever-returning spring.

Ever-returning spring! trinity sure to me you bring;
Lilac blooming perennial and drooping star in the west,
And thought of him I love.

I will confine my remarks about this poem to some reflections on the song of the hermit thrush, which makes its first appearance in the fourth section. The secretive bird is a figure for the poet, and by the fourteenth section bird and bard merge in a death song. It is, if you will, a call to our best selves from that which is generally hidden from daily life: poetry. From the swamps, the recesses, comes “the tallying chant” mingled with the perfume of the lilac bushes. Whitman counts his losses: the fallen president, “the debris of all the slain soldiers of the war, his health (a legacy of his volunteer work in the military hospitals), perhaps a comrade’s love. The poet of democracy had learned a bitter lesson. “In this country, we have our House of Representatives, and in our literature we have our House of Representations,” Folsom writes (1998). “For Whitman, this confluence of political and artistic representation seemed natural—seemed, in fact, the very essence of democratic politics. He believed that America’s imaginative literature had to take up where its politics left off: when theories of representation began to fail politically, as they certainly did during the years leading up to the Civil War, then theories of imaginative representation were the only hope to save democracy.”

This is indeed the task of each generation of writers, who, consciously or not, work in a tradition of representation, of soul-making, established by Whitman. “With complete confidence and innocence,” Octavio Paz (1973) writes, “Whitman can sing of democracy on the march because the American utopia is confused with and is indistinguishable from the American reality.

Whitman’s poetry is a great prophetic dream, but it is a dream within another dream, a prophesy within another prophesy that is even vaster and that nourishes it. And it dreams itself as

concrete, almost physical reality, with its men, its rivers, its cities, and its mountains. That whole enormous mass of reality moves swiftly, as if it had no weight; and, indeed, it lacks historical weight: it is the future that is being incarnated. The reality Whitman sings is utopian. And by this I do not mean that it is unreal or that it exists only as idea, but that its essence, that which moves it, justifies it, and gives direction to its march, gravity to its movements, is the future. Dream within a dream, Whitman's poetry is realistic for this reason alone: its dream is the dream of reality itself, which has no substance other than that of inventing itself, dreaming itself. "When we dream that we dream," Novalis says, "we are about to waken." Whitman never had consciousness that he was dreaming and always considered himself a poet of reality. And he was, but only insofar as the reality he sang was not something given, but a substance shot through with the future. America dreams itself in Whitman because America itself was dream, pure creation. Before and after Whitman we have had other poetic dreams. All of them—be the dreamer named Poe or Darío, Melville or Dickinson—are really attempts to escape the American nightmare.

In the end the theme of every American writer is the dream or nightmare of a land begotten of an idea located in the future, a version glimpsed in the words of Lincoln and Whitman. Consider the unfinished work to which Lincoln summoned us from a cemetery in Gettysburg. And the way in which "Lilac and star and bird twined with the chant of [Whitman's] soul,/ There in the fragrant pines and the cedars dusk and dim." (1987) Here was the promise of America, easily forgotten at moments of crisis—after September 11, for example, when the Bush administration unleashed the nightmare of its endless war on terror. What Whitman knew was that it takes the very best selves of all of us to make it through, heeding the words and example of the runner leaning into the future, arms raised, bearing his message.

I have run, more or less steadily, for the last thirty-five years, along rivers and city streets, in rain and snow, in the desert and by the sea, inspired not by Whitman's poem but by my uncle and godfather, an Episcopal priest who remains attuned to the needs of the body and the soul. Two weeks ago I ran in Regents Park in London before attending a day-long Afghan epic produced by the Tricycle Theatre, a cycle of twelve plays titled *The Great Game*, and last week I ran in a park in Moscow before taking part in *The Dictionary of War*, which the organizers described as a marathon of presentations exploring ways in which to exit war. I have run in Beijing and Beirut, in war zones and on tracks, around the UNHCR compound in a Somali refugee compound. One summer night I flew into Muscat, Oman, and when I rose

early the next morning to run along the Indian Ocean the heat was so intense that I could not breathe. That day I walked.

It was unusual to see runners in my childhood. Indeed the only regular runner in our village was viewed as slightly mad. He was the vice president of a plastics company, and after work he could be seen running through the village, his hair gone prematurely gray. He was wound tight as a screw, and it was said that he ran so much to keep his emotions in check. Twice I saw him lose his temper on the tennis court, striding to the fence after losing a point to swing his racket like an axe against the post until the racket shattered. There was something terrifying, and a little thrilling, in the spectacle of a grown man losing control. And I wondered if he held my witness against me when he umpired our little league baseball games. For when I was on the mound he insisted on warming me up each inning, throwing the ball back harder and harder until it hurt my hand to catch it. One evening I stepped out of the way and let the ball sail past me into centerfield. What a feeling of liberation I experienced! The centerfielder tossed the ball in, I threw another pitch, and when the umpire fired the ball back again I stepped out of the way again. The crowd tittered, the centerfielder smiled, and when I stepped out of the way for a third time my teammates began to laugh at the man in the iron mask—which took him by surprise. He gave the catcher back his mitt and let him finish warming me up. “The real history of consciousness,” Joseph Brodsky writes, “starts with one’s first lie.” (1986, Brodsky, 7) Perhaps the real history of my consciousness began when I let that ball fly past me. In acts of disobedience lie the stirrings of what Roger Williams called “liberty of conscience.”

In our village there was another runner who looms large in my imagination. One night at a dinner party my mother told the guests that earlier in the week on his drive to work my father had fallen asleep at the wheel, veered off the road, and struck a tree, denting the bumper—a story that elicited loud peals of laughter from the man who had been in the car with him at the time. It turned out that they had been distracted by the sight of a woman jogging by the side of the road, braless—which reminds us that desire is central to the story of every runner.

This summer in Idaho, running up Dollar Mountain, I took note of the number of women jogging with golden retrievers. It was a kind of fashion statement, which brought to mind the words of a poet I knew who trained as a boxer, *Remember what the Greeks said: Make beautiful the body*. I was in a place that takes such counsel to heart. My wife, who is a violinist, played in a music festival in the resort town of Sun Valley, a playground for the rich and famous. The pavilion in which the orchestra performed cost \$40 million to build, with marble imported from Italy; to raise funds the orchestra once performed in an equestrienne ring, with an Olympic horse dancing to the music. Donors paid \$300 apiece for the dinner; in the silent auction the bid to conduct the national anthem with the orchestra--\$40,000—was matched by another; seven more patrons put checks for \$200,000 apiece in the hat. Such largesse makes possible the series of free concerts, which draw 6000 people to the pavilion and the surrounding lawn, nearly all of them white and wealthy. It is hardly a cross-section

of America—many of the Hispanic laborers who serve as maids and gardeners and busboys commute from Twin Falls, two hours away—but emblematic of the divide that in the last thirty years has opened up between the rich and the poor: an abyss that threatens our experiment in democracy.

One evening, during a performance of Samuel Barber's *Adagio for Strings*, the most somber of modern American compositions (it furnishes the soundtrack for the closing sequence of *Platoon*), I reflected on the continuities between Athens and America: the outsized military budgets, the wars, the festivals. Where Athens faced down the Persian Empire America seeks allies against Iran, prepared to wage a third war in the Middle East, neglecting John Quincy Adams' observation in his address to the House of Representatives on July 4, 1821, that America "goes not abroad, in search of monsters to destroy."

Last fall I traveled to Tehran to explore the possibility of an exchange of American and Iranian writers—a mission that took many months to put together, with uncertain results, thanks to what an official at Tehran University called "the fluid conditions" of the domestic political situation and relations with America. One night I had dinner in the university's guest house with a German professor from Cologne and a delegation of Chinese academics, who fished out packages of dried vegetables and sauces to add to the saffron rice and kebabs. The Chinese academics were touring Iranian universities, forging ties to supplement the contracts signed by their colleagues in the oil and natural gas industry to develop the Iranian reserves. And I realized that even as my country wastes its blood and treasure, reduces its commitment to liberty, and diminishes the luster of the noble ideals enshrined in its founding documents, all in the interest of maintaining a stable global order, China pursues its own interests—at little or no cost. In theory, at some point we will wake up, though by then it may be too late.

The music came to an end, and from a distance I saw a woman leaning on a cane. It was the marathoner Gabrielle Andersen, who for many years had housed my wife and me during the festival. She continued to compete after the Olympics, first as a runner and then as a mountain biker, beating everyone not only in her age group but men half her age. It was also true that she seemed to suffer a disproportionate number of injuries. One summer, for example, her arm was in a sling when we arrived—she had tumbled over her handlebars in a race, dislocating her shoulder and breaking three ribs—and so it was that when she asked if I would like to go for a run with her I figured that there would never be a better time for me to accompany her.

Up Parker's Gulch we ran, picking our way around rocks and stones, climbing steadily, through patches of sage and lupines and Indian paintbrush, the sun in our eyes. We started at nearly 7000 feet above sea level, and while I had a long athletic career behind me—tournament tennis player and teaching professional, university soccer player and coach—I was no match for Gabby, even though she had her arm in a sling and tape wound around her rib cage. This pace is probably too slow for you, she said. No, I said warily. Just right. And when we had run for forty minutes she said, How long do you usually run? My T-shirt was drenched in sweat,

my pulse was racing. About this long, I said. Really? she said. I'm just getting warmed up.

Notes

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