



HELLENIC LINK–MIDWEST Newsletter

A CULTURAL AND SCIENTIFIC LINK WITH GREECE

No. 96 April–May 2016

EDITORS: Constantine Tzanos, S. Sakellarides

<http://www.helleniclinkmidwest.org>

22W415 McCarron Road - Glen Ellyn, IL 60137



Upcoming Events

The World's Oldest Computer: The Antikythera Mechanism

On Thursday, April 14 2016, Hellenic Link–Midwest in cooperation with the Hellenic National Museum, the Panhellenic Scholarship Foundation, the University of Illinois at Chicago, and the Hellenic American Women's Council presents Prof. Seiradakis in a lecture titled: “*The World's Oldest Computer: The Antikythera Mechanism*”. The event will take place at 6:30 pm at the Hellenic National Museum, 333 South Halsted Street, Chicago. Admission is \$10 for current HLM members, \$15 for non-members, and \$5 for students.

The *Antikythera Mechanism* is an ancient astronomical device equivalent to an analog computer, designed to predict positions of celestial bodies and eclipses for calendrical and astrological purposes, as well as the Olympiads, the cycles of the ancient Olympic Games. Found housed in a 340 mm × 180 mm × 90 mm wooden box, the device is a complex clockwork mechanism composed of at least 30 meshing bronze gears. Its remains were found as 82 separate fragments, of which only seven contain any gears or significant inscriptions. The largest gear is approximately 140 mm in diameter and originally had 223 teeth.

The artifact was recovered in 1900–1901 from a shipwreck off the Greek island of Antikythera, south of Peloponnisos, and remained in storage for more than a half century. Believed to have been designed and constructed by Greek scientists, the instrument has been dated to between 150 and 100 BC. This remarkable device is a testament of the high degree of understanding of astronomical events, as well as of the highly developed technology and workmanship in ancient Greece.

After the knowledge of this technology was lost at some point in Antiquity, technological artifacts approaching its complexity and workmanship did not appear again until the development of mechanical astronomical clocks in Europe in the thirteenth century.

The original fragments of the Antikythera mechanism are kept at the National Archaeological Museum of Athens.

Professor Seiradakis and his Research Team have built a working prototype whose operation will be demonstrated

during the lecture.

Dr. *John Hugh Seiradakis* is a professor of Physics at the Aristotle University of Thessaloniki, Greece. He holds a degree in Physics from the University of Athens, and M.Sc., and Ph.D. degrees in physics from the Victoria University of Manchester. He has worked at the Max-Planck-Institute for Radio Astronomy, at the University of Hamburg, Germany, and at the University of California, San Diego in U.S.A. His major scientific interests in Astronomy focus in Neutron Stars, Neutral hydrogen modelling in nearby galaxies, the Centre of our Galaxy, Flare Stars, the Moon, and Archaeoastronomy. He has written three course books and has published more than 100 articles in refereed and other scientific journals, or conference proceedings. In December 2005, the highest EU prize *Descartes* was awarded to the Neutron Stars research network, *PULSE*, in which he is a one of the founding members.

The Trial of Antigone

On Sunday, May 22, 2016, Hellenic Link–Midwest presents the Honorable Charles P. Kocoras, United States District Judge, in a lecture titled: “*The Trial of Antigone*” (place of lecture to be announced).

In *Antigone*, a tragedy written by Sophocles around 441 BC, *Antigone*, the daughter of the tragic King of Thebes *Oedipus*, is faced with the dilemma of burying her brother *Polyneices*, or facing death by defying the law of the King *Creon*. *Polyneices* died in the battle leading a foreign army in a fight against his brother *Eteocles* for the kingship of Thebes. Both brothers died in the battle, and the successor to the throne, *Creon*, decided that King *Eteocles* would be buried, but *Polyneices*, because he was leading a foreign army against his city, would be left on the field of battle unburied. *Antigone* buried her brother obeying the moral voice of her conscience, her duty to her brother, dictated by an authority higher than that of a King. Judge *Kocoras*, in the form of a trial enactment, will discuss and analyze the conflict between the moral law and the law of authorities that has been current in human societies from the time of *Antigone* to our time.

The Honorable *Charles P. Kocoras* is United States District Judge for the Northern District of Illinois. He served as Chief Judge from July 1, 2002 to June 30, 2006, he has served as Chairman of the Illinois

Commerce Commission, and as Assistant United States Attorney. He has received many Honors and Awards. He holds a Bachelor of Science in Accounting, and a Law degree from DePaul University in Chicago.

In Brief

Gas and Electricity Projects—Israel, Greece, Cyprus

The Cypriot newspaper *Cyprus Mail* reported last February that despite the discussions of the leaders of Cyprus, Greece and Israel at their meeting in Nicosia on the proposed East Med gas pipeline project, aiming to connect the region's gas reservoirs with Greece through the island of Crete, the project remains commercially unrealistic.

The pipeline makes little economic sense, said *Charles Ellinas*, CEO of e-CNHC (ECP Natural Hydrocarbons Company), and “both the East Med pipeline as well as the Euro-Asia Interconnector are highly challenged projects,” he said.

Currently, Russian gas is selling in Europe from \$4.7 to \$5 per mmbtu (million British thermal units). By comparison, the proposed East Med gas, factoring in the cost of the pipeline, would in the best-case scenario likely go for around \$9 to \$10, making it uncompetitive.

It is clear that a pipeline running through the Cyprus Exclusive Economic Zone and up to Turkey is the fastest and least costly method for the Israelis to export their gas.

Ellinas considers that most likely Israel is paying lip service to the much longer East Med pipeline. He noted that both, Israel's Energy Minister *Yuval Steinitz* and Israeli Prime Minister *Benjamin Netanyahu*, did not omit to stress that their country is also keen to export to Turkey, in addition to exporting to Europe.

Similarly, *Constantinos Hadjistassou*, assistant professor of Engineering Science at the University of Nicosia, pointed out the engineering challenges of the East Med pipeline, which inevitably have a direct bearing on its cost. “The deeper you go, the smaller the diameter of the pipeline, even if you somehow increase the pressure...hence less capacity,” he explained. And with a project of this financial magnitude, capacity is of the essence.

If built, he added, the East Med would be one of the deepest pipelines ever laid. “It would truly be an engineering feat, taking into account not just the enormous depths in the Aegean but also the complex geological terrain off Crete with its slopes and so forth.”

The bottom line, said *Hadjistassou*, is that no buyers of the gas have been lined up yet. “No one is going to pour money into this until they've seen hard engineering data,” he added. “On paper you can draw up whatever scenario you can imagine, but who is going to buy the

gas? You can probably count Greece out, as it is already importing LNG at relatively low prices.”

A June 2014 report by *The National Interest* magazine said: “The estimated cost for a pipeline from Cyprus to Crete alone is \$20 billion, which according to one expert is an amount that could be justified only in case further natural gas discoveries will materialize in the offshore eastern Mediterranean...As German Marshall Fund Senior Advisor Sir Michael Leigh recently noted, this whole Ukrainian business has increased interest in diversification, but the Eastern Mediterranean is usually mentioned last and there's good reason for that.”

Similar economic considerations apply to the Euro-Asia Interconnector, a planned sub-sea cable to connect the electricity grids of Israel, Cyprus and Greece. The 1,518km-long cable would connect Israel with Cyprus, Cyprus with Crete, and Crete with the Peloponnese, from where electricity supply can be distributed to Greece or further afield. It would have the capacity to transmit 2,000 MW of energy along its east-west cable, selling Israel Energy Corporation's excess electricity production to Cyprus or any other buyer further west.

Electricity in the domestic Israeli market sells for \$5. Already this is approximately identical to the price of electricity in Europe, *Ellinas* said. But add to this the cost of the cable, and it's clear that the Euro-Asia Interconnector cannot compete.

For example, said *Ellinas*, the proposed cable would land in either Greece or Italy. Today, Greece buys Russian gas for less than \$5. The gas is then converted to electricity and distributed.

Work on the initial 329-kilometre cable link between Israel and Cyprus is expected to begin in 2017 and be completed in 2019. The second phase will connect the Greek island of Crete to Attica in mainland Greece in 2020 and the third and final phase will connect the cable from Cyprus to Crete with a view to full implementation of the “electricity highway” by 2022.

The power transmitted via the cable might beat Cyprus electricity rates, but that's about it.

Migrant Crisis—Europol

According to the Greek newspaper *Katimerini*, Europe's police agency has made fighting migrant smuggling a “key priority” as it launched a new center to help tackle the continent's worst migrant crisis in 60 years.

Europol reported that rough estimates show criminal gangs generating between three and six billion euros (\$3.2 billion-\$6.6 billion) in people smuggling rackets last year. “The turnover is set to double or triple if the scale of the current migration crisis persists in the upcoming year,” Europol's director Rob Wainwright warned.

Latest figures show tens of thousands of migrants have already crossed Europe's borders since the start of the year. Europol has therefore "made migrant smuggling *one of its key priorities*", Wainwright said. Europol will help EU member states trace and arrest the organized gangs behind the smuggling.

Almost 90 percent of the more than one million migrants who illegally entered the EU last year used a "facilitation service" to get to Europe, Wainwright said, and he added "*in most cases, these services were offered and provided by criminal group making substantial profits from migrant smuggling.*"

Europol currently has intelligence on more than 40,000 individuals suspected of being involved in migrant smuggling and the agency has assisted in 1,551 investigations. Suspects were from more than 100 countries, but mainly from Bulgaria, Egypt, Hungary, Iraq, Kosovo, Pakistan, Poland, Romania, Serbia, Syria, Tunisia and Turkey. Europol migration and crime specialists will focus in particular on two regional "hotspots"—Catania in Sicily and Piraeus in Greece.

From Our History

Alexander the Great and the Unity of Mankind *(Continued from the previous issue)*

From the "Raleigh Lecture on History", read before the British Academy in 1933, by British classical scholar and writer Sir W. W. Tarn

Zeno's inspiration, then, was Alexander's idea of the unity of mankind; and what Zeno himself did was to carry this idea to one of its two logical conclusions. Judging by his prayer at Opis for the Homonoia of Macedonians and Persians, Alexander, had he lived, would have worked through national groups, as was inevitable in an empire like his, which comprised many different states and subject peoples; Theophrastus, who followed him, included national groups in his chain of progress towards world-relationship. But Zeno abolished all distinctions of race, all the apparatus of national groups and particular states, and made his world-state a theoretic whole. His scheme was an inspiration to many; but in historical fact it was, and remained, unrealizable. But Alexander's way, or what I think was his way, led to the Roman Empire being called one people. I am not going to bring in modern examples of these two different lines of approach to world-unity, but I want to say one thing about the Roman Empire. It has been said that Stoic ideas came near to realization in the empire of Hadrian and the Antonines, but it is quite clear, the moment it be considered, that this was not the case; that empire was a huge national state, which stood in the line of kingship and was a partial realization of the ideas of

Alexander. When a Stoic did sit on the imperial throne, he was at once compelled to make terms with the national state; to Marcus Aurelius, the Stoic world-state was no theoretic unity, but was to comprise the various particular states as a city comprises houses. And there is still a living reality in what he said about himself: "*As a man I am a citizen of the world-state, but as the particular man Marcus Aurelius I am a citizen of Rome.*"

I may now sum up. We have followed down the line of kingship the theory that it was the business of a king to promote Homonoia among his subjects—all his subjects without distinction of race; and we have seen that this theory ought to be connected at the start with some king, who must be later than Philip and earlier than Demetrius; and there is a definite tradition which connects the origin of the theory with Alexander. We have further seen that the intention to promote Homonoia among mankind, attributed in the tradition to Alexander, is certainly not a projection backwards from Stoicism, or apparently from anything else, while it is needed to explain certain things said by Theophrastus and done by Alexarchus. Lastly, we have seen the idea of the kinship or brotherhood of mankind appearing suddenly in Theophrastus and Alexarchus; their common source can be no one but Alexander, and again tradition supports this.

Only one conclusion from all this seems possible: the things which, in the tradition, Alexander is supposed to have thought and said are, in substance, true. He did say that all men were sons of God, that is brothers, but that God made the best ones peculiarly his own; he did aspire to be the harmonizer and reconciler of the world—that part of the world which his arm reached; he did have the intention of uniting the peoples of his empire in fellowship and concord and making them of one mind together; and when, as a beginning, he prayed at Opis for partnership in rule and Homonoia between Macedonians and Persians, he meant what he said—not. partnership in rule only, but true unity between them.

I am only talking of theory, not of actions; but what this means is that he was the pioneer of one of the supreme revolutions in the world's outlook, the first man known to us who contemplated the brotherhood of man or the unity of mankind, whichever phrase we like to use. I do not claim to have given you exact proof of this; it is one of those difficult borderlands of history where one does not get proofs which could be put to a jury. But there is a very strong presumption indeed that it is true. Alexander, for the things he did, was called The Great; but if what I have said today be right, I do not think we shall doubt that this idea of his—call it a purpose, call it a dream, call it what you will—was the greatest thing about him.

From the Riches of Our Cultural Heritage

“Nefelai” (“The Clouds”) by Aristophanes

(Continued from the previous issue)

SOKRATES

[Stepsiades hands Sokrates a bag of flour as a token honorarium for the education of Pheidipedes, Strepsiades' son. Sokrates takes the bag and says].

He has mastered it.

STREPSIADES

O great goddess Bamboozle!

SOKRATES

Now, sir, you can evade any legal action you wish to.

[But instead of help with his creditors, Strepsiades gets a very different kind of treatment from his son. With a bellow of pain and terror, Strepsiades plunges out of his house, hotly pursued by Pheidippides with a murderous stick.]

STREPSIADES

OOOUUCH!!! HALP! For god's sake, help me!

[Appealing to the Audience.]

Friends!

Fellow-countrymen! Aunts! Uncles! Fathers! Brothers! To the rescue! He's beating me! Help me! Ouuch! o my poor head! Ooh, my jaw!

[To Pheidippides]

—You great big bully,

Hit your own father, would you?

PHEIDIPPIDES

Gladly, Daddy.

STREPSIADES

You hear that? The big brute admits it.

PHEIDIPPIDES

Admit it? Hell, I proclaim it. ...

Would a logical demonstration convince you?

STREPSIADES

A logical demonstration? You mean to tell me you can prove a shocking thing like that?

PHEIDIPPIDES

Elementary, really.

What's more, you can choose the logic. Take your pick. Either one.

STREPSIADES

Either which?

PHEIDIPPIDES

Either which? Socratic logic or pre-Socratic logic. Either logic. Take your pick.

STREPSIADES

Take my pick, damn you? Look, who do you think paid for your education anyway? And now you propose to convince *me* that there's nothing wrong in whipping your own father?

PHEIDIPPIDES

I not only propose it.

I propose to prove it. Irrefutably, in fact. Rebuttal is utterly inconceivable

[Pheidippides then proves that since his father beat him as a child "for your own damn good, because I loved you," then it is only "a fortiori" logic that the father be beaten by the son, since "old men logically deserve to be beaten more, since at their age they should have clearly less excuse for the mischief that they do."]

STREPSIADES

What? But how ... ?

Hmm,

by god, you're right!

To the Audience.

-Speaking for the older generation, gentlemen, I'm compelled to admit defeat. The kids have proved their point: naughty fathers should be flogged

[But this arrogance is too much, logic or no logic, for Strepsiades.]

STREPSIADES

O Horse's Ass, Blithering Imbecile,

Brainless Booby, Bonehead that I was to ditch the gods for Sokrates!

[He picks up Pheidippides' stick and savagely smashes the potbellied model of the Universe in front of the Thinkery (Sokrates' school). He then rushes to his own house and falls on his knees before the statue of Hermes.]

—Great Hermes, I implore you!

[Strepsiades and his slave set fire to the Thinkery and he beats the choking Sokrates and his pallid students off the stage.]