The Jordan Codices

Early Day Motion 2244

Press Conference transcript

held on 21st November 2025
in the Jubilee Rooms, Westminster Hall, House of Commons, London

Hosted by:

Dr. Brian Mathew
Member of Parliament
for Melksham and Devizes

Persons present:

Dr. Brian Mathew, Member of Parliament for Melksham and Devizes

Jennifer Solignac, Frontline Campaigner for the Jordan Codices since 2009

Professor Roger Webb, Director of the Ion Beam Centre, University of Surrey

Matthew Hood, BEng, MSc, CEng, FRIN, MAPM, CDipAF, MIET, RCNC, Chartered Engineer and Principle Navel Architect

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10.30am Start

Brian Mathew MP to welcome everyone and introduce the speakers

Jennifer Solignac

Professor Roger Webb to present research on his Peer Reviewed Paper '***On the Analysis of Lead Objects in an Attempt to Determine Their Age***' with analysis done on the Jordan Codices. Published November 2025 in the Elsevier's Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms

Matthew Hood to present his extensive research and analysis on the corrosion of lead

New, never seen film footage from the interior of a cave where codices are stored

Q & A

12.00 End

Press Conference transcript

Dr Brian Mathew

First of all it's a huge pleasure to welcome you all this morning to the Jubilee Room in Westminster Hall, what some might call the Holy of Holies of British Democracy so perhaps we're talking about the Holy of Holies in the Holy of Holies, let's see.

The Jordan Codices are potentially a stepping stone for the healing the breach between the three great Abrahamic Faiths, Judaism, Christianity and Islam. One that has perhaps come at its most timely moment.

Extensive and dedicated work that David Elkington, Jennifer Solignac and others have put into this project over the past eighteen years to establish the authenticity of these ancient documents found in a cave in Jordan has now born fruit.

This has been with the help of Professor Roger Webb and his team at the University of Surry's Ion Beam Centre, Professor Silke Merchal and her team at the Faculty of Physics at the University of Vienna and Fin Stuart, Head of SUERC, that's the Scottish Universities Environmental Research Centre at the University of Glasgow, who have collaborated in the test results.

These sealed codices or books possibly those mentioned in the Book of Revelation once interpreted will offer the world not only a greater understanding of religion in the day and an unparalleled insight into two thousand years but a chance for a new understanding and unity of the three great faiths today. The implications of the discovery and the links to all faiths during a lost period of time before the crucifixion to the time of Mohamed and thus of immense importance.

Scientific research into the provenance of the lead used to manufacture the Jordan Codices also indicates a link in trade between the region and the land of the Britons and some may cast, and may well cast new light on the legend of Joseph of Arimathea and his trip to Cornwall and Glastonbury. Ands the possibility that he brought with him a certain young man called Jesus before his time of Ministry.

Some may scoff at the motion, or the notion, that the words of the hymn Jerusalem are true but perhaps they do hold more than romance, certainly this is another element of this incredible work and to this incredible work and it deserves full investigation and disclosure.

I am now honoured to give the floor to Jennifer, to Roger and to Matthew. Jennifer.

Jennifer Solignac

Firstly I'd like to thank everyone for being here today and to extend my sincere appreciation to Brian Mathew MP for allowing us to have this Press Conference in such a splendid setting.

We're here today to celebrate the triumph of science, where regrettably scholarship has fallen short.

For too long, certain branches of biblical scholarship have turned away from empirical evidence.

Purposely electing to instead dismiss, refute, or conceal archaeological discoveries that challenge the overly easy comfort of long-established thought, as well as question the security of academic careers.

Today marks a momentous occasion, not only for the progress of science but above all for truth.

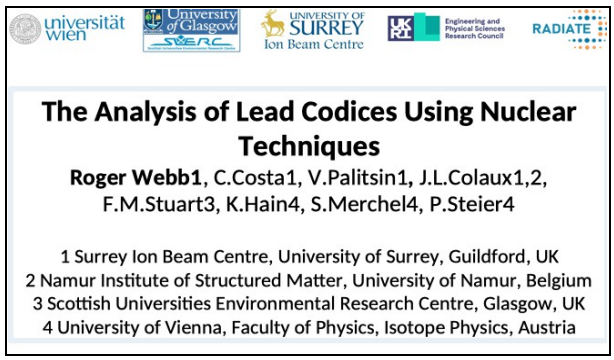
We owe a profound debt of gratitude to Professor Webb at the Ion Beam Centre and his team at the University of Surrey as well as the collaboration of Professor Silke Merchal, at the Faculty of Physics at the University of Vienna, and Professor Fin Stuart, Head of SUERC at the University of Glasgow, and last, but definitely not least, Matthew Hood who's a Chartered Engineer and Senior Naval Architect whose steadfast dedication has ensured that this discovery, hidden away in caves in northern Jordan, would not be buried again.

As a Noble Prize winning physicist, Max Planck, once said, "A new scientific truth does not triumph by convincing its opponents for making them see the light, but rather because its opponents eventually pass on and a new generation emerges that is familiar with it".

Today, we welcome a new generation of truth seekers, whose devotion to honourable scholarship is guided by knowledge, evidence and integrity.

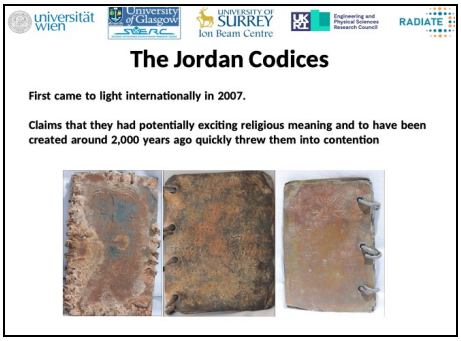
Let this day mark the beginning of a new era of open enquiry, of courage, and of an unwavering commitment to the pursuit of truth. Thank you.

Professor Roger Webb



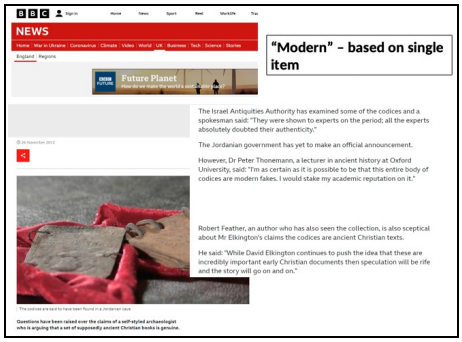
Hello everybody and again thanks for all the people here, a sort of small but select group of people I think is probably the best way of putting it. Well I'm trying to quickly go through what was in the scientific paper that we recently published. I am an academic, I have to point that out and academics do have this habit of not stopping talking. I will try and keep this shorter than I would otherwise do.

So really this is a collaboration between three universities. The fourth down there is the The Institute of Structured Materials at the University of Namur, Belgium but that's Julian Colaux who actually was at the University of Surrey, fundamentally actually starting a lot of this early work with us.



So what have we got first of all? We perhaps know a little bit about the background of the Jordan Codices.

They first came to light around about 2007 and with claims they potentially citing religious meaning, created maybe two thousand years ago, and it quickly threw them into contention.



So BBC News decided that they were modern based upon not actually having seen them but based upon what was written on them rather than anything else.

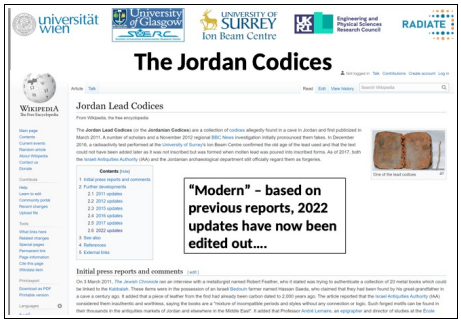
So again it was based upon one observation of one codices and not very much information otherwise.
[*https://www.bbc.com/news/uk-england-20492489*
https://www.bbc.co.uk/news/world-middle-east-12888421]

Then of course there was, as you say, it was contentious - so there was an article in 'Archaeology' which decided they were ancient based up the crystalline growth in the patina. At least it was a little bit of an observation of the actual material, rather than just guess work.
[*https://internationaltimes.it/intrigue-mystery-surrounding-jordan-codices-continues/*]

And then of course there was more. Definitely ancient based upon actually previous evidence not based on anything new.
[*https://www.ancient-origins.net/artifacts-ancient-writings/jordan-codices-020640*]

Then the University of Surrey, we had a press release a few years back and when we actually tested the radioactivity of the lead, looking at how old they might be on that basis.
[*https://www.heritagedaily.com/2016/12/jordan-lead-codices-not-modern-forgeries/113620]*

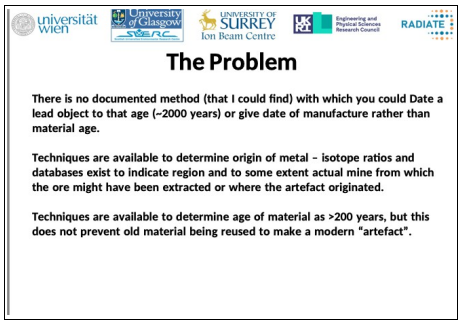
And then The Jordan Times decided they were definitely modern. Again no evidence provided on what they, why they decided they were modern, just a statement to say they were modern.
[*https://jordantimes.com/news/local/jordan-codices%E2%80%99-proven-fake-%E2%80%94-doa*]



And Wikipedia also decides that they're modern.

And even actually there was an update in 2022, which seems to have been removed recently, it has actually been removed from the Wikipedia page.

So again Wikipedia's not something necessarily that is a great thing to base any evidence on.
[*https://en.wikipedia.org/wiki/Jordan_Lead_Codices*]



The Problem

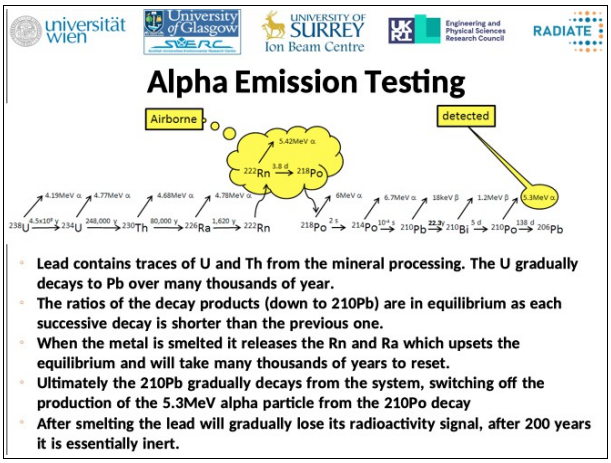
So what's the problem?

The problem is that is no real documented method, at least not what I could find, that would date a lead object to that age of about two thousand years or give a date, particularly, of manufacture rather than a material age itself.

Techniques are sort of available to determine maybe the origin of the metal, the isotope ratios and databases of the isotope ratios exist and it can indicate often the regions, to some extent the actual mine from which the ore might have been extracted, or where perhaps the artefact itself was originated.

And techniques were available to determine the age of the material to around about two hundred years but this doesn't prevent in some ways old material being reused to make modern artefacts. There's the problem we were trying to solve. We've been trying to solve that perhaps for at least fourteen years or so at the University of Surrey.

The first test we did all that time ago was looking at the emission of alpha particles from the long chain of material, isotopes that have gradually decayed into lead.



So they start of, all metal objects, all metal material starts off with a certain amount of uranium and thorium in it.

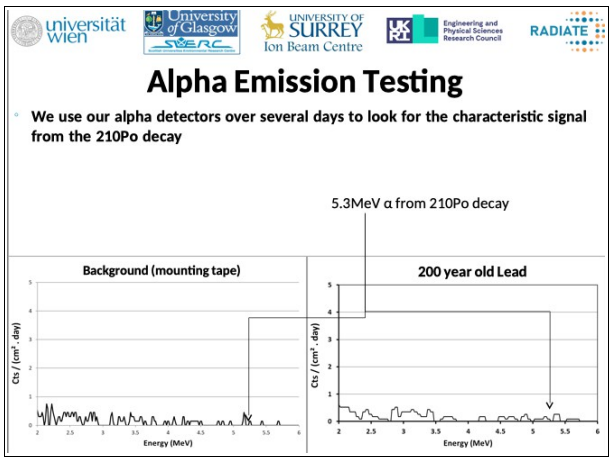
And the uranium and thorium gradually decay down to lead. So they take a long, long time to decay and what we're looking for specifically is the decay of lead-210, which is a radioactive material which gradually decays away to lead-206. And it takes a long period, a relatively long period of time, it takes about twenty two years to gradually half, so every twenty two years we half the amount of lead-210 in the material.

On its way down to lead-206 it gives off a characteristic radioactive particle. A radiation particle, an alpha particle that we can detect and that's what we're trying do. Trying to detect that particle.

The reason it's interesting is because when you melt and smelt the lead what happens there's this radon gas which is emitted from the lead, and that disappears and it stops the process. The uranium decays all the way through because we loose this radon when we melt the lead.

And so what we're left with is just this polonium out here which gradually decays down to the lead very quickly. And we're left with the lead-210 and nothing there to restock it because we've lost the radon and it takes about one thousand to two thousand years to get anything back into the radon.

So we loose a lot of material out of the lead when we melt it and it's only this this lead-210 that's remaining. So every twenty two years we loose a bit, and over about two hundred years we've lost all the lead-210, so when the lead stops being radioactive we know that we've got no more lead-210 and we know we've taken about two hundred years to get there. So that's all we're looking for.



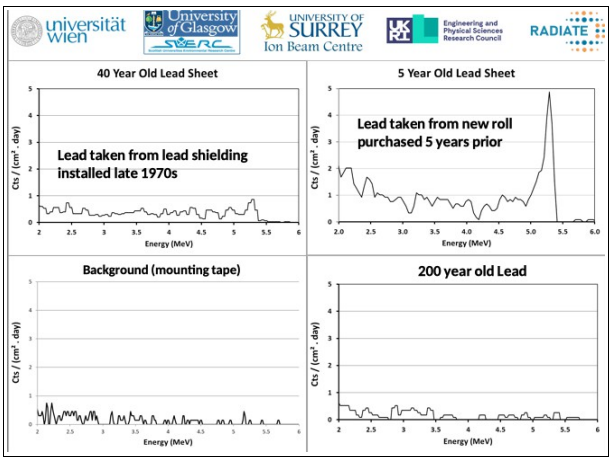
So what we do is we do a little test. We look with our detectors for this particular particle which should come out at about this energy here.

So if we look at our background with nothing in it essentially just our melt intake. And what we see is that there's nothing particularly to be seen here.

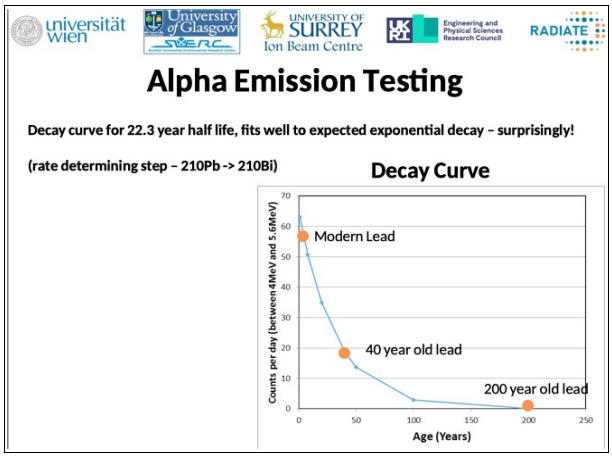
We take a block of two hundred year old lead and we see there's still nothing to see there.

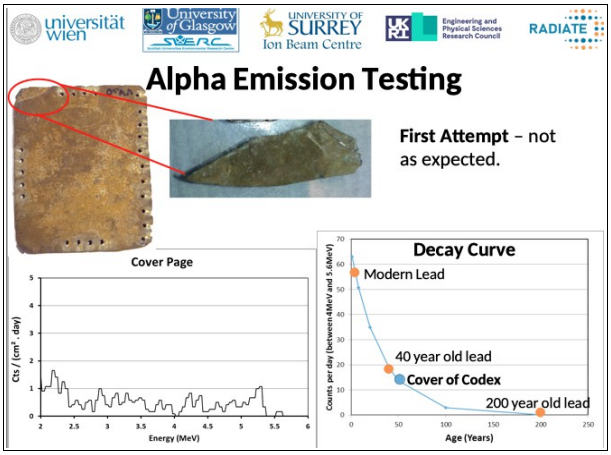
And then we'd look at something that's a little bit older so a forty year old piece of lead.

We've got that little signal starting in here, this is in forty year old lead. We get to the five year old leads and really brand new lead. We've got a very high capture of this alpha particle coming out again, comparison with our background.



And what we did is we got, because we've got both, we've got a nice little curve on here, which says our modern lead should be up here, our forty year old lead is down here, and our two hundred year old lead is down here, so after two hundred years you can't see anything but to start with we can see quite a bit.





So what we did then is we had one of the codices with a little piece that had actually broken off with the codices and this is the piece we actually checked.

So we checked that first piece, we looked at it, what we can see is that there is a little bit of alpha particle emission from the front cover.

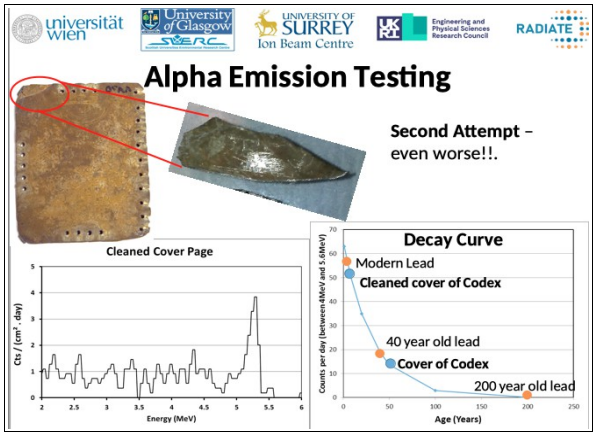
Which is a little bit concerning, we shouldn't really see anything if it was really as old as it was.

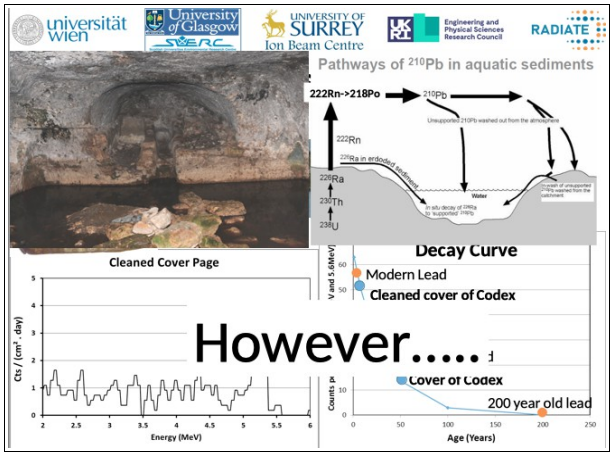
So we put it on our curve. What we can see is it is something potentially about fifty years old, we thought was a little bit, a little bit disturbing.

So we thought, well let's going and maybe there's, you can see that there's big patina on the material so what we'll do is clean off that patina, scratch off the patina, and it gets even worse.

So we see even more decay from that alpha particle which again suggests it's actually up there around five to ten years old.

So this was very concerning, we thought okay what we have done is succeeded in proving that the material is potentially modern.





However...

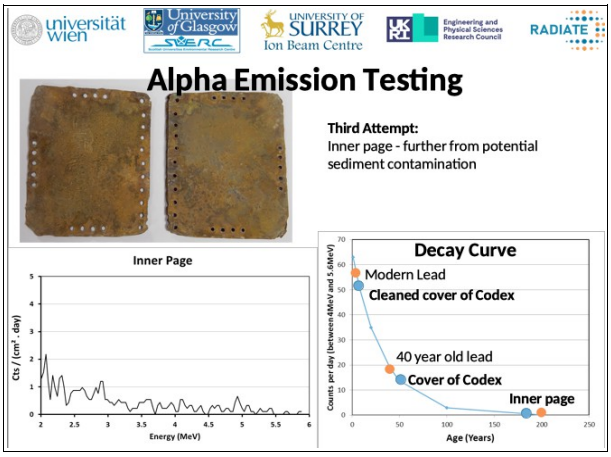
However, one thing we do know is that the books were actually found in a cave and the cave actually regularly floods. This is the flood line you can see along here.

And the books, actually themselves, quite often were emersed in water and that water is flood water, and the problem with flood water is that flood water actually contains a lot of polonium and that polonium is the thing that actually stops the lead-210.

So that polonium actually finds itself through ground water into our, essentially on to the front cover of our books. And the problem is that what we're seeing is actually the run off of effectively radioactive water. Which is actually causing some contamination potentially.

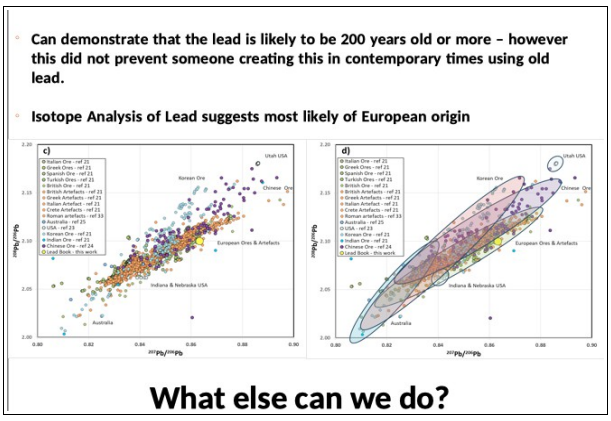
So if we look back, what we did is we said look let's take away that front cover, open the books and look at the inside pages. And on the inside pages we did the same tests, and what you can see is that there is no signal at all for the alpha particle at that point.

So we've gone from a clean cover which looks decidedly new to the inner page which is definitely looking old. So now we have something that we can feel the outside cover themselves are contaminated by the groundwater and I think we should discount the information we're getting from that front cover and look at the inner page.



The other way to think about this, that if these are truly manufactured in the modern way why would you made the outside look modern and the inside look old?

If you were going to fake something you would probably do it the other way round and make the outside look old and perhaps not worry so much about he inside. So as a kind of faking thing, it seems a little bit odd, we wouldn't really credit that. So theory that actually the outside is contaminated by the ground water and the inside, because they are pressed shut is more likely to be the correct age - so something that's old, more than two hundred years or thereabouts. We can't go back into two hundred years but at least we can look at that.



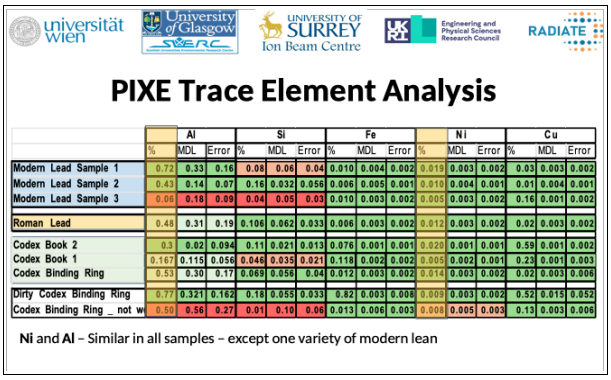
So the other thing that we did, we also looked at the isotopic abundances and there's a big database of the different isotopes of lead that you find because in different mines they have different ratios of different isotopes of lead.

There are three or four different stable isotopes of lead and if you look at the ratios of these you can get an idea where the lead might come from.

And what we find is that the, there's a lot of busyness on this slide so we won't worry to much about it, but the little green lining here is European ores - and we fit relatively comfortably into the European ores.

That the Chinese ores overlap quite a lot, the Korean ores a little bit. But what we can see is that we're definitely not coming from America, which is good news. We're not coming from Australia. We're not coming from Utah or various other places. It's almost definitely ore that is generated, or the lead is generated by European ores and European artefacts.

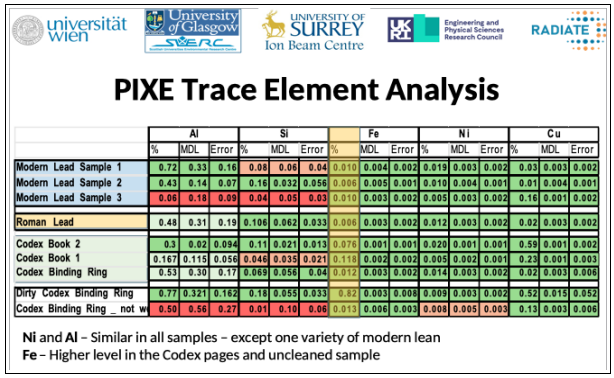
So we feel comfortable about the lead being, relatively speaking, from the right place. So we're looking at some that is old, something that is potentially from the right place in the world, it's not coming from anywhere peculiar.



The next thing we did was look at the trace elements inside the material as well, using some ion beam analysis techniques.

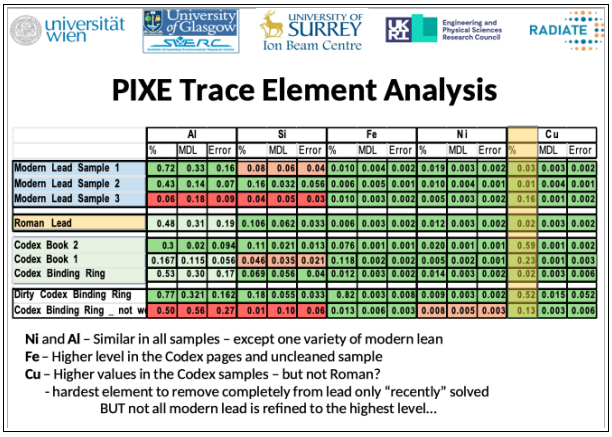
And what we saw there is that we have nickel and aluminium in everything, in the modern samples, in the codex samples and in various other things.

There's nothing particularly of interest there.



We do have high levels of iron in the codex pages particularly and also in the unclean sample.

We suspect that might be contamination from just handling and other things.

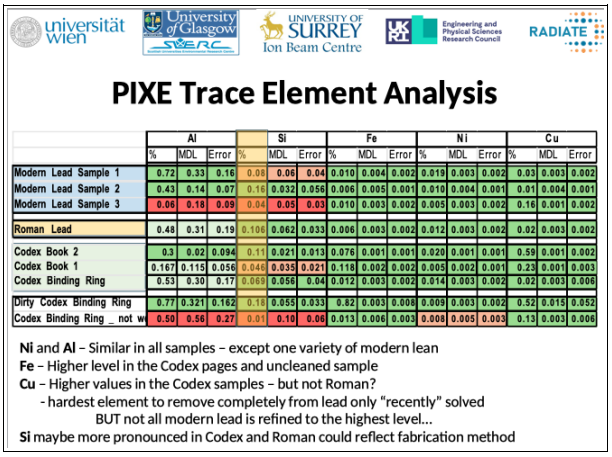


We also have copper, high levels of copper in the codex samples. For some reasons in the modern lead sample that we had, and in the Roman lead sample that we had we don't have much copper in it, which is unusual because copper is the one thing that gives you good indication that something is relatively old, because it's very to remove er the copper from lead.

It's only in the last few tens of years, a few hundred, maybe it's a few hundred about that time that people have only been able to extract the copper from lead thoroughly to make it more pure.

The codex being quite high is a good indication of them being old. We do have one component part, one ring, which seems to be relatively clean from that perceptive, but modern lead, as well, is not always clean to that extent

So not a great indicator but a reasonably good indicator that the codexes are old again. But maybe we have a little problem with one of the binding rings, but the binding ring may have been replaced at some point or another.



PIXE Trace Element Analysis

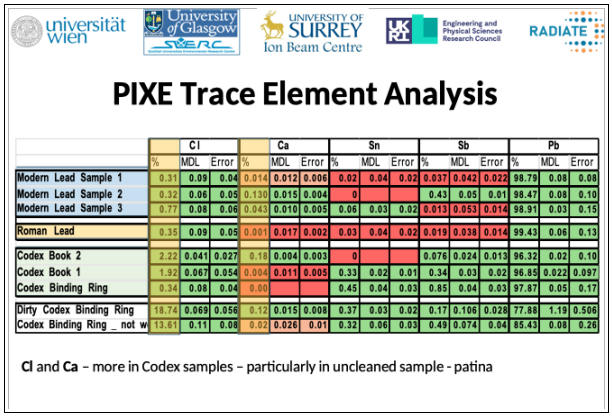
	Al			Si			Fe			Ni			Cu		
	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error
Modern Lead Sample 1	0.72	0.33	0.16	0.08	0.06	0.04	0.010	0.004	0.002	0.019	0.003	0.002	0.03	0.003	0.002
Modern Lead Sample 2	0.43	0.14	0.07	0.16	0.032	0.056	0.006	0.005	0.001	0.010	0.004	0.001	0.01	0.004	0.001
Modern Lead Sample 3	0.06	0.18	0.09	0.04	0.05	0.03	0.010	0.003	0.002	0.005	0.003	0.002	0.16	0.001	0.002
Roman Lead	0.48	0.31	0.19	0.106	0.062	0.033	0.006	0.003	0.002	0.012	0.003	0.002	0.02	0.003	0.002
Codex Book 2	0.3	0.02	0.094	0.11	0.021	0.013	0.076	0.001	0.001	0.020	0.001	0.001	0.59	0.001	0.002
Codex Book 1	0.167	0.115	0.056	0.046	0.035	0.021	0.118	0.002	0.002	0.005	0.002	0.001	0.23	0.001	0.003
Codex Binding Ring	0.53	0.30	0.17	0.069	0.056	0.04	0.012	0.003	0.002	0.014	0.003	0.002	0.02	0.003	0.006
Dirty Codex Binding Ring	0.77	0.321	0.162	0.18	0.055	0.033	0.82	0.003	0.008	0.009	0.003	0.002	0.52	0.015	0.052
Codex Binding Ring _ not w	0.50	0.56	0.27	0.01	0.10	0.06	0.013	0.006	0.003	0.008	0.005	0.003	0.13	0.003	0.006

Ni and **Al** – Similar in all samples – except one variety of modern lean
Fe – Higher level in the Codex pages and uncleaned sample
Cu – Higher values in the Codex samples – but not Roman?
- hardest element to remove completely from lead only "recently" solved
BUT not all modern lead is refined to the highest level...
Si maybe more pronounced in Codex and Roman could reflect fabrication method

And we also find silicon, in the codex particularly, which is an interesting thing, some of the silicon, is essentially sand.

And lead is often poured, in the old days, it was poured across a sand mould to provide lead sheets so again silicon is not necessarily an unreasonable thing to find in the codex. And quite an interesting thing that we might find it in there but we do also find it, annoyingly, in one of the modern samples, this might be a contamination from the sample itself.

But normally the modern lead doesn't contain very much silicon but the codex did contain more. That might have some idea about the fabrication method used for the sheets themselves.

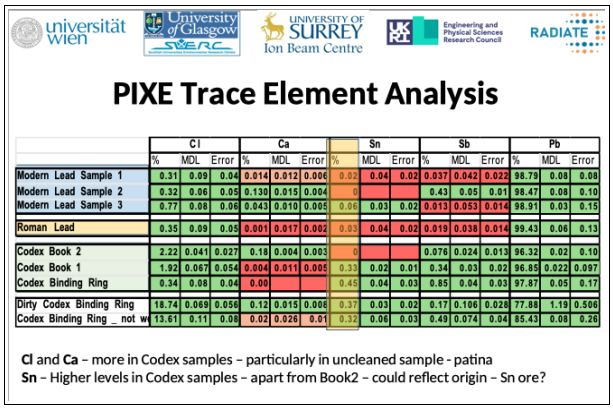


PIXE Trace Element Analysis

	Cl			Ca			Sn			Sb			Pb		
	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error
Modern Lead Sample 1	0.31	0.09	0.04	0.014	0.012	0.006	0.02	0.04	0.02	0.037	0.042	0.022	98.79	0.08	0.08
Modern Lead Sample 2	0.32	0.06	0.05	0.130	0.015	0.004	0			0.43	0.05	0.01	98.47	0.08	0.10
Modern Lead Sample 3	0.77	0.08	0.06	0.043	0.010	0.005	0.06	0.03	0.02	0.013	0.053	0.014	98.91	0.03	0.15
Roman Lead	0.35	0.09	0.05	0.001	0.017	0.002	0.03	0.04	0.02	0.019	0.038	0.014	99.43	0.06	0.13
Codex Book 2	2.22	0.041	0.027	0.18	0.004	0.003	0			0.076	0.024	0.013	96.32	0.02	0.10
Codex Book 1	1.92	0.067	0.054	0.004	0.011	0.005	0.33	0.02	0.01	0.34	0.03	0.02	96.85	0.022	0.097
Codex Binding Ring	0.34	0.08	0.04	0.00			0.45	0.04	0.03	0.85	0.04	0.03	97.87	0.05	0.17
Dirty Codex Binding Ring	18.74	0.069	0.056	0.12	0.015	0.008	0.37	0.03	0.02	0.17	0.106	0.028	77.88	1.19	0.506
Codex Binding Ring _ not w	13.61	0.11	0.08	0.02	0.026	0.01	0.32	0.06	0.03	0.49	0.074	0.04	85.43	0.08	0.26

Cl and **Ca** – more in Codex samples – particularly in uncleaned sample - patina

Now chlorine and calcium we also see in the codices, but I think this is coming from the patina as well.



PIXE Trace Element Analysis

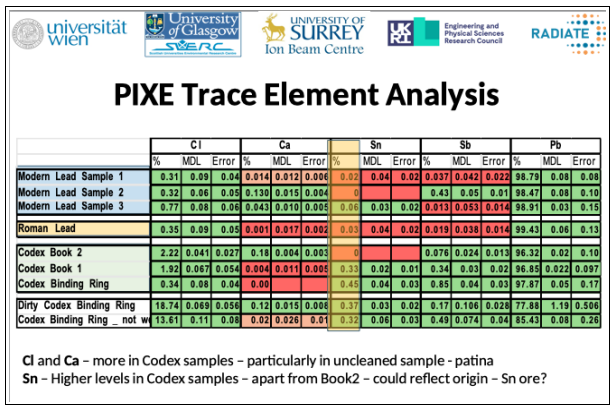
	Cl			Ca			Sn			Sb			Pb		
	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error
Modern Lead Sample 1	0.31	0.09	0.04	0.014	0.012	0.006	0.02	0.04	0.02	0.037	0.042	0.022	98.79	0.08	0.08
Modern Lead Sample 2	0.32	0.06	0.05	0.130	0.015	0.004	0			0.43	0.05	0.01	98.47	0.08	0.10
Modern Lead Sample 3	0.77	0.08	0.06	0.043	0.010	0.005	0.06	0.03	0.02	0.013	0.053	0.014	98.91	0.03	0.15
Roman Lead	0.35	0.09	0.05	0.001	0.017	0.002	0.03	0.04	0.02	0.019	0.038	0.014	99.43	0.06	0.13
Codex Book 2	2.22	0.041	0.027	0.18	0.004	0.003	0			0.076	0.024	0.013	96.32	0.02	0.10
Codex Book 1	1.92	0.067	0.054	0.004	0.011	0.005	0.33	0.02	0.01	0.34	0.03	0.02	96.85	0.022	0.097
Codex Binding Ring	0.34	0.08	0.04	0.00			0.45	0.04	0.03	0.85	0.04	0.03	97.87	0.05	0.17
Dirty Codex Binding Ring	18.74	0.069	0.056	0.12	0.015	0.008	0.37	0.03	0.02	0.17	0.106	0.028	77.88	1.19	0.506
Codex Binding Ring _ not w	13.61	0.11	0.08	0.02	0.026	0.01	0.32	0.06	0.03	0.49	0.074	0.04	85.43	0.08	0.26

Cl and **Ca** – more in Codex samples – particularly in uncleaned sample - patina
Sn – Higher levels in Codex samples – apart from Book2 – could reflect origin – Sn ore?

Tin - we get high levels of tin in the codex samples, not in one of them but in the other two we see quite high levels of tin, and that could reflect the origin of the ore.

It's suggesting there's two places that tin, that lead comes from, that's either tin mines or silver mines.

We couldn't find much silver but we do find some tin which suggests that the lead could well come from a tin mine, I think this is where the connection to potentially the Cornwall end of things may come from, from the tin mines in Cornwall.



PIXE Trace Element Analysis

	Cl			Ca			Sn			Sb			Pb		
	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error
Modern Lead Sample 1	0.31	0.09	0.04	0.014	0.012	0.006	0.02	0.04	0.02	0.037	0.042	0.022	98.79	0.08	0.08
Modern Lead Sample 2	0.32	0.06	0.05	0.130	0.015	0.004	0			0.43	0.05	0.01	98.47	0.08	0.10
Modern Lead Sample 3	0.77	0.08	0.06	0.043	0.010	0.005	0.06	0.03	0.02	0.013	0.053	0.014	98.91	0.03	0.15
Roman Lead	0.35	0.09	0.05	0.001	0.017	0.002	0.03	0.04	0.02	0.019	0.038	0.014	99.43	0.06	0.13
Codex Book 2	2.22	0.041	0.027	0.18	0.004	0.003	0			0.076	0.024	0.013	96.32	0.02	0.10
Codex Book 1	1.92	0.067	0.054	0.004	0.011	0.005	0.33	0.02	0.01	0.34	0.03	0.02	96.85	0.022	0.097
Codex Binding Ring	0.34	0.08	0.04	0.00			0.45	0.04	0.03	0.85	0.04	0.03	97.87	0.05	0.17
Dirty Codex Binding Ring	18.74	0.069	0.056	0.12	0.015	0.008	0.37	0.03	0.02	0.17	0.106	0.028	77.88	1.19	0.506
Codex Binding Ring _ not w	13.61	0.11	0.08	0.02	0.026	0.01	0.32	0.06	0.03	0.49	0.074	0.04	85.43	0.08	0.26

Cl and **Ca** – more in Codex samples – particularly in uncleaned sample - patina
Sn – Higher levels in Codex samples – apart from Book2 – could reflect origin – Sn ore?

We do find antimony as well. Antimony particularly in the binding ring. That's often used to actually make lead a bit harder so we suspect that actually made a deliberate thing to make the books a little bit more, a little bit less flexible, a little bit harder.

So a small amount of antimony has been added to the codex, and that's something that has been known for a long period of time.

PIXE Trace Element Analysis

	Cl			Ca			Sn			Sb				Pb	
	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error	%	MDL	Error
Modern Lead Sample 1	0.31	0.09	0.04	0.014	0.012	0.006	0.02	0.04	0.02	0.037	0.042	0.022	98.79	0.08	0.08
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Cl and **Ca** – more in Codex samples – particularly in uncleaned sample - patina
Sn – Higher levels in Codex samples – apart from Book2 – could reflect origin – Sn ore?
Sb – High in Codex samples, particularly the binding ring – can be used to harden lead

Pb – purity greater in modern samples – and Roman??

The purity of the lead in general is greater than, sorry, it's greater in the modern samples, which we would expect.

It's a little bit high in the Roman lead example that we had, so we're not too sure about that Roman lead is actually truly Roman lead, but the codex is quite low by comparison, which you'd expect for for old lead, shouldn't particularly pure. It's much harder to purify to a great extent.

- **Can demonstrate that the lead is likely to be more than 200 years old – however this did not prevent someone creating this in contemporary times using old lead.**
- **Lead seems to be most likely of European origin**
- **Trace Element Analysis Hints at old origin, but mixed messages.**

What else can we do?

So we can demonstrate that the lead is likely to be over two hundred years old and we can demonstrate it's most likely from European origin. We can look at the trace element and they give us a little bit of a hint about its old origin and even possibly where it comes from.

But what else can we do?

So one of the things we wanted to try and do was to look at the radiogenic helium itself. So this is as these, the uranium decays away down to lead over a long period of time. It emits lots and lots of alpha particles, and these alpha particles are actually helium atoms and they gradually get trapped inside the lead. And over a long period of time you get more of, a bigger and bigger build up of helium inside the material, and thorium also similarly.

Radiogenic Helium (U-Th)/He Chronology.

- The decay from ^{238}U to ^{206}Pb involves the production of 8 alpha particles (He nuclei)

$$^{238}U \xrightarrow{\alpha,\ 4.5\times10^{9}\,y} {}^{234}U \xrightarrow{\alpha,\ 248{,}000\,y} {}^{230}Th \xrightarrow{\alpha,\ 80{,}000\,y} {}^{226}Ra \xrightarrow{\alpha,\ 1{,}620\,y} {}^{222}Rn \xrightarrow{\alpha,\ 3.8\,d} {}^{218}Po \xrightarrow{\alpha,\ 2\,s} {}^{214}Po \xrightarrow{\alpha,\ 0.1\,ms} {}^{210}Pb \xrightarrow{22.3\,y} {}^{210}Bi \xrightarrow{5\,d} {}^{210}Po \xrightarrow{\alpha,\ 138\,d} {}^{206}Pb$$

- Many of these become trapped in the Lead and never actuall escape.
- The decay from ^{232}Th to ^{208}Pb involves the production of 6 alphas.

$$^{232}Th \xrightarrow{\alpha,\ 1.4\times10^{10}\,y} {}^{228}Ra \xrightarrow{5.75\,y} {}^{228}Ac \xrightarrow{6.15\,h} {}^{228}Th \xrightarrow{\alpha,\ 1.912\,y} {}^{224}Ra \xrightarrow{\alpha,\ 3.63\,d} {}^{220}Rn \xrightarrow{\alpha,\ 55.6\,s} {}^{216}Po \xrightarrow{\alpha,\ 0.145\,s} {}^{212}Pb \xrightarrow{10.64\,h} {}^{212}Bi \xrightarrow{60.55\,m} {}^{212}Po \xrightarrow{\alpha,\ 0.3\,\mu s} {}^{208}Pb$$

$$^{212}Bi \xrightarrow{\alpha,\ 60.55\,m} {}^{208}Tl \xrightarrow{3.05\,m} {}^{208}Pb$$

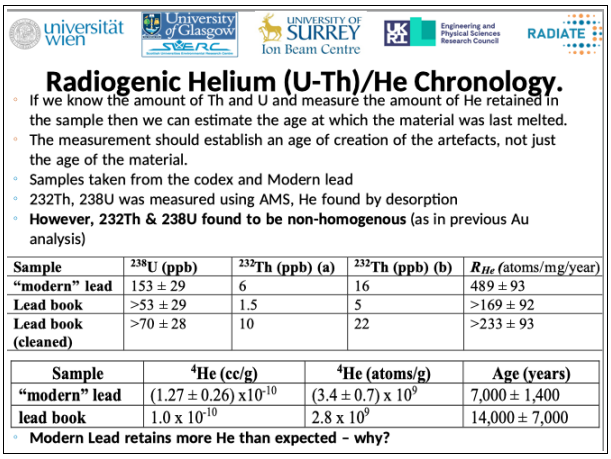
- The measurement of this radiogenic He is used to estimate the age (in thousands of millennia) of natural minerals
- It has been used to measure the age of Gold artefacts to a few hundred years – never before for lead. (Eugster et al., Archaeometry, 51(4), 672–681,(2009))
- Beauty of this technique is that upon melting ALL of the He is released and the "clock" starts again.

All, like I said before, all metal objects contain a certain amount of uranium and a certain amount of thorium and they give off, over thousands of years, lots and lots of helium particles which get trapped inside the material.

Now it has been used in the past to actually measure the age of gold artefacts to, potentially, just a few hundred years but it's never been used before lead, or any other metal, and only ever on gold. And the nice thing about the technique, is particularly, it is potential technique that once you melt it all the helium should be released, and we start again. So once you've manufactured an object it tells us, it gives us a starting point from the actual manufacture, at least that's the principle. So we tried to do that.

[*Next graphic*] The group in Vienna measured the uranium and thorium content for us and the group in Glasgow were measuring the helium content. So we first of all looked at our modern lead, we measured the amount of helium, we measured the amount of uranium and thorium.

We took the lead book, we measured the uranium and thorium, we measured the helium and then we looked at what that would mean in terms of an age. And annoyingly we found that a lot of helium still in the modern lead, which we weren't expecting, and we found a lot of helium in the lead book itself as well.



Radiogenic Helium (U-Th)/He Chronology.

- If we know the amount of Th and U and measure the amount of He retained in the sample then we can estimate the age at which the material was last melted.
- The measurement should establish an age of creation of the artefacts, not just the age of the material.
- Samples taken from the codex and Modern lead
- 232Th, 238U was measured using AMS, He found by desorption
- **However, 232Th & 238U found to be non-homogenous** (as in previous Au analysis)

Sample	^{238}U (ppb)	^{232}Th (ppb) (a)	^{232}Th (ppb) (b)	R_{He} (atoms/mg/year)
"modern" lead	153 ± 29	6	16	489 ± 93
Lead book	>53 ± 29	1.5	5	>169 ± 92
Lead book (cleaned)	>70 ± 28	10	22	>233 ± 93

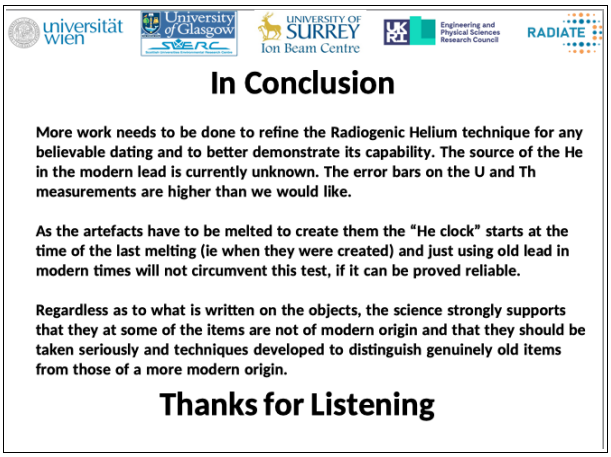
Sample	^{4}He (cc/g)	^{4}He (atoms/g)	Age (years)
"modern" lead	$(1.27 \pm 0.26) \times 10^{-10}$	$(3.4 \pm 0.7) \times 10^{9}$	7,000 ± 1,400
lead book	1.0×10^{-10}	2.8×10^{9}	14,000 ± 7,000

- **Modern Lead retains more He than expected – why?**

They gave us an age which was not really realistic. The modern lead shouldn't be seven thousand years old and the lead book shouldn't certainly be fourteen thousand years old.

We have large error bars, there is an issue that the uranium and thorium in the material is not very homogenous. It's different levels in different places. This was also found to be a bit of a problem in the gold analysis as well.

And there was this helium in the modern lead which we weren't expecting. We're not too sure why that is but it needs, the technique certainly at the moment doesn't work the way we would like it to work.



In Conclusion

More work needs to be done to refine the Radiogenic Helium technique for any believable dating and to better demonstrate its capability. The source of the He in the modern lead is currently unknown. The error bars on the U and Th measurements are higher than we would like.

As the artefacts have to be melted to create them the "He clock" starts at the time of the last melting (ie when they were created) and just using old lead in modern times will not circumvent this test, if it can be proved reliable.

Regardless as to what is written on the objects, the science strongly supports that they at some of the items are not of modern origin and that they should be taken seriously and techniques developed to distinguish genuinely old items from those of a more modern origin.

Thanks for Listening

We need a lot more research into working out why and how we can remove that background helium from our samples. I think we have some potential ways of monitoring that, looking at that, but again we're not there yet for that particular thing.

So basically, just in conclusion. There's still more work to be done in refining that radiogenic helium technique and I think it's the way forward in the future, to give us a really believable date to thousands of years not just to more than two hundred, but it should give us a much more, much more accurate measure of how old the samples are.

But also there that helium in the modern lead is currently not known, why it's there, it shouldn't be there. The error bars on the uranium and thorium measurements are high and that we 'd like to improve a lot and that would give us a much better measurement of the time. This uranium radiogenic helium test actually is a nice perfect test to actually determine that these are the, it's the manufacture date and not just the date of they did some.

And regardless of what was written on the objects, that the science strongly supports that they are, they're are at least some of the items are not modern, modern origin and they should be really taken seriously.

Techniques developed to distinguished genuinely old items from those that are of a modern origin and I think that's the conclusion we want to say. No matter what we did we could not prove that at least some of those, some of the parts of the Jordan Codices were modern.

We could only prove that some of the parts were genuinely old and the more we test, the more we get evidence of them being old. We did four different tests, they are all pointing to age rather than modernity.

That's where I'm going to leave it – thanks for listening.

Matthew Hood

Thank you Roger. My name's Matthew Hood. I'm a Chartered Engineer with over forty years of experience of using metal in defence equipment, particularly warships, and warships have made use of lead for ballast for a very, very long time. I've had the privilege of working on bold warships and adjusting ballast in those ships, hence having had a familiarity with lead in a professional capacity and I've worked in Admiralty Research establishments looking at corrosion and damage of steels and other metals that are used in warships and submarines.

I've also had the privilege of working on many other technologies and my job is to work out how things work and why they break. I'm taking an Engineer's perspective.

I was first introduced to these books in 2008 so I'm going to use some terms that I hope you are familiar with, things like corrosion and oxidation. So oxidation you get a reaction between the metal and air, often with water present and most people are familiar with this as rust. For lead, it almost immediately, after making, has a thin layer of corrosion that makes it grey rather than shiny. So most of the lead that you see and have come across has got a surface patina or layer of that lead oxide that seals it up and stops it corroding further.

Corrosion takes place over time. There are many factors which effect the speed of corrosion and how fast it happens. You've heard from Roger about the subatomic layers of the metal reactions going on, it's also dependent upon the purity of the metal, how it was made, where it's been stored and what it's been through in it's life. Now in lead it's very, very slow. And lead doesn't really corrode in human lifetimes, to the point where lead is used in buildings and after several hundred years you can take it off and it's still grey and in one piece and it's flexible and you can bend it in your fingers.

So there is no such thing as a lead Corrosion Engineer and I've talked to people who are metallurgists, Doctors of Metallurgy, who have spent their entire lives as Corrosion Engineers and they haven't touched lead. They've touched steel, aluminium and special alloys that are used in aerospace and off shore industries. I have failed to find any lead Corrosion Engineers. However, these objects are heavily corroded lead. Now this alone provides evidence that they are ancient. And this is at a level above the level that Roger has been looking at. This is at the the level of using your mark one eyeball and feeling the surface of the material, and the first thing that struck me about these objects, when I handled them, was that they felt very unusual, they felt differently, felt hard, they felt crusty.

Now over that seventeen or so years, since I've been involved in this, I've now seen over several hundred books, thousands of pages of metal books, and I have taken thousands of high definition photographs and I have seen more thousands of photographs of books that have come from many different places around the Middle East – not just these Jordan Codices.

So there are many more of them than just the collection that we were first introduced to in 2008. And remembering that Roger has had the privilege of testing a small number of them which we can discuss.

This small tablet is the prize procession of the person who put the collection together, in northern Israel originally.

And the hole in the bottom of that is a crystal of lead that has corroded and fallen out. And he had a leather thong through that and he wore it round his neck (never mind lead poisoning). That's a tablet that is only very small. [*indicates about the size of a bank card*].

It's got the Tree motif on it that you can't see very clearly in there, because the lead has corroded. This lead has reverted to various oxides and other mineral compounds. And they're not on the surface, they're all the way though. There is evidence of sand in there, around the edges, silica. There's very clear evidence that

this had degraded almost to the point of reverting to minerals.

Now that does not happen over a few centuries, that happens over many, many centuries. This Tree of Life symbol – how old is the Tree of Life symbol? Pretty old, pretty ancient and the, we'll see the emblem in a bit, but that object provides evidence of very ancient metalwork.

And this Tree I believe is the template for the Tree that appears as the most common item of the Menorah on most of the lead books that we have seen. It is a repeated motif, it is clearly exceptionally important.

This is the book that Roger tested. This one came from the Jordan Department of Antiquities, not the same original collection as we first saw.

The top left hand corner that broke off is what Roger tested. And you can see the reference number from the Jordan Department.

The other thing to look at is the colour, it is not grey. It has many colours on it, you can see some greens of copper, you can see some reds of rust or iron and when you turn the book over, and I zoom in a bit, you can see the accretions of limescale, that are on the surface there, and you can also see the granular nature of the surface – it's literally corroded away.

But here's the palm tree, the date palm tree, that appears on some flags of some states and the star symbol, down there that's on either side of the tree and is understood to be the symbol of Melchizedek the High Priest of Solomon's Temple.

The corrosion around there, you can see different granulations, and when you zoom in you can see the fibres trapped in the limescale on the surface and the various minerals. And it's not just one, it's many, many layers that have built up over time.

So, that book was tested in the lab, or a fragment of that book was tested in the lab, and we can see the limescale that Roger was talking about, the potential reason why the test might not have been obvious.

This is a very zoomed in, not quite the same book, but it's a very heavily corroded, what you can see going left to right across the centre of the screen is the binding ring.

On the right, the ring bends away and has cracked, and then on the left, the hole has also fallen apart. So the remaining piece of lead, from the three o'clock round to six o'clock, has flaked away and disappeared. The lead's cracked, is brittle and is granular and you can see the many, many, many layers of accretions and corrosion products that have built up.

That does not happen fast. That happens over exceptionally long periods of time. We're not talking three or four centuries, we are talking many, many centuries. So you can also see the fibres of stuff that's been trapped in there. Unfortunately that the technology we have at the moment is not sensitive enough to determine the age of those individual fibres, cos they're too small. Carbon dating still requires about one hundred milligrammes of organic material. But maybe one day the tests will develop and we can test that.

However, most people when they've got something like this don't really want it tested. The other thing that's happened (if you can move onto the next slide)...

...is that people, in fact the originator's of the collection, have started making copies of the objects.

This technology, this ancient information technology, with the raised that's embossed into sand and then a new piece is cast over it, lent itself to reproduction.

If you think about Gutenberg's press and books made with lead platens, this proceeds it by a good few centuries. And enables you to make an object, copy it and replicate it and for it to be preserved.

You might coat it with charcoal or ink and put some paper on it, or papyrus of velum, to make another copy, that's a soft copy, but your hard drive copy is in the lead. That is the master copy. But I can now go and reproduce this and what we have seen across the collection, across the thousands of pages, is many replications of these same designs.

That one design on there, which you possibly can't see clearly, is a Menorah with writing around it. That writing has been translated by various scholars. It is very difficult and it is encoded. Doctor Margaret Barker, who has been working on these since 2010, has found nine hundred and seventy six words and phrases on that page alone, that echoed in the old testaments and other ancient books of the apophrica. The most common phrases come from Isaiah and some of the words are only used in the Book of Isiah, that's 700BC.

This copy, this modern copy, you can see the grey lead and you can also see it's been coated in some sandy mess. Also on that page is some exercise book paper. It's literally paper with some printed lines on it. Now when we tested this one it showed up as modern but actually we hadn't taken it apart at that time and we hadn't taken these photographs and we hadn't seen the exercise book paper until afterwards. We were just suspicious of the patina cos it felt like it was on the surface, it had been painted on and you could rub it off.

The other thing about this metal was it was soft, it felt different to the touch, and your fingers are exceptionally sensitive devices. It smelt different, it even tasted different, I don't recommend that! And it's got suspiciously sharp, straight edges and suspiciously round holes. There is no corrosion around the holes as you just saw with that binding ring . There's no flaking of the lead, there's no actual corrosion of the lead itself. That's a modern copy and there are at least, they are have continued to be made, there is an ongoing tradition of baraki, which are small metal books that are used as talismans. But the corrosion on this one is not actually evident, despite the mess on the page.

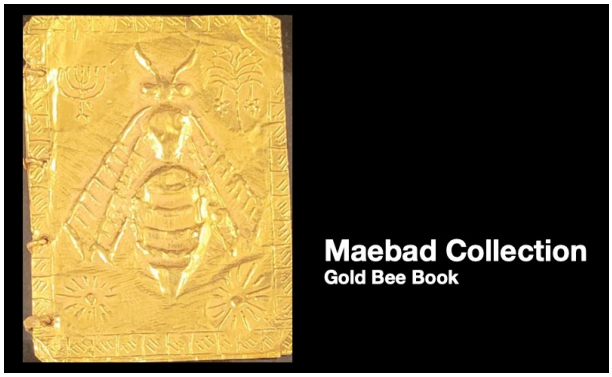
These books were designed to be replicated, as I've said. They were there to preserve important information. Now that information is encoded, in the same way the information on my memory stick is encoded. And it's encrypted, so that you can only understand it if you know. If you know you know, if you don't know you haven't got a hope.

So that's why it's taken many years. The script and the symbols are Temple symbols, the Menorah and the Tree of Life and things like that. The script itself is Phoenician, or proto Hebrew, paleo Hebrew script. And it comes straight from the stars, it comes from the constellations and I saw that after about six years of looking at that and sitting in a hot tub one night, going hang on those are the same shapes. And then I found a paper from the 19th century of a vicar who had been studying the ancient forms of the stars, the constellations and the formation of that, which makes sense. These people were able to navigate by the stars, across the deserts, across the seas and that enabled them to trade metals globally, around their trading routes.

All the metals that were collected were taken back to the Middle East and converted into bronze. The lead

was taken back and that had about 5% silver, that was used to make silver money and the remaining lead was used for plumbing and piping and roofing. And the other metals that they got from it, the copper, were also collected from the same mines. The tin was probably the most important in enabling the Bronze Age. And then there's gold in them there hills, north Wales, Scotland, plenty of gold in the hills and the minerals that they encountered.

So lead books... next slide please.



They don't just exist in lead. I've been given permission by the owner of another collection to give you a peek at what is actually another huge collection of objects, which came from a sealed cave on the Arabian peninsula. I'm not going to tell you much more about it.

As well as over fifty lead books there are gold versions. And the gold is thin sheets of beaten gold that rubbed over that lead master to provide you with a beautiful piece of technology, of information, that does not corrode.

Although actually some of the books look pretty corroded even though they're gold. There are silver books that are corroded and these contain exactly the same imagery, the same objects, the same writing. This page doesn't have any writing on it but it's still got those stars that you saw, it's still got the Tree of Life on the top right and it's still got the Menorah. The Menorah symbol is all over these collections.

And there are coins that go hand in hand with them. Coins of brass, bronze, sliver and coins of gold. Those coins date from the first Jewish revolution 66-70AD and from the second Jewish revolution. They are rebel coins that are actually made out of Roman coins. So you've got a Roman Emperor on one side and a Menorah that's been stamped on the other side. Some of them are stamped on both sides with the Jewish rebellion symbol. All symbols of the temple of Jerusalem.

So, what does that tell us? The Bee symbol is extremely important. The Bee has a whole Surah to itself in the Koran. Surah sixteen. So that collection was one of the objects that tested, we're able with a lead book to test a page at the, at Scottish Universities Environmental Research Centre and they allowed us to destroy one of those pages, thankfully it wasn't an unique page, in order to do the helium tests and the uranium and thorium tests. So thanks very much to the generosity of that collection owner to allow us to do that.

We don't yet have a carbon dating like test that has allowed us to get an exact age. We're gradually understanding the DNA of metals, Roger?, and we're working towards developing more testing.

However, there's quite a lot of other information that you can generate from the evidence provided in those photographs. As the photographs have got better, cameras have got better, you can get more millions of pixels, each pixel provides you with evidence as to what's happened to those objects in their life.

And I have failed to get anyone who can demonstrate that they are all objects that are modern. I have failed to find any evidence of who made them recently and they are not multiple copies like cheap tourist tat that have been stamped out and sold for a few pounds on a market. They are serious objects that are very tightly related to the Temple of Jerusalem.

That's all I have to say.

Brian Mathew

Great. Well Matthew thank you very, very much indeed. Thank you Roger as well. Jennifer, thank you for your presentation. I think where we go now is to see if more work can be done, because there is a need to interpret what is in those books.

I've seen pictures, for example, that look as if they are of the Temple in Jerusalem in some of the codices so really important work and as we can see links right the way from Jerusalem to Mecca, something that is of huge importance and let's see where we can go from here.

So thank you very much everyone. We've got the film on that as well.

Jennifer Solignac

Yes, and I think one comment on that is that we have been accused of having no provenance for these codices, but I think we're about to demonstrate that they actually do have a provenance. This is going to be a proof of that.

Brian Mathew

Thank you Jennifer.

[*Film starts:*

00.00 – 00.15 *Here are caves leading to more caves and rooms.*

00.50 *Here we see a lead tablet cemented into the wall before the entrance to a chamber. It has Paleo-Hebrew cast upon it.*

00.59 – 01.02 *Here above the entrance to a chamber we have a portrait head in the Graeco-Roman style, and on either side of the entrance, crocodiles. – the very same crocodiles that appear on the codex images of which were sent to Peter Thonemann of Oxford University in 2010 which he dismissed as fake.*

01.20 – 01.26 *Here we see the portrait head in a little more detail.*

01.30 *Here we see further detail of the crocodile – a symbol for the enthroned messiah.*

01.37 – 02.03 *Here is a remarkable detail of the intact contents of this long hidden cave environment. The objects appear to be of solid gold. There are votive offerings, a probable portrait of the messiah also in gold and much else.*

Film ends]

Brian Mathew

So the cave where the codices were found.

Jennifer Solignac

Well there are many, many caves in that area. This is just one that actually has been kept under the radar because of the political circumstances but there are many, many where the codices are found, a lot of them are still sealed and waiting to be excavated properly. So yes, it's in the same area of northern Jordan.

Brian Mathew

Right, well do we have any questions anyone wants to raise, before we close?

Audience member

I was just going to ask when you had the previous discovery in 2011 what the scholarly and other impact was on, sort of, the discovery back then?

Jennifer Solignac

Initially it was extremely well received with media coverage all over the world, and then, literally a week afterwards, an Oxford scholar from Wadham College, Peter Thonemann, denounced the whole collection as fakes and he staked his reputation and his career on it. And that really cut everything dead, and everybody retracted from that and we've had, we've been literally... and then the following year we met Roger, and we have been trying to recover from that ever since. And not only from his declaration but from a lot of American scholars, biblical scholars, I hasten to add, jumped on the bandwagon and were very vociferous about condemning the discovery and got very personal about it and got very personal about it. The attacks were mainly ad hominem. They had nothing academic to say about them, just that they're fakes and expressed opinions, there was no evidence whatsoever. None of them had seen any of the codices, they hadn't read any of the lab reports of which, even before Roger, we had done up to eleven independent ones. So it's just been a struggle ever since to get taken seriously, and now that we have the peer reviewed paper we're are on solid ground now and we'd like to see their evidence that they are actually modern.

Professor Roger Webb

All of the evidence that we've seen where they've been analysed for whatever in any particular way have always pointed to age rather than modernity. So there have been no modern, no tests that is demonstrated that any of the articles have been modern.

Matthew Hood

And the photographs that was sent to the Oxford scholar which had piece of text that was in Greek was of another object that was copper. It had thin binding wire, it was sent to me at the same time and I was skeptical about it from the photographs that I saw which were not particularly high quality. But the basis of the 'they're all fakes' was that the text, the line of text said 'farewell Abgar, for I knew him well', something like that, and that had been found on something called the Medaba Stone which was uncovered in 1860. And the logic from the Oxford scholar was that that text must have been taken from the Madaba Stone and therefore was Victorian or modern forgery. However, the Medaba Stone and the grave is only a few miles from the Jordanian caves where the other objects were found and I have subsequently seen some more photographs of the same objects.

The crocodile that was on the copper object was on the outside of that grave we saw in the video, and the turbaned head is also on there and stamped into the same copper codex are Roman coins as well. So the use of coins to indicate date is something that has become Stamp Duty in modern world, where you stick a stamp on it to indicate the date, and obviously the monarch's head with dates on it is something we use on coinage today.

There are multiple of these books that have coins stamped, pressed into them after they've been made to indicate date. And there are multiple evidences of groups of books stored in boxes that have the same designs, lead boxes for lead books, that have also got coin impressions and seal impression on them. We have found the seals with the Menorah on them and we've found the coins that match with some of those impressions.

And those are just, those are coming from all over the place. They're coming from Egypt, Turkey, from Syria, from Jordan, Israel, Saudi Arabia, Yemen and other places. This is not just one collection, they have been suppressed by virtue of information warfare on the internet. People have been paying Google Ad words to put fake stories up at the top of the list. Yes, people have been paying people to edit the Wikipedia entries.

Jennifer Solignac

And they bought up domain names that had anything to do with the lead codices so to block us from putting out any information. And we have proof of that and the names of these people.

Matthew Hood

So there has been a concerted effort to suppress some of these items. Why? Because they are frightened of them probably, because they're important.

Brian Mathew

Thank you. Yes please.

Audience member

Forgive me if I've been a little slow following the science but remind me where we are on the possibility of the codices being ancient but the designs on them being more modern.

Matthew Hood

The codices and the designs are ancient. There are modern versions which contain the same designs but those design are in themselves ancient. It's just that they're deliberate and modern copies of the original designs.

Some cases you can see the corrosion that's been on the old design that's impressed in the sand, and then a new one is cast and you can see the evidence of that corrosion and deterioration, of the original, in the modern copy.

But they were designed specifically to be copied. There are multiple sets of these books that were distributed and handed out in small lead boxes full of multiple lead books. So the designs are definitely ancient but there are sets that appear to have been made in the 700-800BC time frame, in terms of the designs and the writing on them. There are sets that appear to have been made in the first century BC and AD and in the second century AD. Whether or not some of these have been made between then and this century, or last century, I doubt.

Certainly the ones that I've seen that were modern look like they've been made this century.

Professor Roger Webb

We've certainly have analysed a couple of items that have been modern, in the sense of being less than fifty years, but we've also seen some which are much older than that. So I think there is a range of these materials. The designs on them, as far as I can tell, are similar all the way through. The, in terms of the designs I think are potentially ancient but the materials depending on date range, so I think there is evidence there – they are being copied, have been copied and are continuing to be manufactured almost.

Jennifer Solignac

Yes, we were informed right when they came out, that people were making them because that's how Bedouin earn a living. They'll find the real objects and then they'll copy them and pass them off as the real objects so they can make more money that way, and we were informed directly by the people making them that they were doing that, and they were putting them out in the markets in Amman. So we are very aware. And there have been certain factions that have tested, deliberately tested, the new ones and have said, 'Oh they're fake and 'they're new' so you can tell now that we're, even after that an amateur person can look at the new one and an ancient one next to it, and you can see that they're completely different. I think you would agree with that Matthew.

Matthew Hood

And when you get to feel, they feel very different.

Jennifer Solignac

And even they're a bit blue too.

Matthew Hood

With a low quality image you might get away with it, once you get to high definition photography its different, you can see the difference but to be fair it's a trained eye. I've been looking at them for a very long time. Mostly I was, well I was initially very skeptical but I couldn't explain it, that's why I carried on looking – and the further I looked, the more I dug, the more I found out. And that is true of every person who's taken this seriously and has just needed to look into it. The more you look the more you find. The more you start to be able to explain it but there are still many mysteries, there are still many interpretations that could be taken.

And I think that's the challenge is - where do we go from here? What more analysis can be done? What more research, interpretation, reading?

I don't know how to read these objects. I can see some evident symbology that is very closely aligned, and it was when I was looking at my daughter's Latin homework book that I saw that the Menorah was on the Arch of Titus and celebrated the Menorah that had been taken from the Temple when the Romans destroyed it in 70AD. And then they carved it in stone with the Shewbread Table on the Arch of Titus and it is still there. So those are the symbols we're seeing.

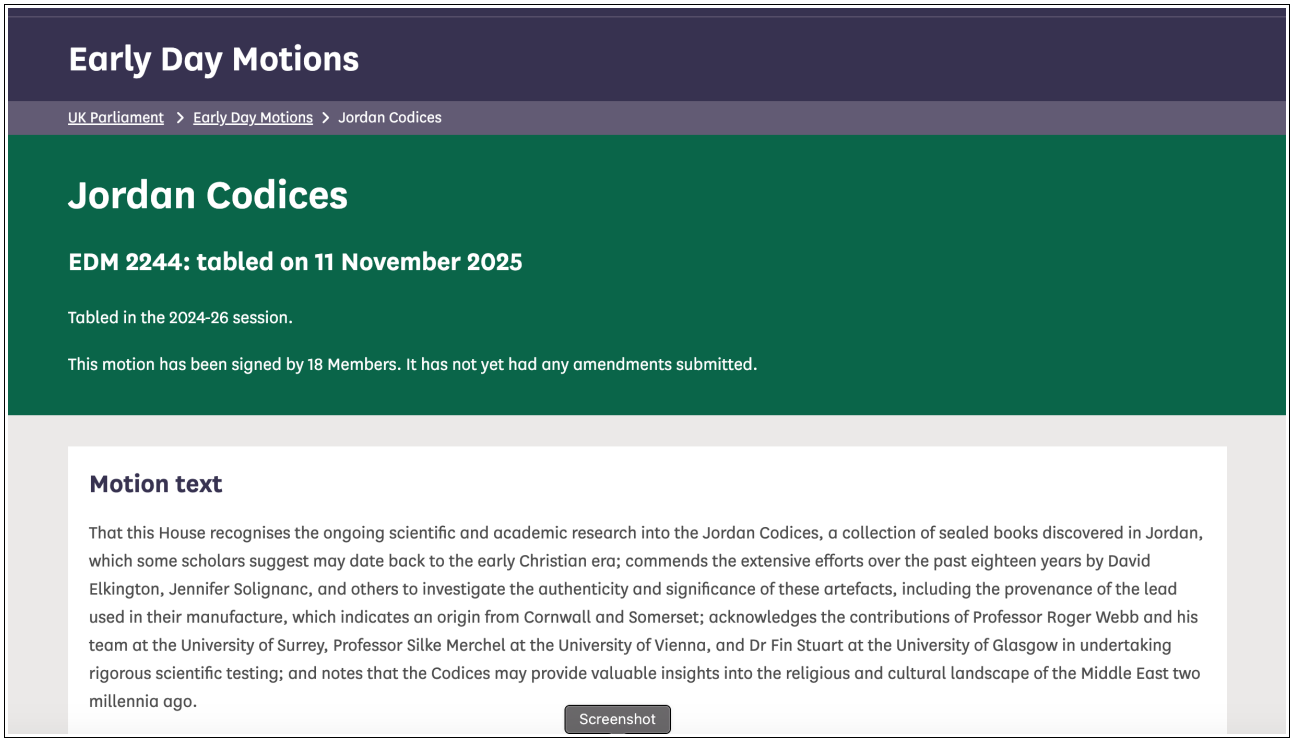
I don't know where that Menorah went!?

Brian Mathew

Good, well if you've got any more questions? Or we'll draw to a close there. But thank you again, hugely, Matthew, Jennifer and Roger. Thank you very much indeed.

Appendix

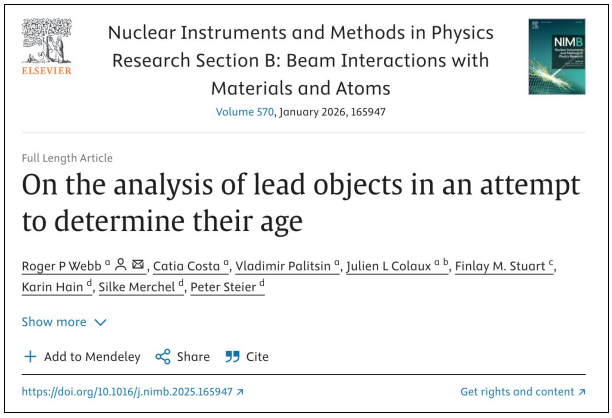
Early Day Motion



https://edm.parliament.uk/early-day-motion/64679/jordan-codices

Peer Review Paper:
'On the Analysis of Lead Objects in an Attempt to Determine Their Age'

Analysis done on the Jordan Codices. Published November 2025 in the Elsevier's Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms – Professor Roger Webb, University of Surrey.



https://www.sciencedirect.com/science/article/pii/S0168583X25003374

Press Releases

[*Emailed to press outlets week commencing 17th November 2025*]

The Numen Society, affiliated with the Ion Beam Centre at the University of Surrey, is delighted to invite you to a press conference in the Jubilee Room, House of Commons.

Event Details:

Date: **Friday, 21st November**

Time: **10:30 - 12:00 am**

Location: **Jubilee Room, House of Commons, London SW1A 0AA**

(St. Stephen's entrance)

We would respectfully like to draw your attention to the Early Day Motion put down on the 11th of November by Brian Mathew, Member of Parliament for Melksham and Devizes, which I think may be of interest to you:
https://edm.parliament.uk/early-day-motion/64679/jordan-codices

Speakers include:

Professor Roger Webb, Director of the Ion Beam Centre, University of Surrey

Matthew Hood, BEng, MSc, CEng, FRIN, MAPM, CDipAF, MIET, RCNC, Chartered Engineer and Principal Naval Architect

Jennifer Solignac, Frontline campaigner for the Jordan Lead Codices

Professor Silke Merchel, Faculty of Isotope Physics, University of Vienna (joining online)

Professor Fin Stuart, SUERC, University of Glasgow (joining online)

The conference will present groundbreaking, peer-reviewed research spanning a decade, offering new insights into ancient lead codices discovered in caves in northern Jordan, which are alleged to be from the earliest Christian communities, approximately 2000 CE.

Attendees will have the opportunity to engage directly with the researchers and ask questions about the latest scientific findings, as well as to witness a first-time reveal of extraordinary film footage.

We look forward to welcoming you and supporting your coverage of this exciting event.

Professor Roger Webb
Director of the Ion Beam Centre
The University of Surrey

Dr Brian Mathew, MP

For immediate release

Advanced ion-beam analysis reveals age variations in disputed Jordan codices

Scientists have delivered the most detailed assessment yet of a set of disputed lead books known as the Jordan codices. With debate centred on whether they could date back to the early Christian period, a study led by the University of Surrey's Ion Beam Centre has now shed new light on their origin.

The study, published in Elsevier's Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms, finds that while some of the external pages of one of the books have been found to be contaminated by interactions with the environment, giving ambiguous age determination, inside pages are less contaminated and give clear scientific readings showing they are at least 200 years old, and possibly older.

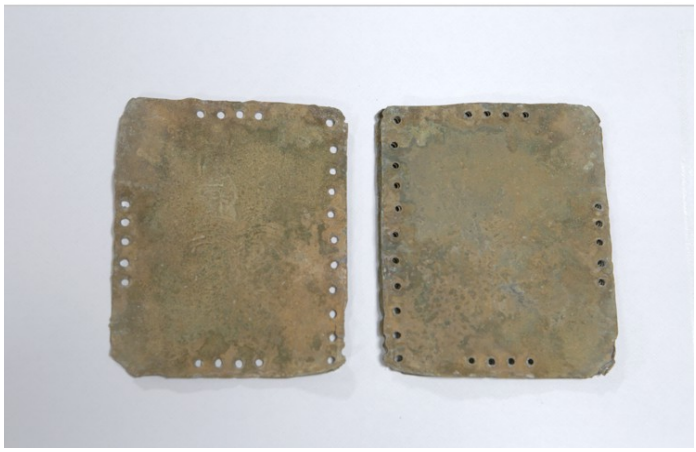
Working in collaboration with the University of Glasgow, the Scottish Universities Environmental Research Centre and the University of Vienna, researchers applied four analytical techniques to samples from the books. These included trace-element analysis, lead-isotope measurements, alpha-particle tests and radiogenic helium analysis to assess the composition and likely age of the lead. No single method could determine a definitive age, but together they provide a more detailed picture of how different parts of the codices were made.

Tests run to date do not allow for a definitive date older than 200 years, but do not rule out that possibility, opening the door to further analysis with even more accurate future testing. Although the study could not determine that the codices were created in the early Christian period, it was also not possible to show that they were of modern origin. However, a truly definitive test to determine the true age of the manufacture of the books requires further investigation due to substantial non-uniformity of the samples and a much higher degree of background contamination than was expected.

Professor Roger Webb, Director of Surrey's Ion Beam Centre and lead author of the study, said:

"*Our aim throughout this work has been to bring rigorous, objective science to a subject that has attracted a great deal of speculation. I have been examining these materials since 2011, and as our analytical techniques have become more advanced, the picture has become more nuanced. Some parts of the codices appear modern, while others show characteristics of older lead that we cannot explain using contemporary materials. We have been unable to prove that they are truly ancient, but we have also not been able to prove that all of the objects are*

modern. We have seen some codices that have tested to be modern, but others clearly test as older than 200 years – thus as far back as our currently successful tests can go."



The Surrey Ion Beam Centre is the lead site for the UK National Ion Beam Centre and is equipped with state-of-the-art ion implanters and analysis facilities used across disciplines ranging from quantum technologies to materials science and biosciences.

As part of its mission, the centre also applies ion-beam techniques to cultural heritage and art conservation, including studies of timbers from the Cutty Sark and analyses used to assess whether a 'Leonardoesque' painting could be attributed to Leonardo Da Vinci. These capabilities allow researchers to investigate materials at microscopic and atomic scales, providing the precision needed for studies such as this.

Professor Webb added:

"*At the Surrey Ion Beam Centre, we routinely apply these techniques to everything from quantum devices to cultural heritage objects, and our study shows just how powerful ion-beam analysis can be. The fact that some key samples cannot be shown to be modern provides a strong scientific basis for scholars to take the codices seriously and for further, more advanced testing to be carried out."*

The study was funded by the European Union's Horizon 2020 research and innovation programme and by the EPSRC National Research Facility. As the results point to the need for deeper analysis, the research team is now looking to secure further investment and collaboration for the next phase of testing.

[ENDS]

Notes to editors

- Professor Roger Webb is available for interview; please contact mediarelations@surrey.ac.uk to arrange.
- The findings from the paper will be formally launched at an event in the House of Commons at 10:30am on 21 November, hosted by Brian Matthews MP, and with Professor Webb appearing as the keynote scientific speaker. Further information about the press conference will be available on the morning of 21 November at www.numensociety.org and www.theleadcodices.com. For more information and to request an invitation, please contact Lara Alexander, Executive Officer, from the Numen Society, the event's organisers, on:
    - media@numensociety.or
      07xxx xxx xxx
- The full paper can be found here.
- ***Images (credit: University of Surrey): Jordan codices***