Arq. en Aguas Profundas III

The Future

Especialización en Patrimonio Cultural Sumergido
Cohorte 2021

Universidad Externado de Colombia

Filipe Castro

Bogotá, April 2021

história territórios comunidades

CENTRE FOR FUNCTIONAL ECOLOGY
SCIENCE FOR PEOPLE & THE PLANET

INSTITUTO DE HISTÓRIA CONTEMPORÂNEA

FACULDADE DE CIÊNCIAS SOCIAIS E HUMANAS
UNIVERSIDADE NOVA DE LISBOA

INSTITUTO DE ARQUEOLOGIA E PALEOCIÊNCIAS
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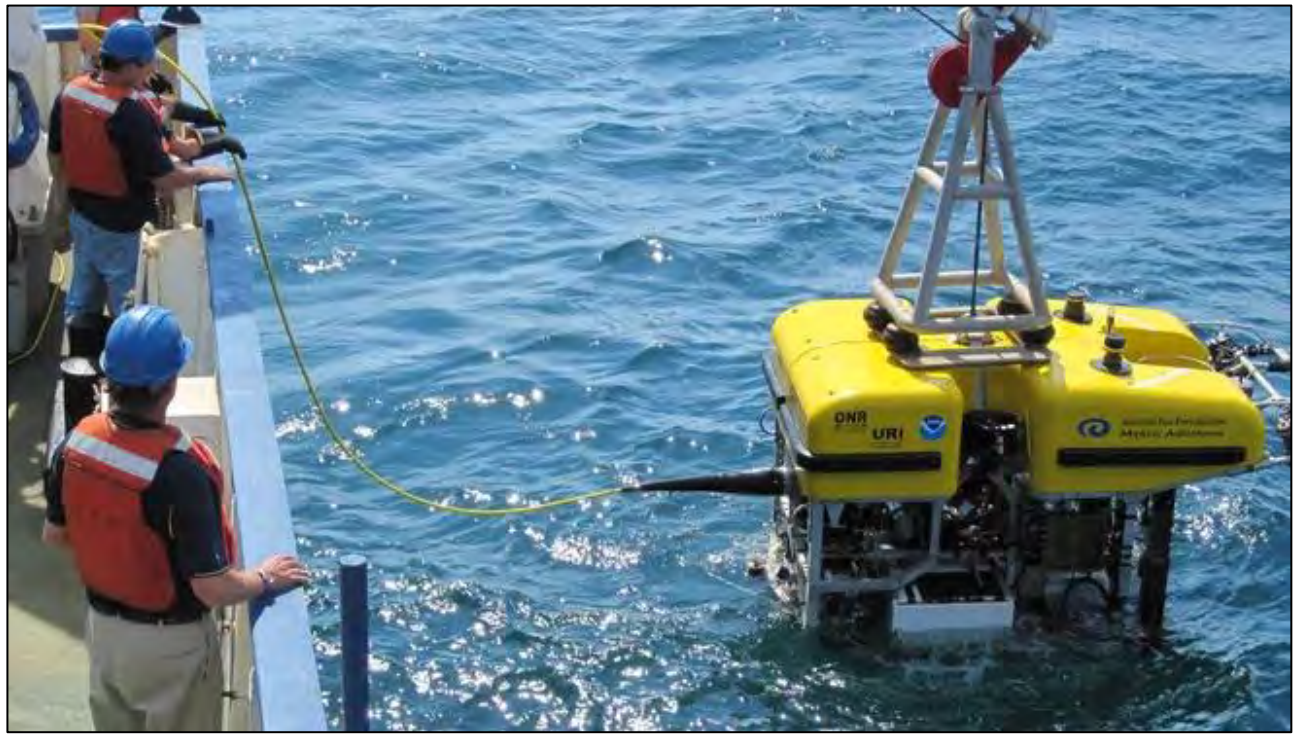
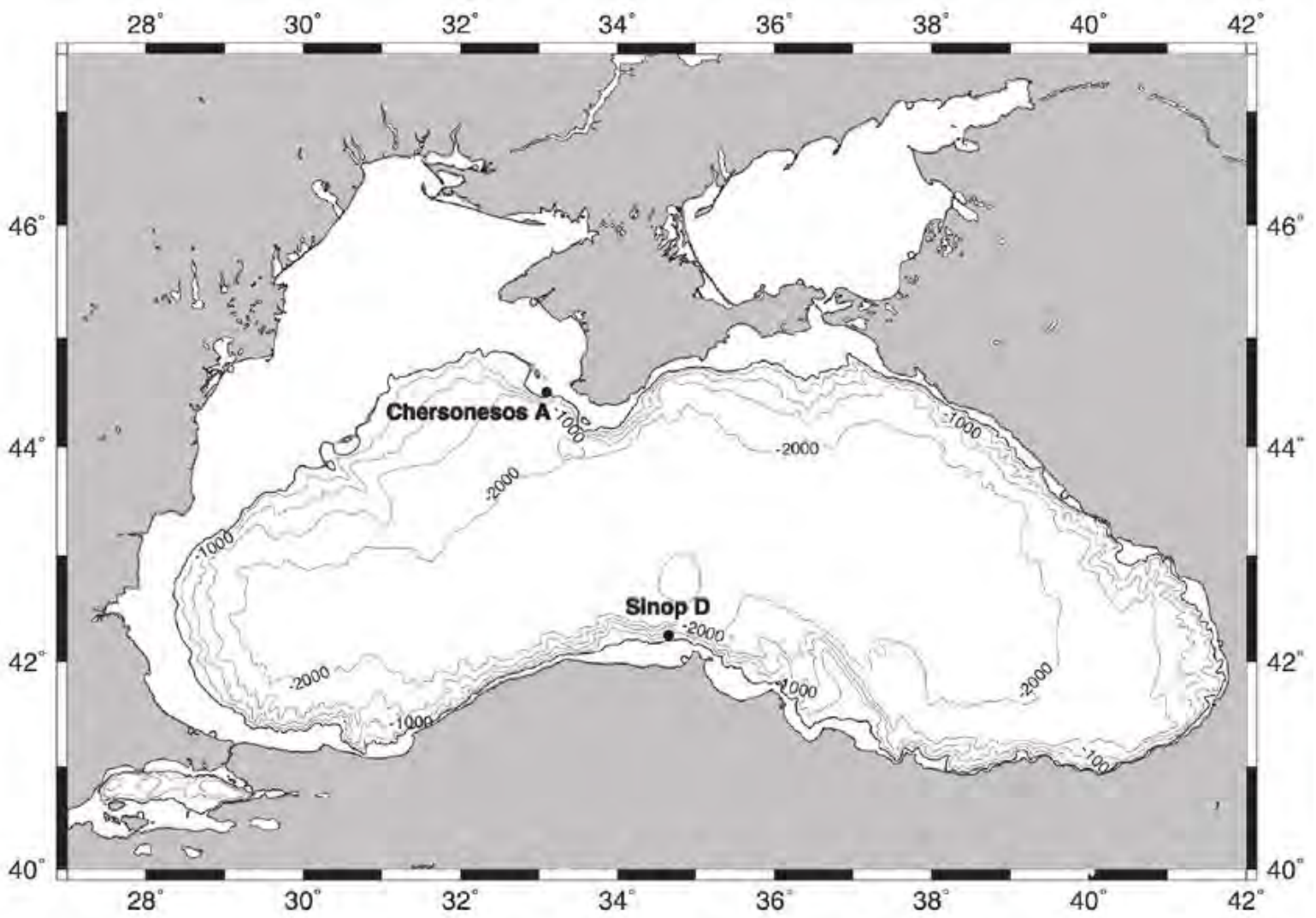
Case Studies: 1999 Black Sea Shipwrecks

Bob Ballard surveyed the Black Sea in the early 2000s and found two important things, namely ancient shorelines with pre-historic constructions, and 26 extremely well-preserved shipwrecks.

Below 100 m there is not a lot of oxygen in the water and that impacts the way shipwrecks are preserved.



Case Studies: 1999 Black Sea Shipwrecks



Not much has been published on these 26 shipwrecks, but in 2007 Bob Ballard went back to two of the shipwrecks identified in the early 2000 expeditions and published a paper about them.

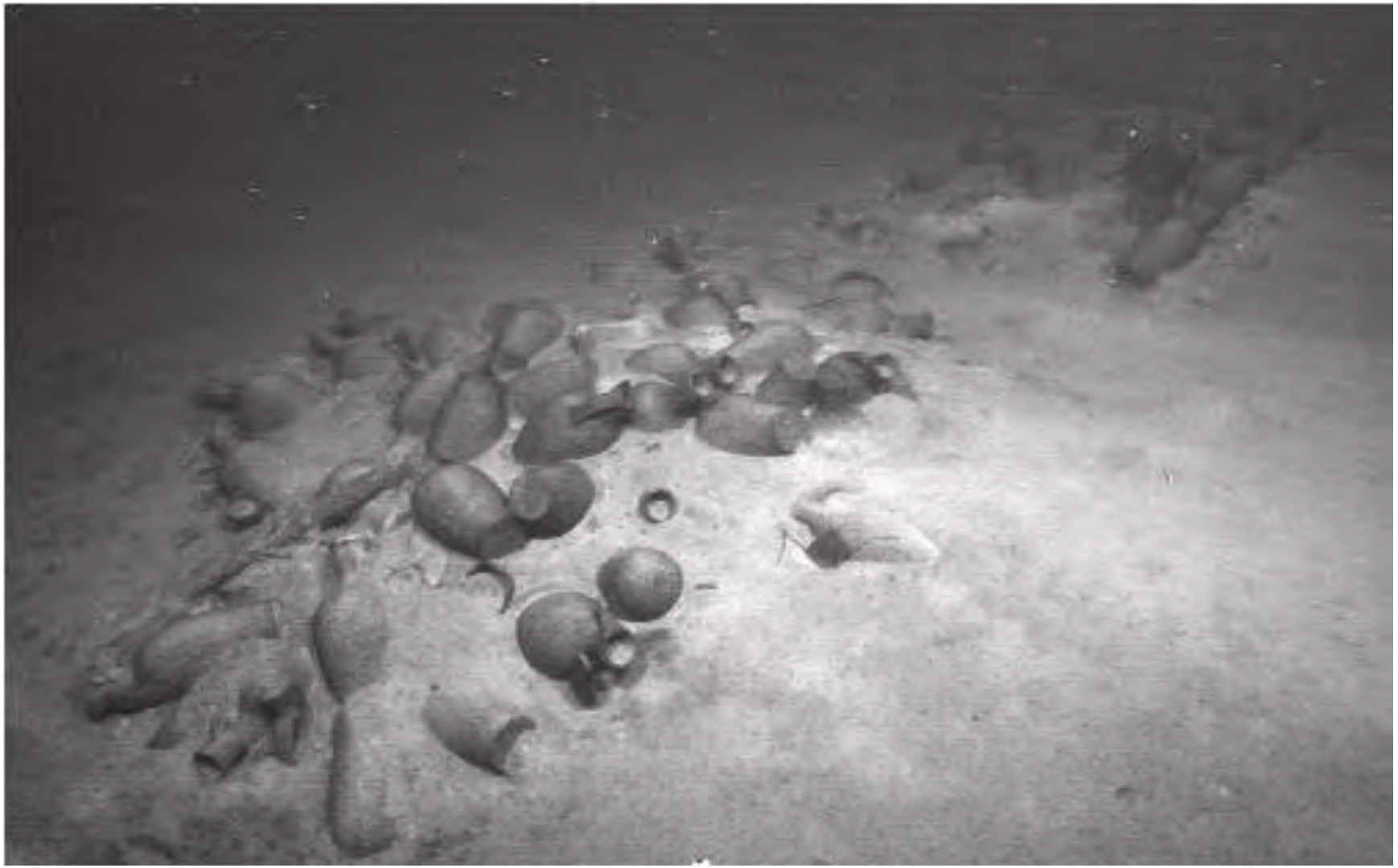
Case Studies: 1999 Black Sea Shipwrecks

Sinop D is one of four shipwrecks identified in 2000. Sinop A, B, and C were mounds of carrot-shaped amphorae probably dating to the 4th or 5th centuries CE. Sinop D lies at 325 m and was dated to the 5th century.

https://www.youtube.com/watch?v=wprhoSMNFLI

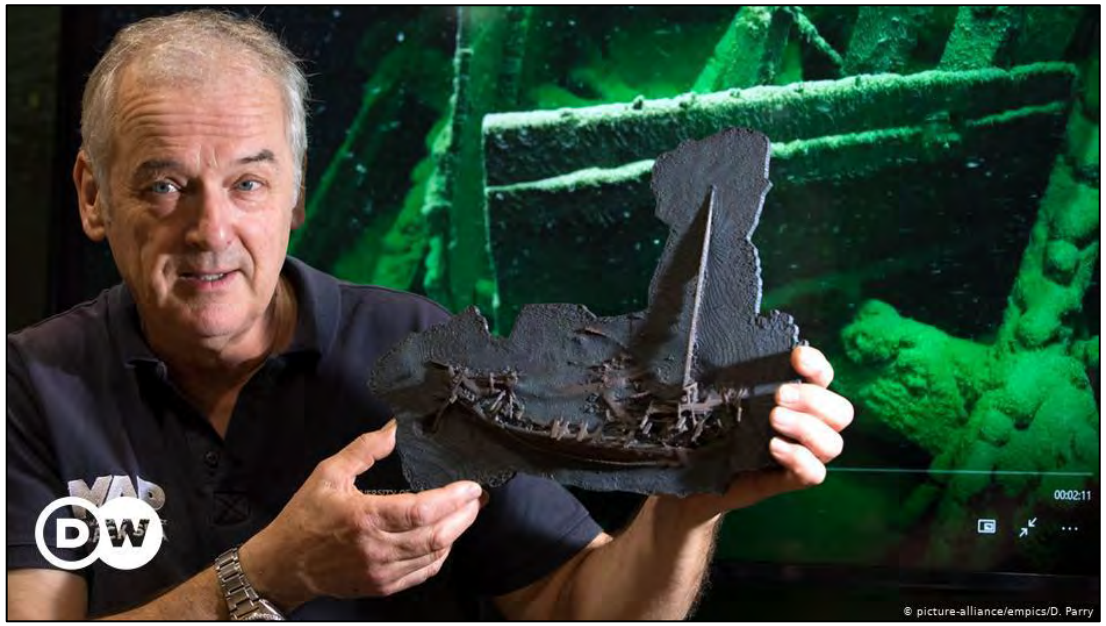
Case Studies: 1999 Black Sea Shipwrecks

Chersonesos A was located on the Ukrainian coast and dated to around 1000.



Case Studies: 2015 Black Sea Shipwrecks

From 2015 to 2017 a group of archaeologists surveyed the bottom of the Black sea and found 40-60 shipwrecks, covering 2500 years of maritime history https://blackseamap.com/.



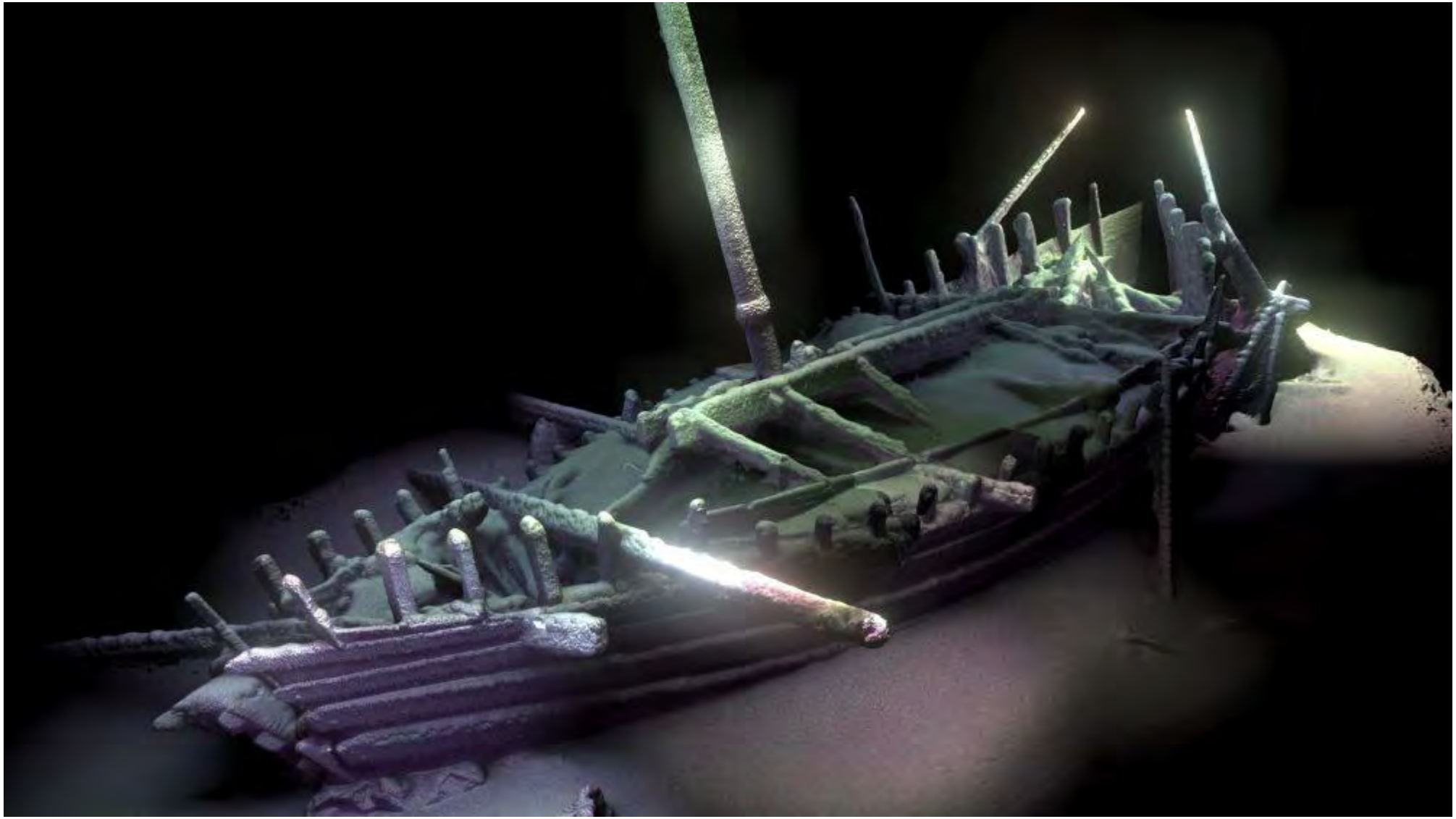
Case Studies: 2015 Black Sea Shipwrecks

The pictures published suggest astonishing finds, but so far not much has been published on this subject.

Case Studies: 2015 Black Sea Shipwrecks

Photogrammetric model of the Medieval ship (Photogrammetry and 3DS Max rendering and lighting by Rodrigo Pacheco-Ruiz) (Black Sea MAP).

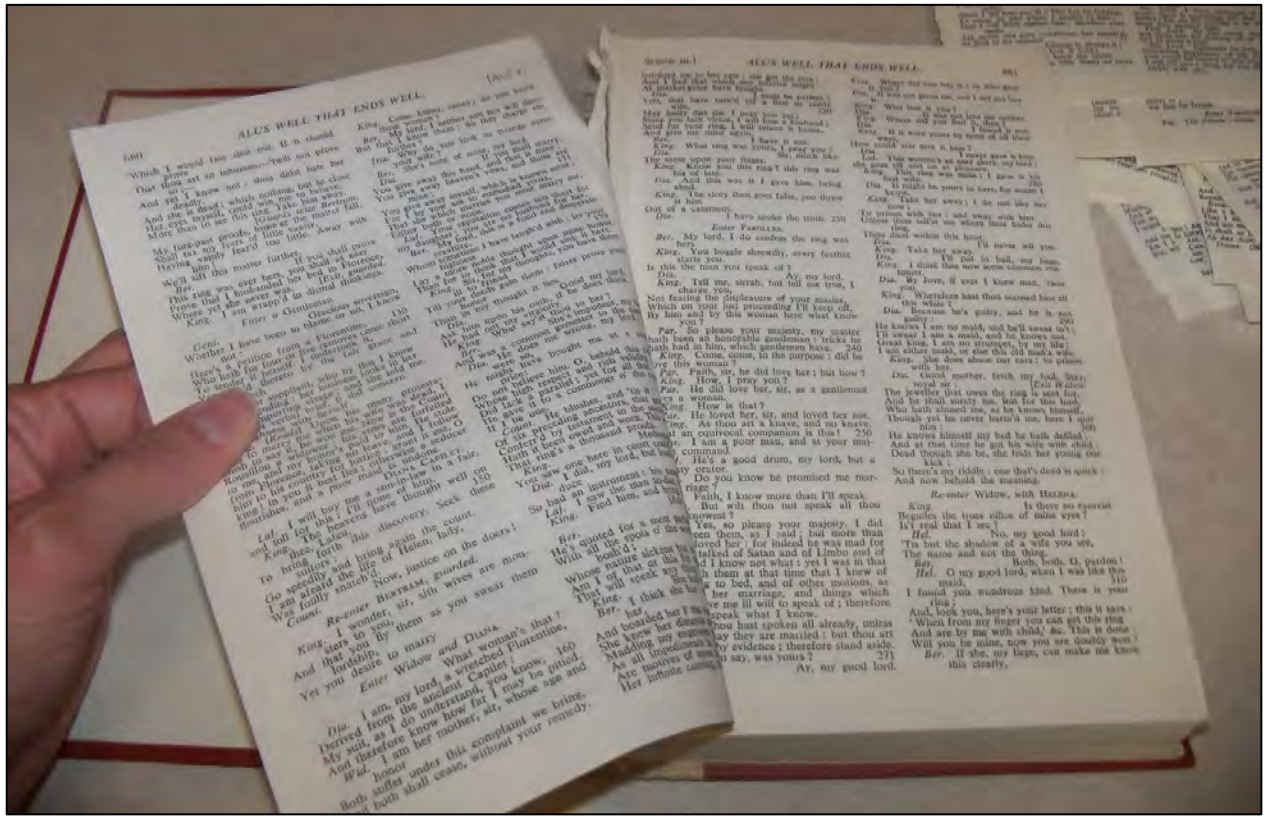
Case Studies: 2015 Black Sea Shipwrecks



Case Studies: 2015 Black Sea Shipwrecks

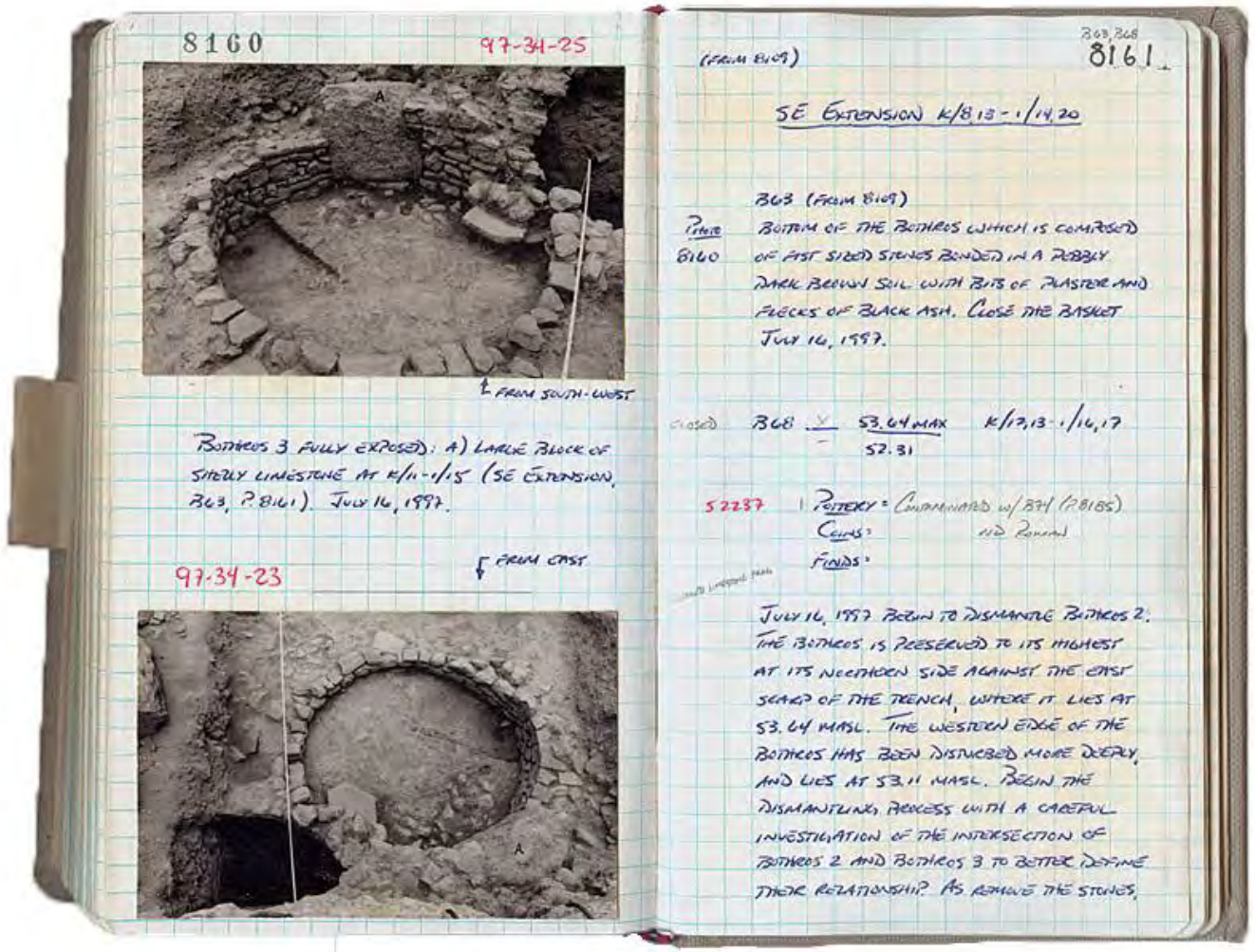
Ethics

Marine archaeologists destroy the sites they dig. Archaeological sites are buried archives. We describe digging as reading a book by tearing each page read to get to the page below.



Ethics

Recording is a responsibility.



8160 97-34-25

FROM SOUTH-WEST

BOTHROS 3 FULLY EXPOSED: A) LARGE BLOCK OF SITELLY LIMESTONE AT K/11-1/15 (SE EXTENSION, B63, ?8161). JULY 16, 1997.

97-34-23 FROM EAST

(FROM B109) 363,368 8161

SE EXTENSION K/8,13 - 1/14,20

B63 (FROM B109)

PHOTO 8160 BOTTOM OF THE BOTHROS WHICH IS COMPOSED OF MED SIZED STONES BONDED IN A POORLY DARK BROWN SOIL WITH BITS OF PLASTER AND FLECKS OF BLACK ASH. CLOSE THE BASKET JULY 16, 1997.

CLOSED B68 X 53.64 MAX 52.31 K/13,13 - 1/16,17

52237 1 POTTERY = CONTAMINATED W/ B71 (28185) COINS: NO ROMAN FINDS:

JULY 16, 1997 BEGIN TO DISMANTLE BOTHROS 2. THE BOTHROS IS PRESERVED TO ITS HIGHEST AT ITS NORTHERN SIDE AGAINST THE EAST SCARP OF THE TRENCH, WHERE IT LIES AT 53.64 MASL. THE WESTERN EDGE OF THE BOTHROS HAS BEEN DISTURBED MORE DEEPLY, AND LIES AT 53.11 MASL. BEGIN THE DISMANTLING PROCESS WITH A CAREFUL INVESTIGATION OF THE INTERSECTION OF BOTHROS 2 AND BOTHROS 3 TO BETTER DEFINE THEIR RELATIONSHIP. AS REMOVE THE STONES,

Ethics

Sharing primary data is the only guarantee that archaeologists can be taken as serious scholars.

Terry E. Hedrick; Robert F. Boruch; Jerry Ross, 1978. “On Ensuring the Availability of Evaluative Data for Secondary Analysis,” in: *Policy Sciences,* 9(3): 259-280.

Ethics

In his introduction to the Oxford Handbook of Maritime Archaeology (2011), George Bass pointed out that, as a class, archaeologists have a track record of negligence: it seems that we publish about 25% of the sites we destroy. Bass' assumption is based on a number of studies suggesting that **over the last 50 years less than 25% of the materials and results of professional archaeological excavations have been properly published** (Boardman 2009), **70% of the Near East excavations have not been published** (Atwood 2007 and Owen 2009), and that perhaps **80% of all Italian archaeological materials remain unpublished** (Stoddart and Malone 2001). It is difficult to argue that the situation in maritime archaeology is better than those mentioned above.

Atwood, R., 2007. "Publish or be Punished: Israel Cracks Down of Delinquent Diggers," *Archaeology* 60.2, 18, 60, 62.

Bass, G., 2011. "Introduction," in Catsambis, A., Ford, B., and Hamilton D., (eds.), *The Oxford Handbook of Maritime Archaeology*. New York.

Boardman, J., 2009. "Archaeologists, Collectors, and Museums," in Cuno, J., (ed.), *Whose Culture? The Promise of Museums and the Debate over Antiquities*. Princeton.

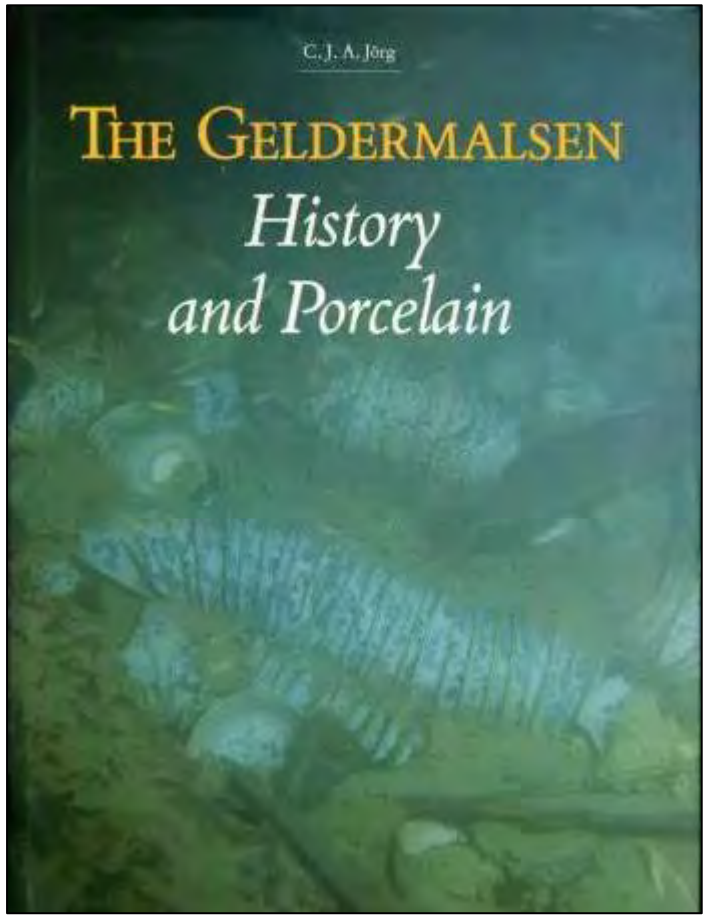
Owen, D., 2009. "Censoring Knowledge: The Case for Publication of Unprovenanced Cuneiform Tablets," *Whose Culture? The Promise of Museums and the Debate over Antiquities*, Cuno, J., ed., Princeton, NJ: Princeton University press.

Stoddart, S., and Malone, C., 2001, *Antiquity*. "Editorial," Vol. 75.288: 233-246.

Ethics

Treasure hunting secrecy stems from a different cause: treasure hunters cannot afford to let us see what they do the shipwrecks they salvage.

It is said that *Geldermalsen* (1752) was dynamited after the salvage operations to prevent the Indonesian authorities to identify the site and sue the treasure hunters.

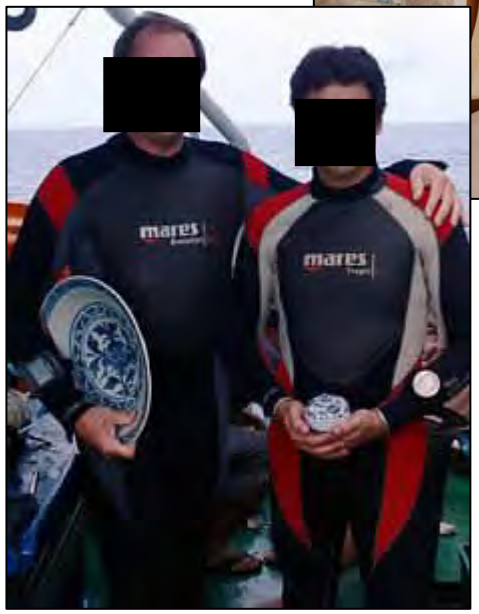


Ethics

Treasure hunting secrecy stems from a different cause: treasure hunters cannot afford to let us see what they do the shipwrecks they salvage.

Ethics

Treasure hunting is a hobby of the rich, and the rich rule.



Treasure hunters do it for the power drive and the adventure. Not for the money.

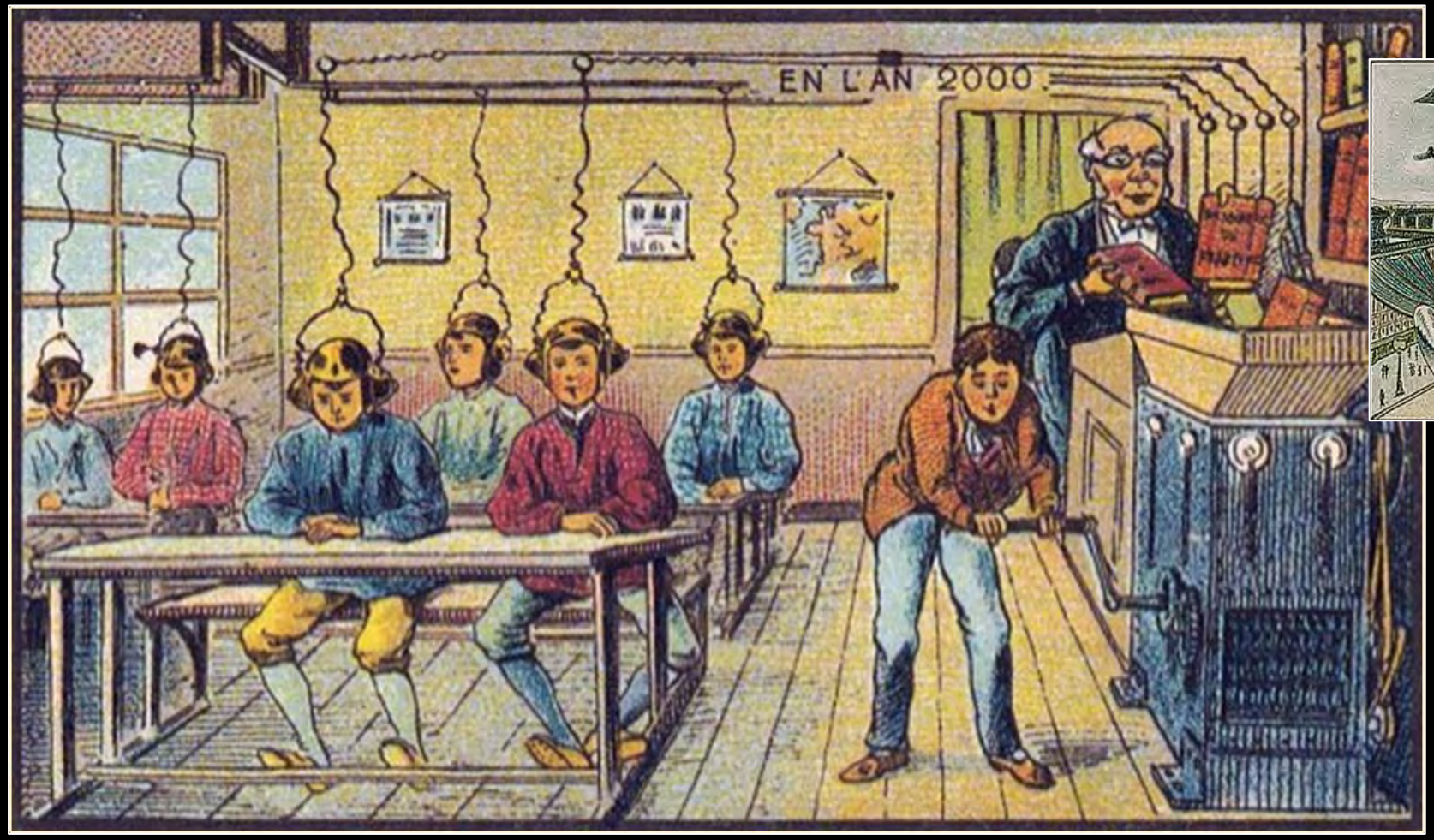
Ethics

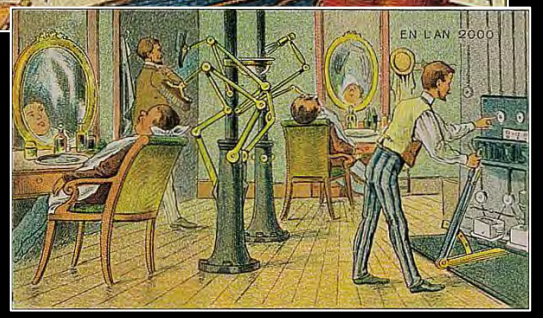
Archaeology should be primarily a public thing. Without a public, archaeology is sterile and useless.

What is going to happen to archaeology?

Will it be shallow and spectacular,
or intellectual and social?

It depends on the perceived social value of archaeology.





It is impossible to predict the future, but that should not prevent us from thinking about it. I see two important factors influencing the future of archaeology.

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JANUARY 12, 2016

WERNER HERZOG TALKS VIRTUAL REALITY

BY PATRICK HOUSE

ELEMENTS

"I am convinced that this is not going to be an extension of cinema or 3-D cinema or video games. It is something new, different, and not experienced yet," the filmmaker Werner Herzog said of virtual reality.

PHOTOGRAPH BY SARAH LEE / EYEVINE / REDUX

"I'm a skeptic of 3-D, but when I saw the paintings I knew I had to use it," Werner Herzog told Judith Thurman in 2010, after the New York première of his documentary "Cave of Forgotten Dreams." The film examines some of the world's earliest known paintings,

MOST POPULAR

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   BY JOSHUA TOPOLSKY
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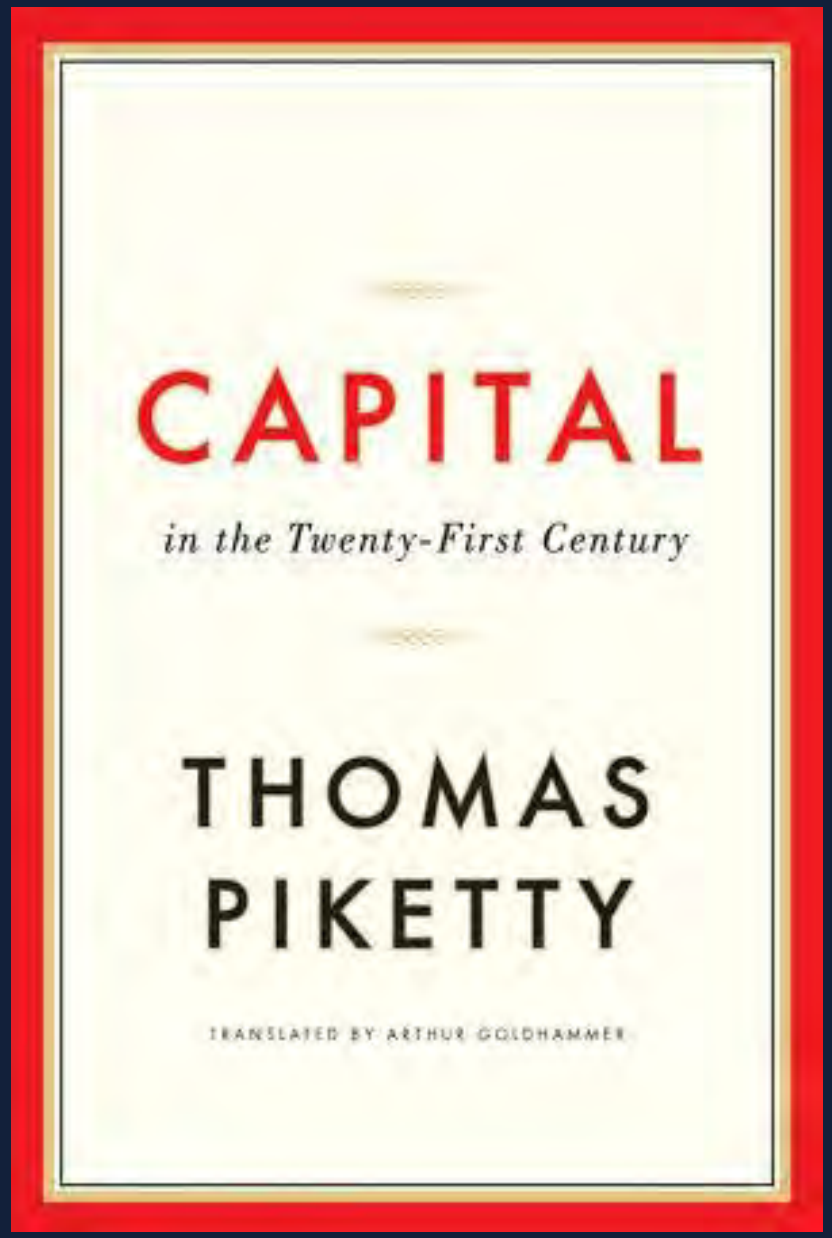
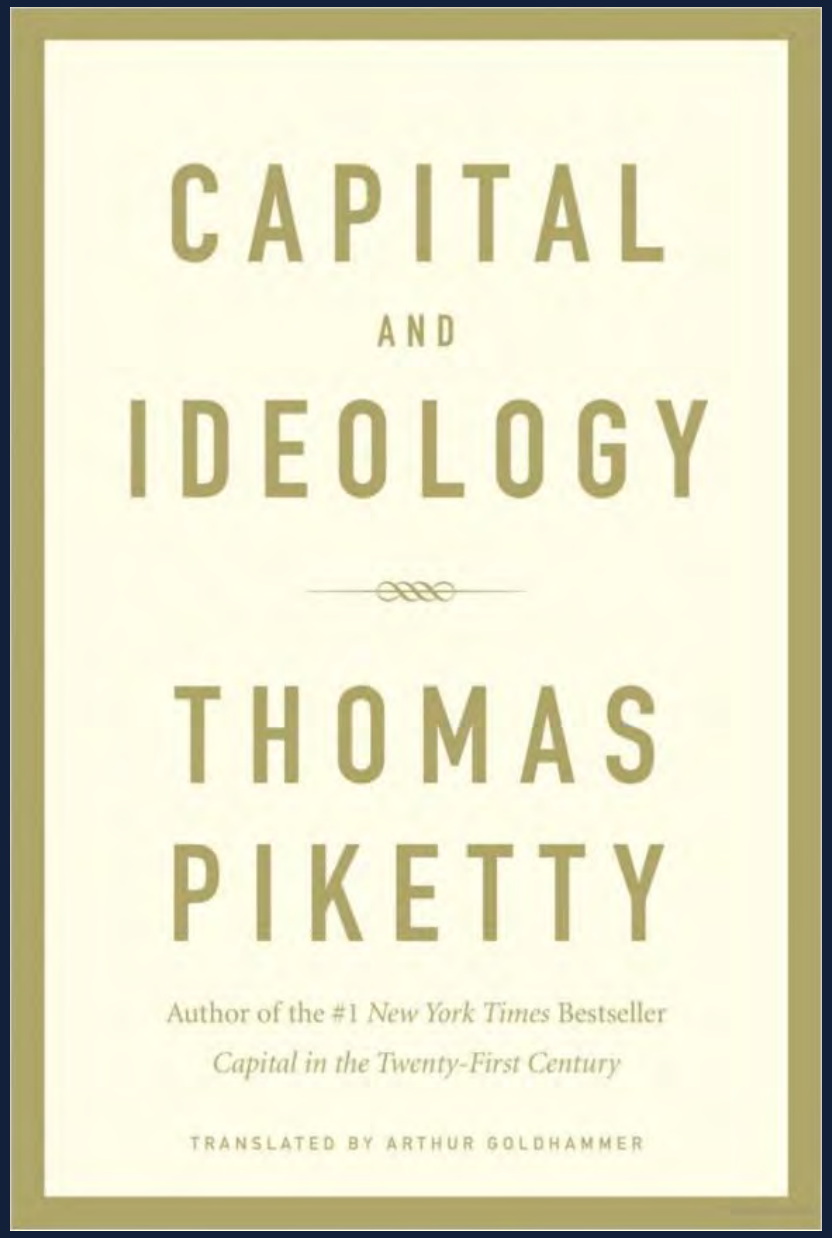
   BY JOHN CASSIDY
4. Richard Dreyfuss, Glenn Beck, Ted Cruz, and Lady Gaga in Iowa
   BY RYAN LIZZA
5. The Useless Agony of Going

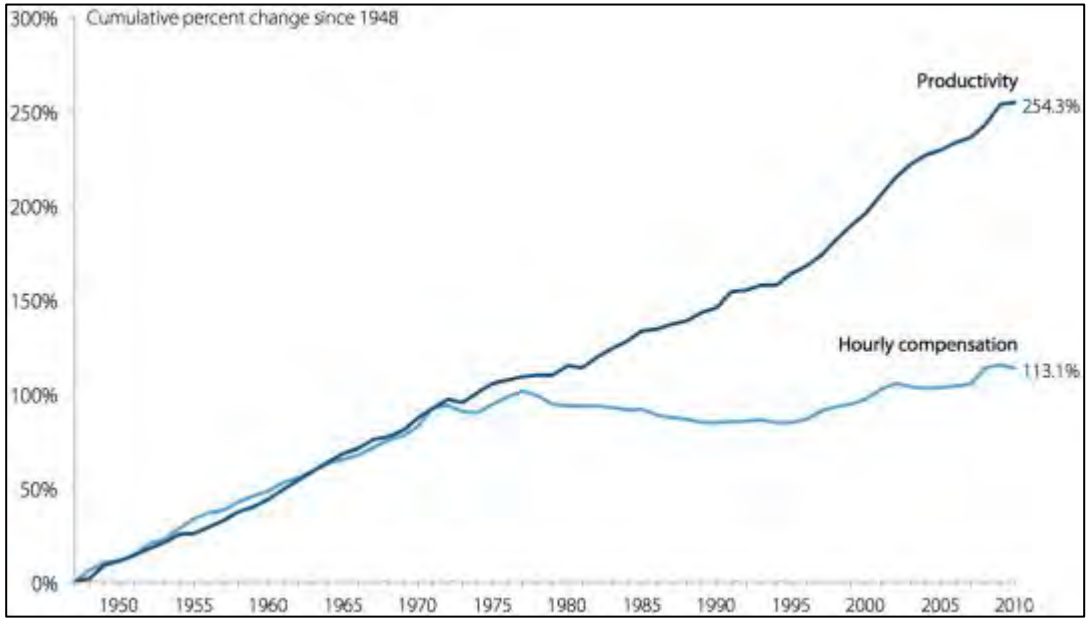
1. Computer graphics are revolutionizing many aspects of our lives...



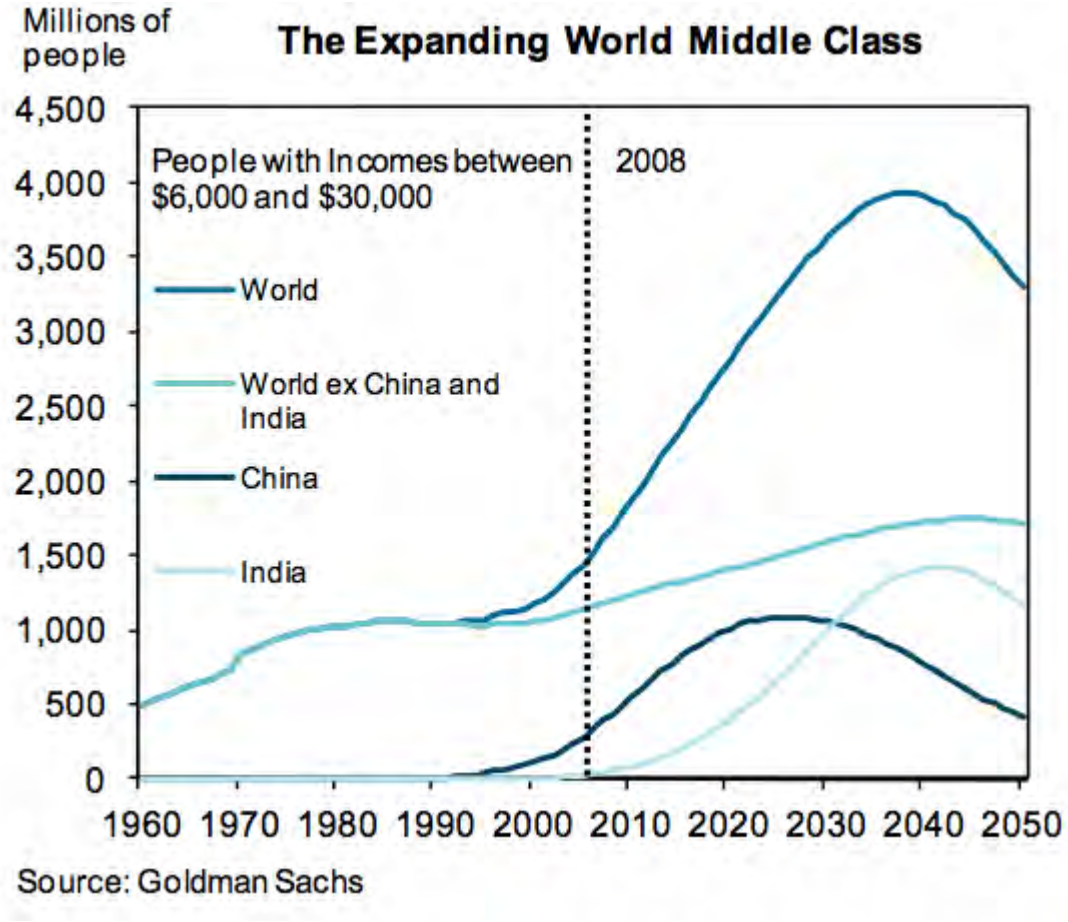


2. Inequality is destroying middle classes in the West and eroding the power of governments.

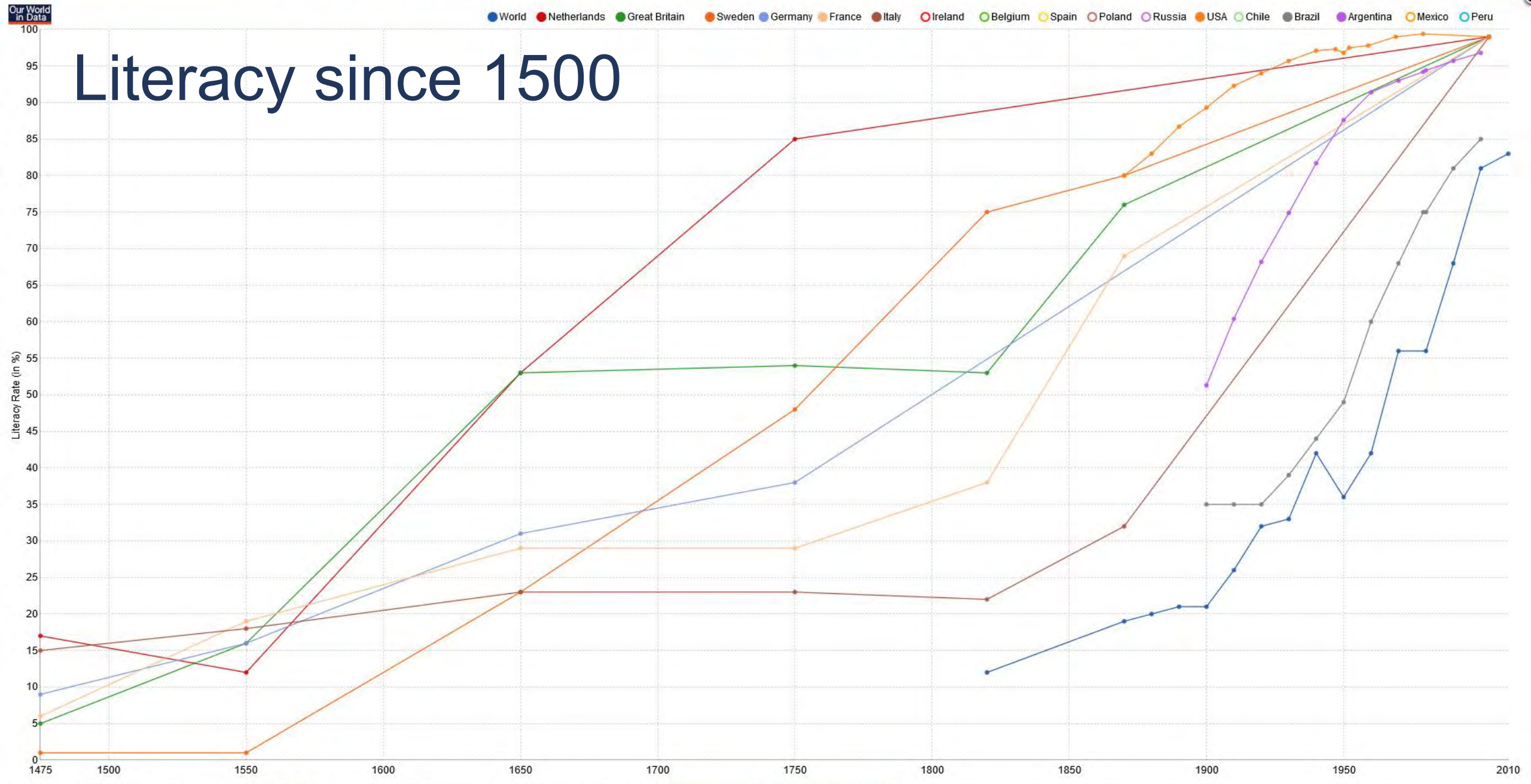
Middle classes are being eroded in the west, but they are growing globally.



Productivity and Hourly compensation (US)



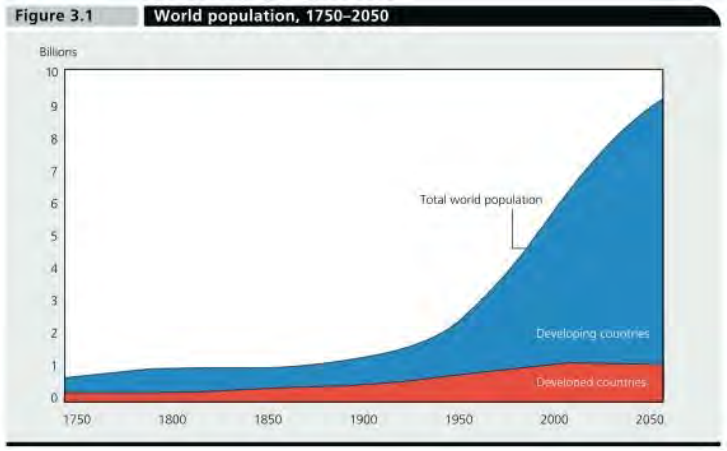
Literacy since 1500

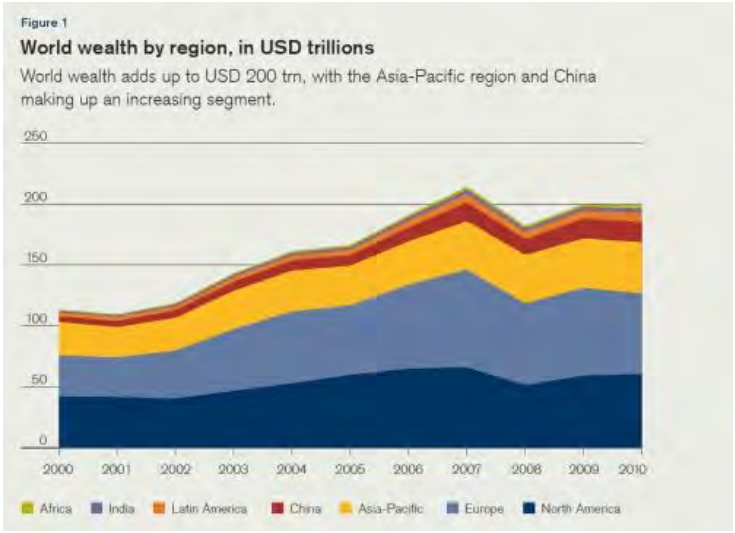


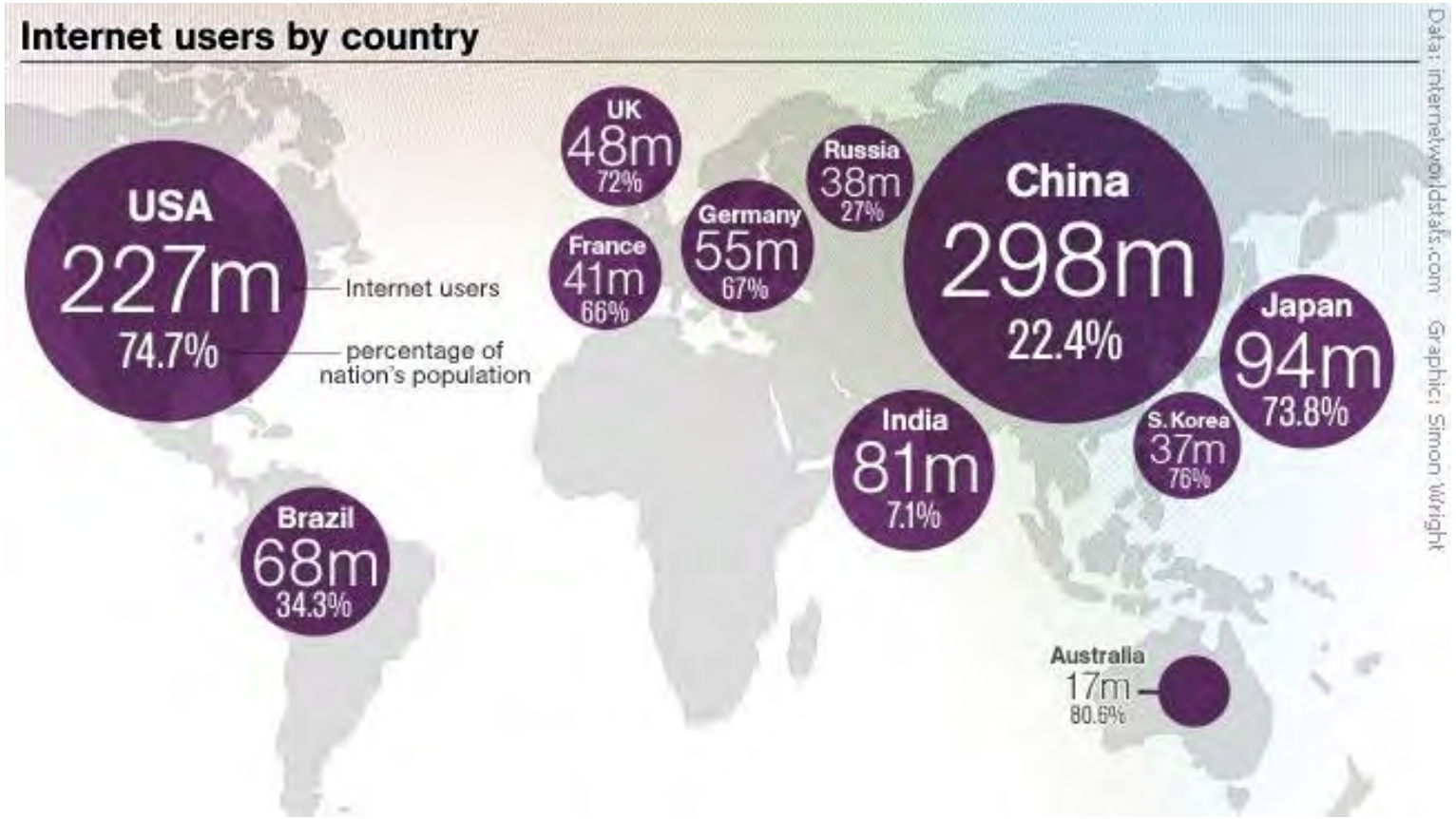
The author Max Roser licensed this visualisation under a CC BY-SA license. You are welcome to share but please refer to its source where you find more information: www.ourworldindata.org/data/education-knowledge/literacy

Data Sources: Buringh & Van Zanden (2009), Van Zandel et al (2014), OxLAD, Broadberry & O'Rourke (2010), CIA and US National Center for Education Statistics.

Since 1945 the world population doubled, and the world wealth quintupled.





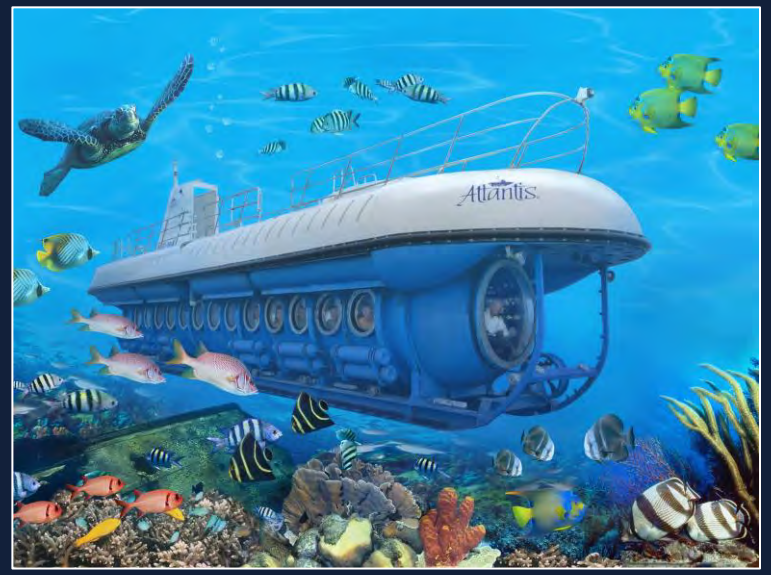


2016: 44% of the world population has internet access.

In a few years, most archaeologists will be non-western. How will this change both practices and narratives?

Excavation of the 9th century
Phanom-Surin laced ship (Thailand).

Middle classes worldwide are the consumers of cultural production: libraries, museums, concert halls, orchestras, opera houses, literary magazines, books, etc., and technology is creating opportunities everywhere.



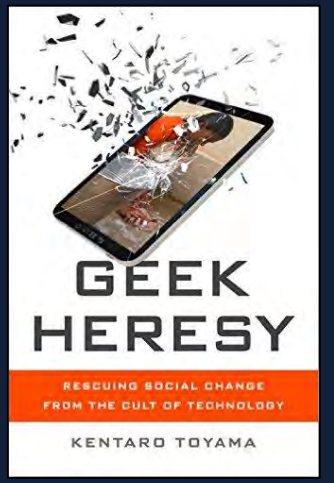
In this context, what is the future of (maritime) archaeology?

Computer graphics will make the past more accessible!

But it is policy, not technology, that change the world.

Technology only magnifies human intent and capacity. It can't substitute for them.

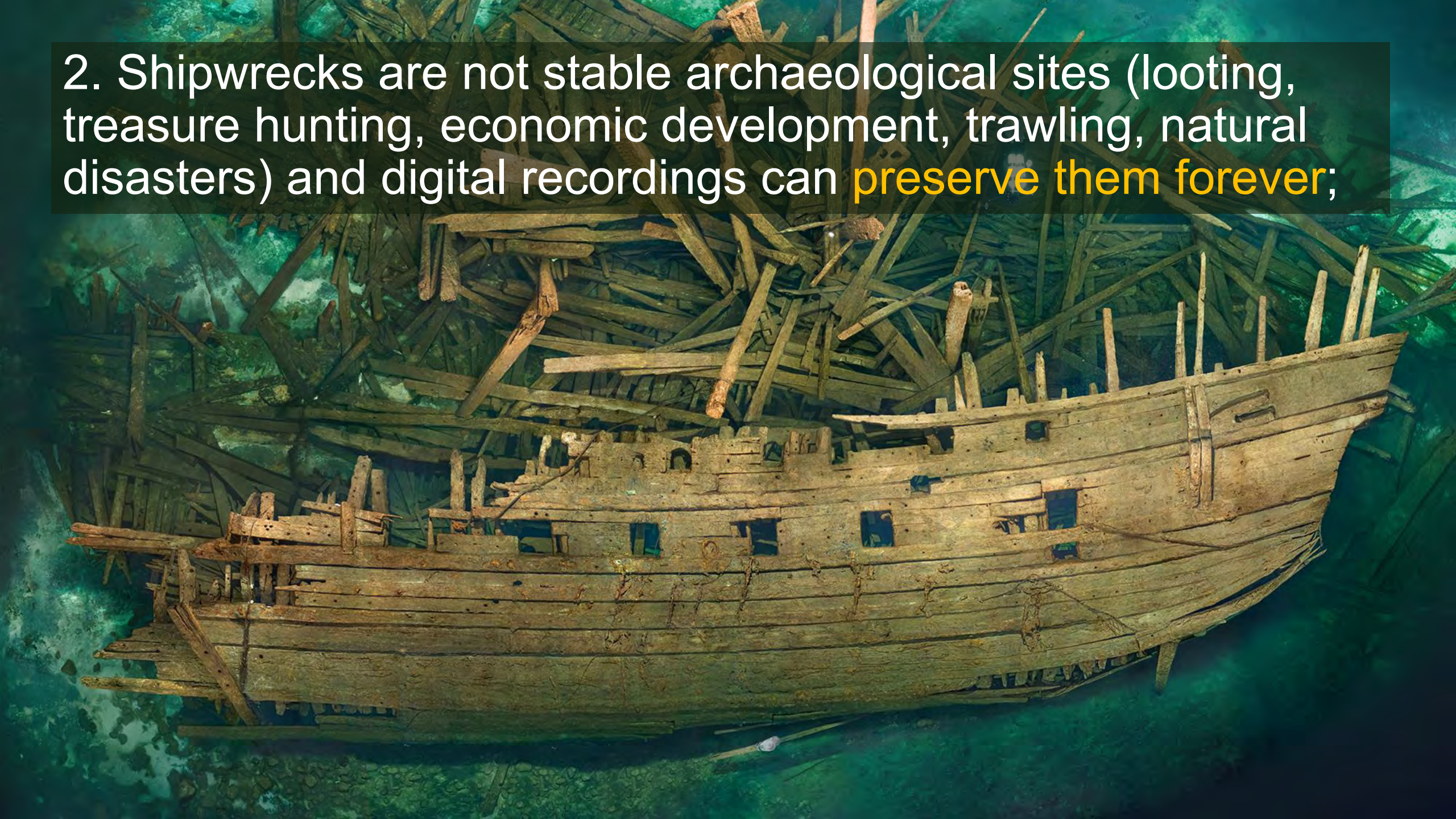
Kentaro Toyama



A few applications of existing technology are obvious:

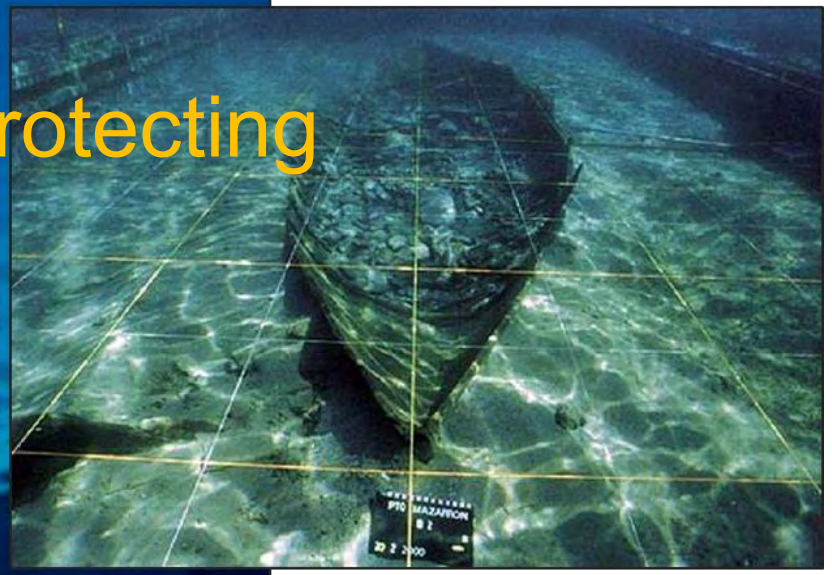
1. To make underwater sites visible;
2. To record them for posterity;
3. To monitor and protect underwater sites;
4. To share knowledge through social networks;
5. To analyze and reconstruct archaeological sites;
6. To simplify 3D recording and non-intrusive surveys;
7. To guide the development of technology towards cheaper, faster, more accurate, and less intrusive surveys!

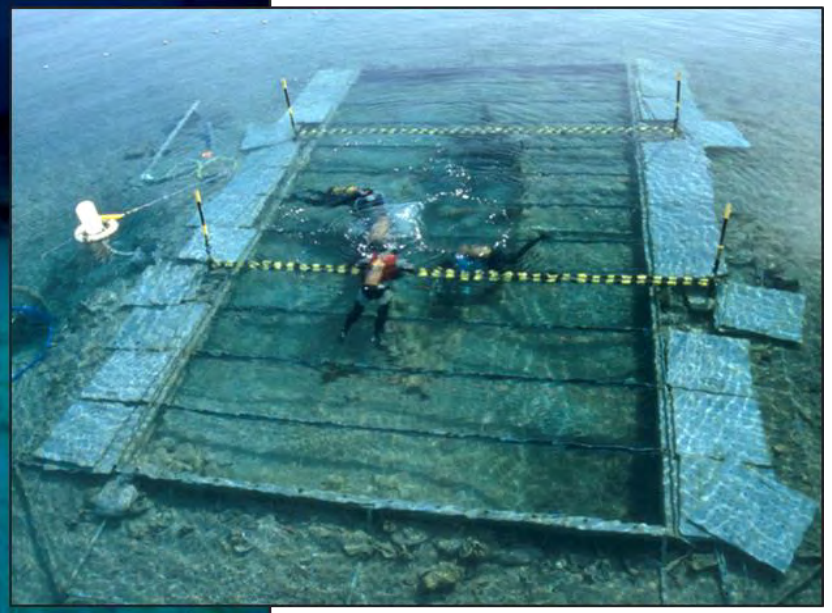
1. The submerged cultural heritage (SCH) is invisible and 3D modeling can make it visible (preservation, social importance of archaeology).



2. Shipwrecks are not stable archaeological sites (looting, treasure hunting, economic development, trawling, natural disasters) and digital recordings can preserve them forever;

3. Conservation in situ: monitoring and protecting (hydrophones, cameras, etc.);

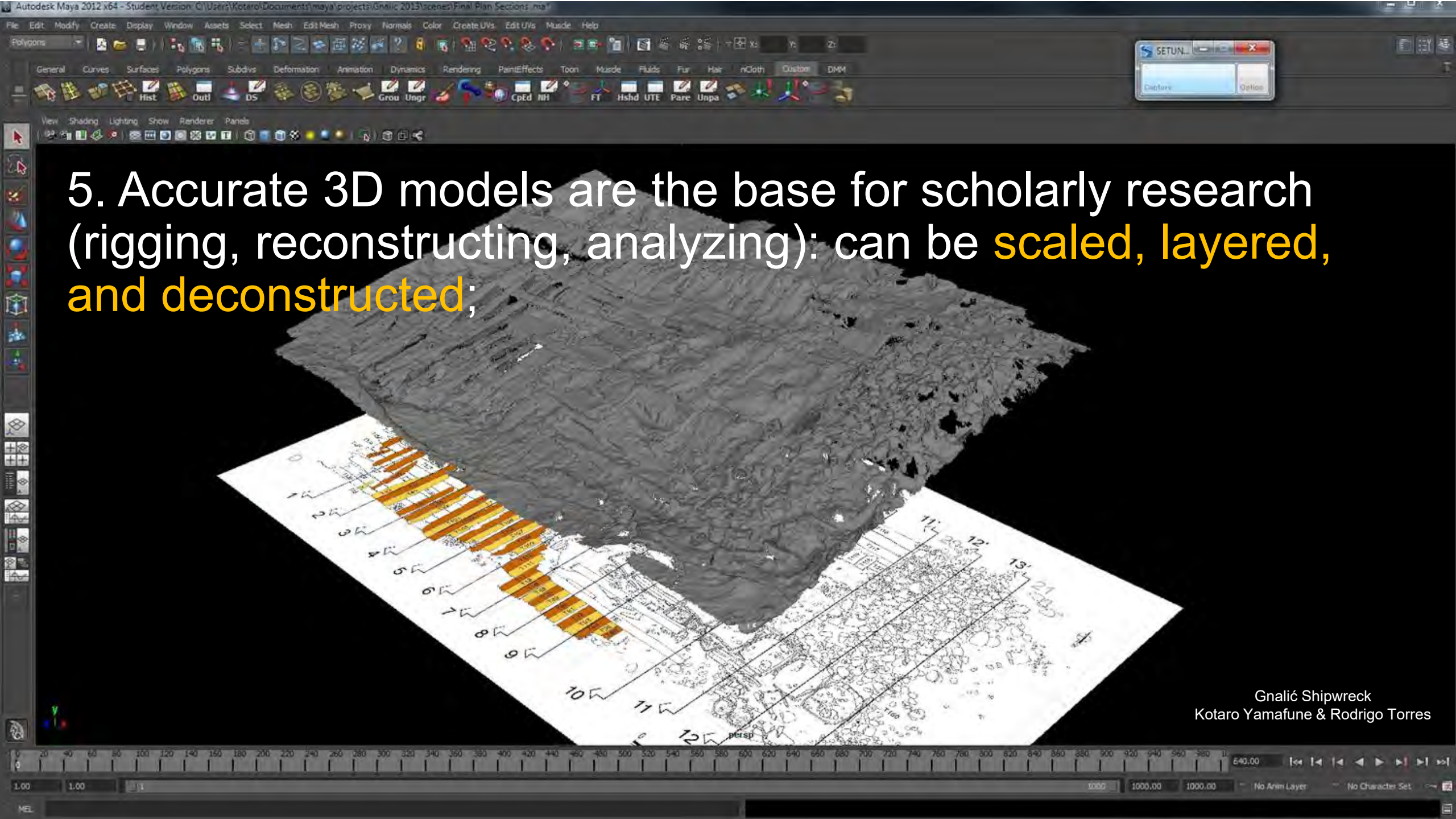




Gnalić Shipwreck, Kotaro Yamafune & Rodrigo Torres

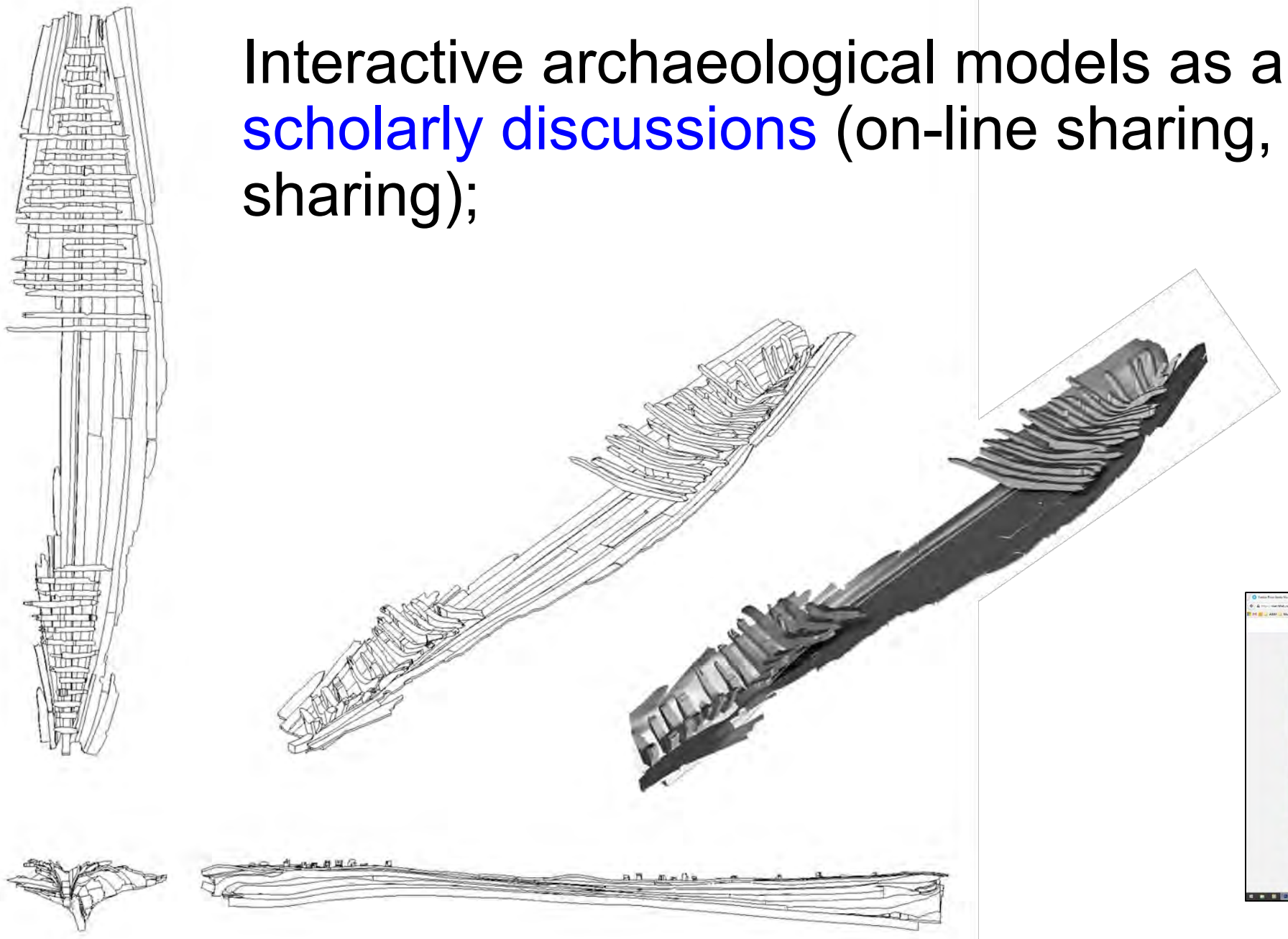
4. Digital archaeological sites can be shared online and serve as learning environments (kindergarten to university);

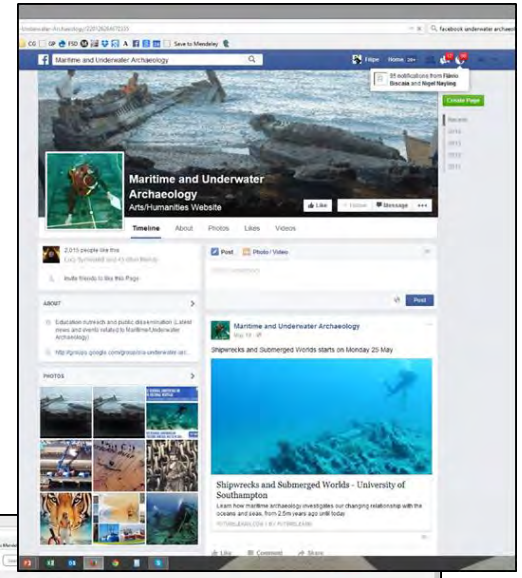
5. Accurate 3D models are the base for scholarly research (rigging, reconstructing, analyzing): can be scaled, layered, and deconstructed;

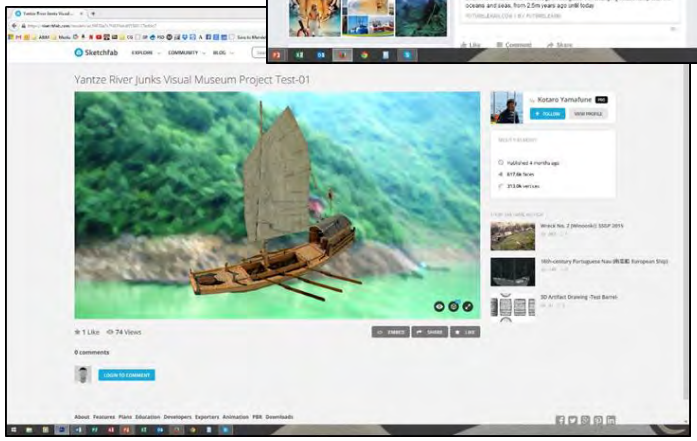


Gnalić Shipwreck
Kotaro Yamafune & Rodrigo Torres

Interactive archaeological models as a basis for scholarly discussions (on-line sharing, real time sharing);

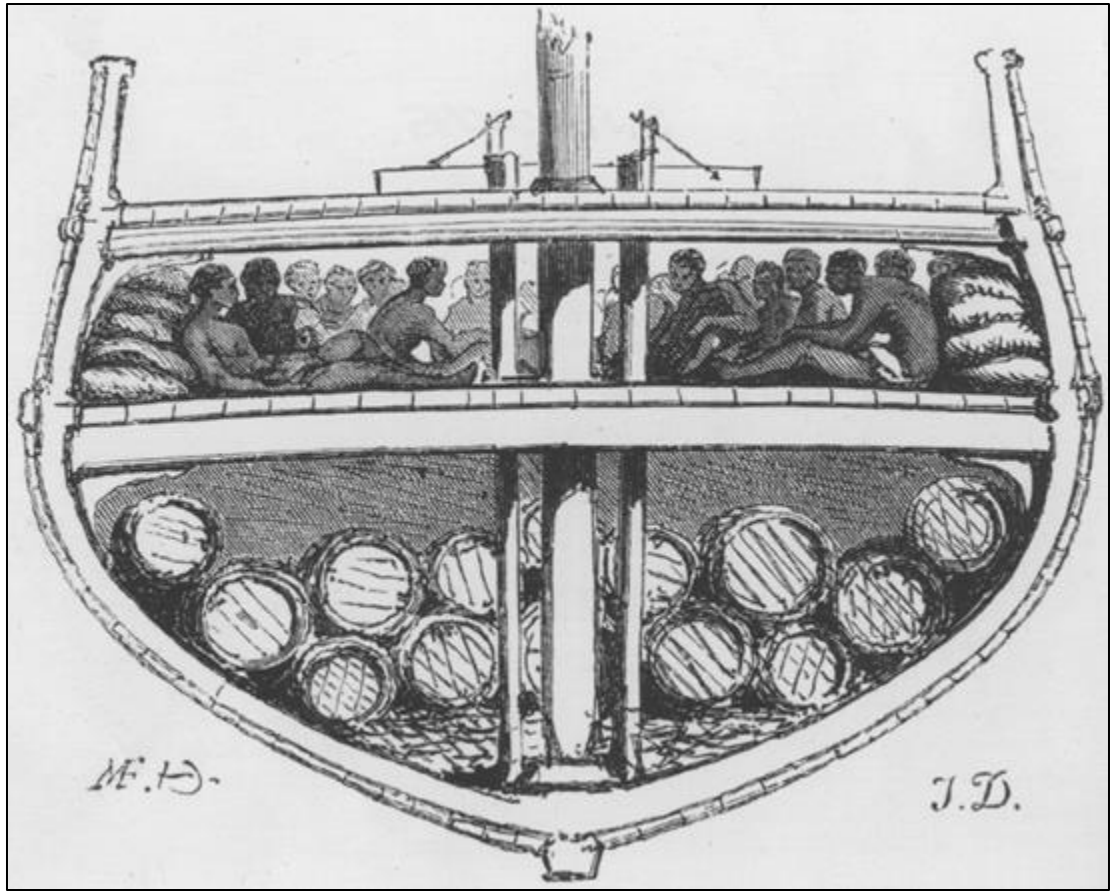




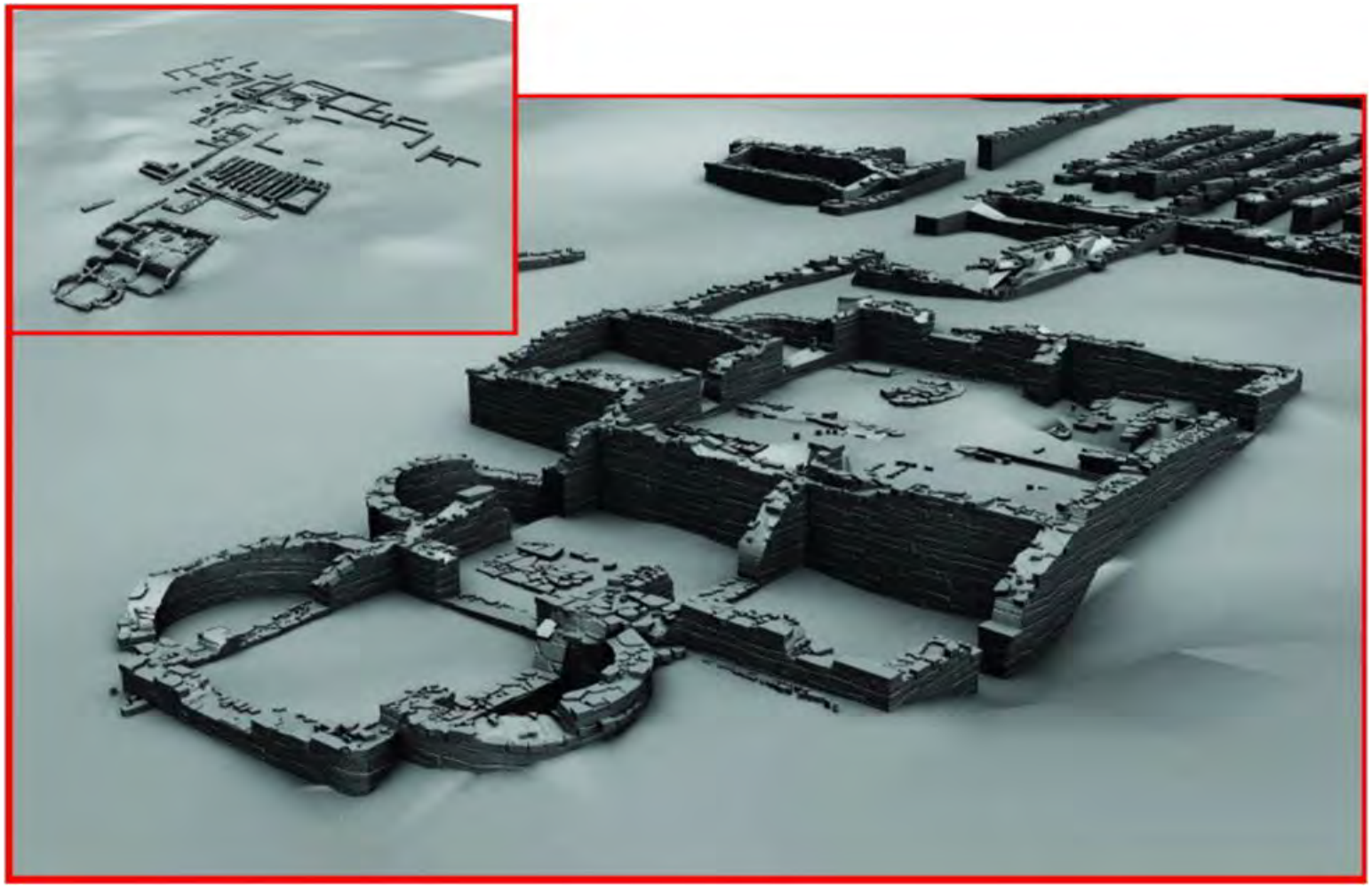


Cais do Sodré Shipwreck, Thomas Derryberry

Interactive archaeological models as a basis for public discussion, outreach and political discussions of social issues (collective memories, collective amnesias, myth busting);

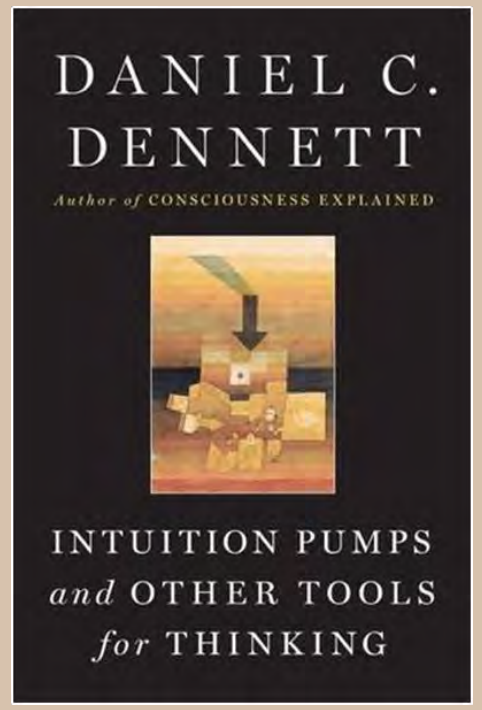


Thinking tools: tridimensional renderings can be layered and decompress the time enclosed within (e.g. animations of changing landscapes, architectures, or site formation processes)

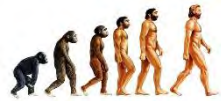


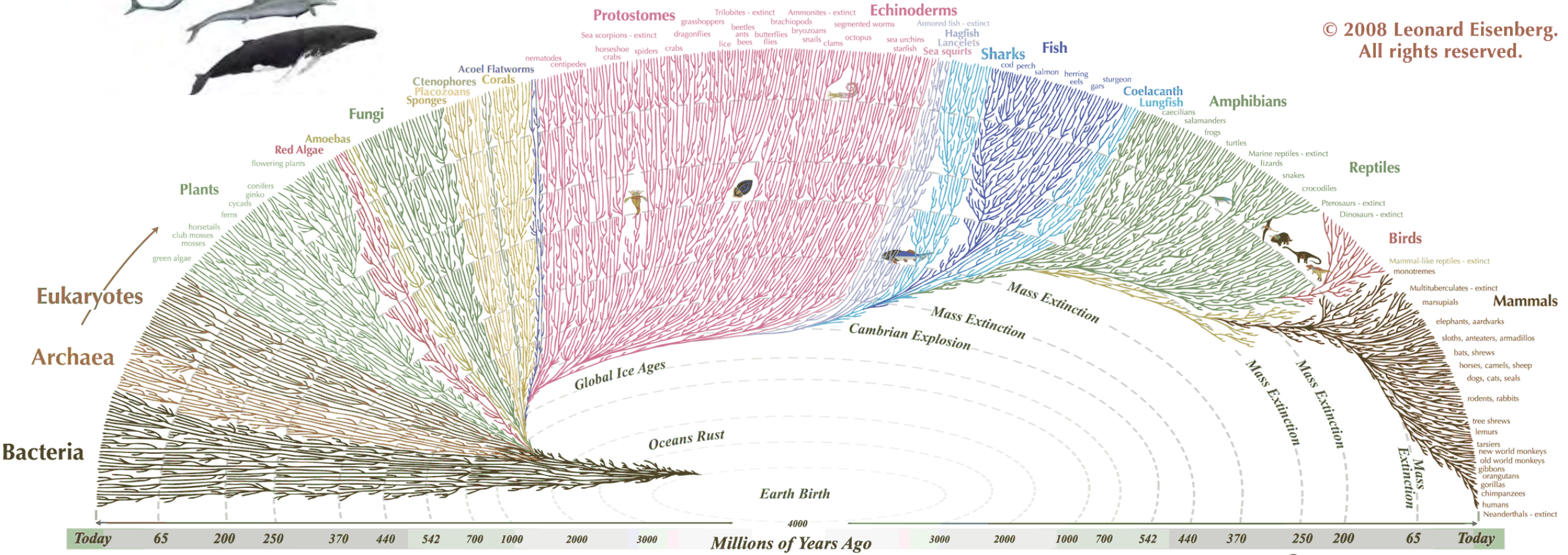
Daniel Dennett suggests that thinking tools (and intuition pumps) are

apps that we upload to our necktops.



Thinking tools are words, numbers, graphics, images, maps, stories, etc.





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All the major and many of the minor living branches of life are shown on this diagram, but only a few of those that have gone extinct are shown. Example: Dinosaurs - extinct

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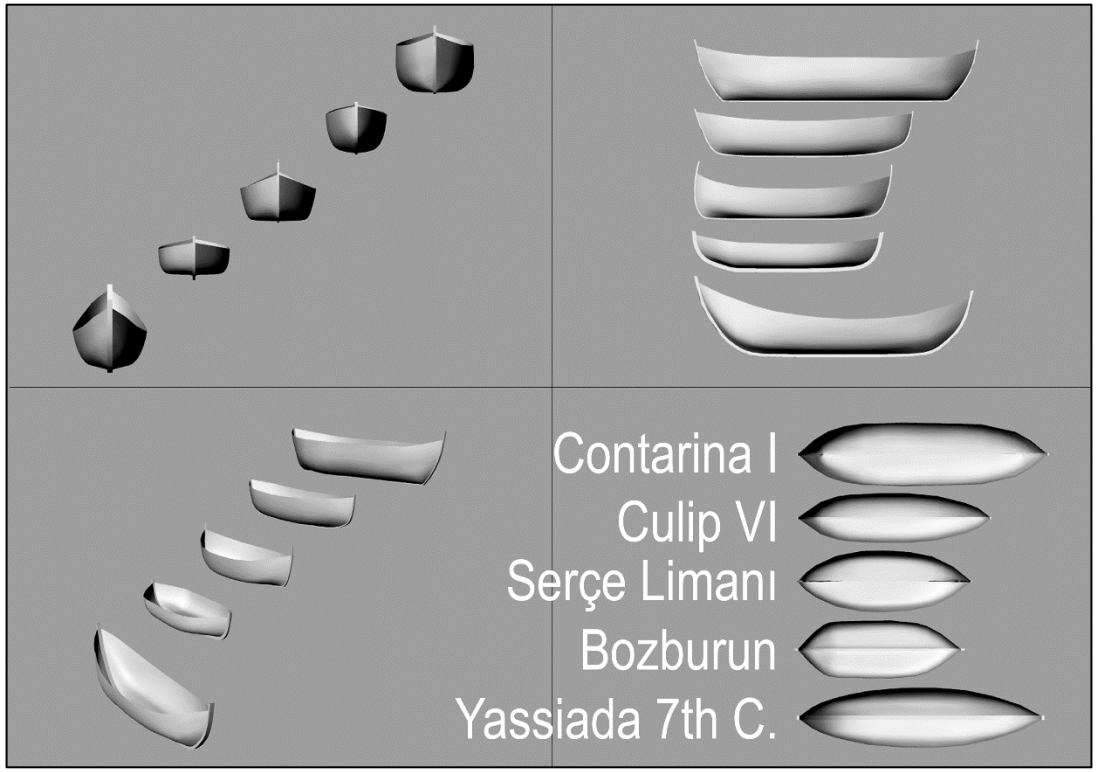
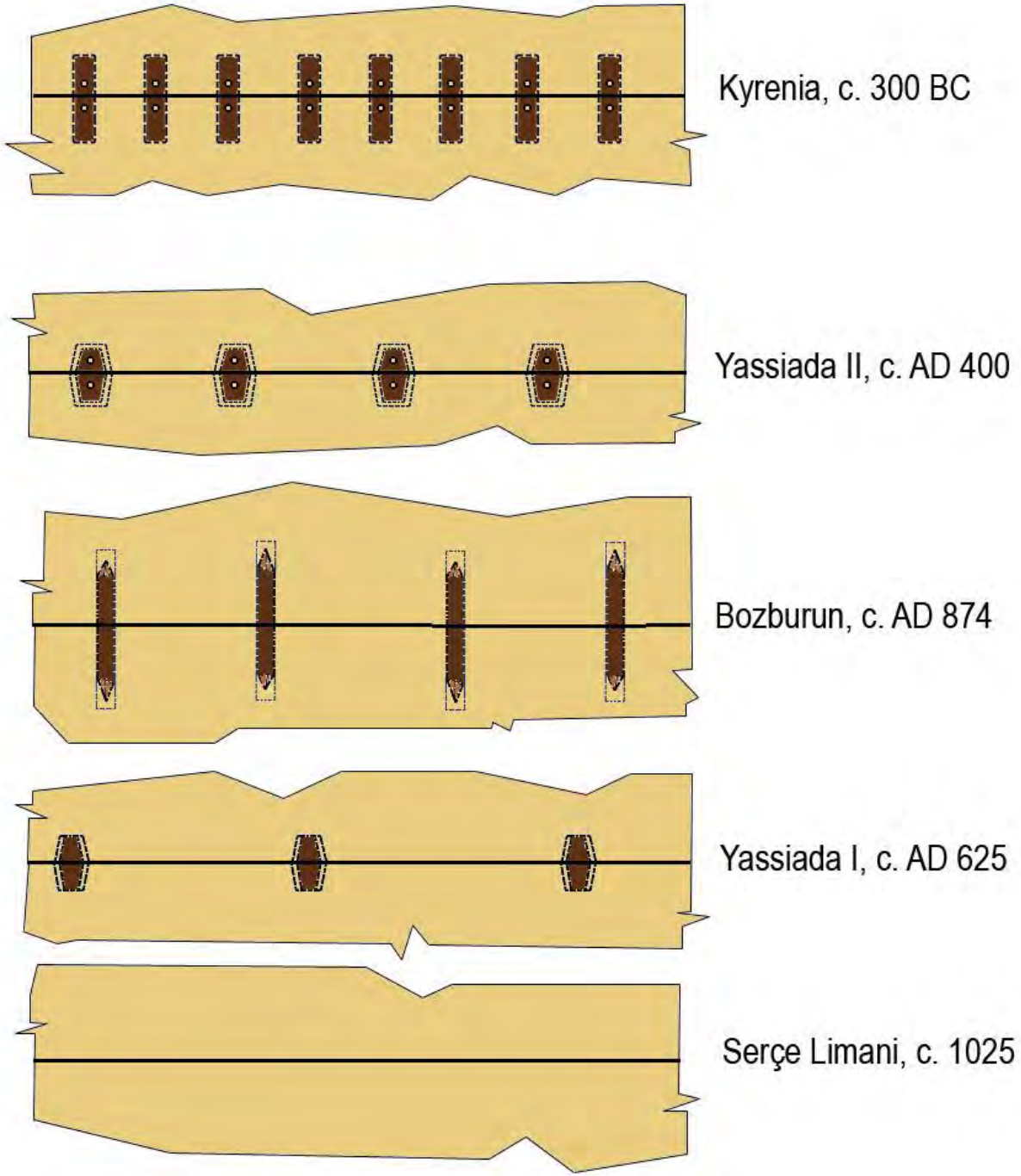
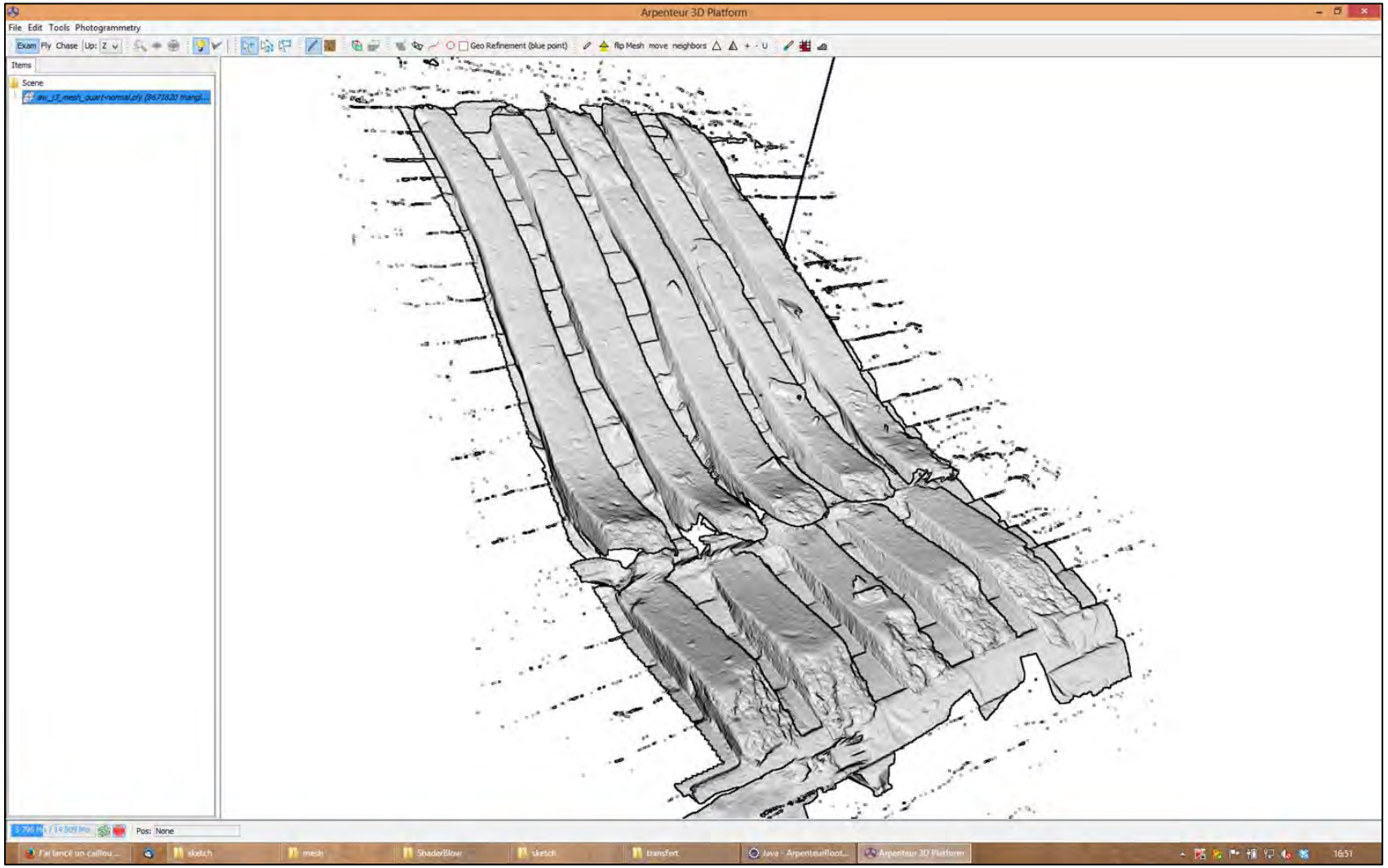


Thinking tools are words, numbers, graphics, images, maps, stories, etc.

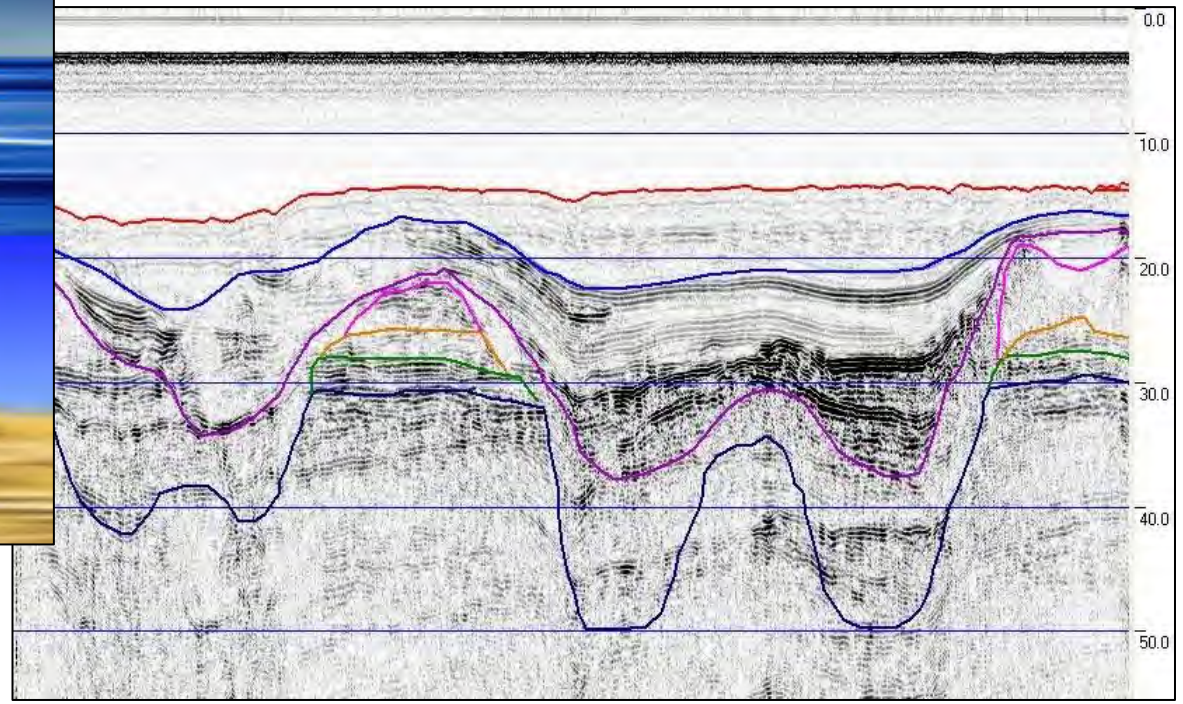


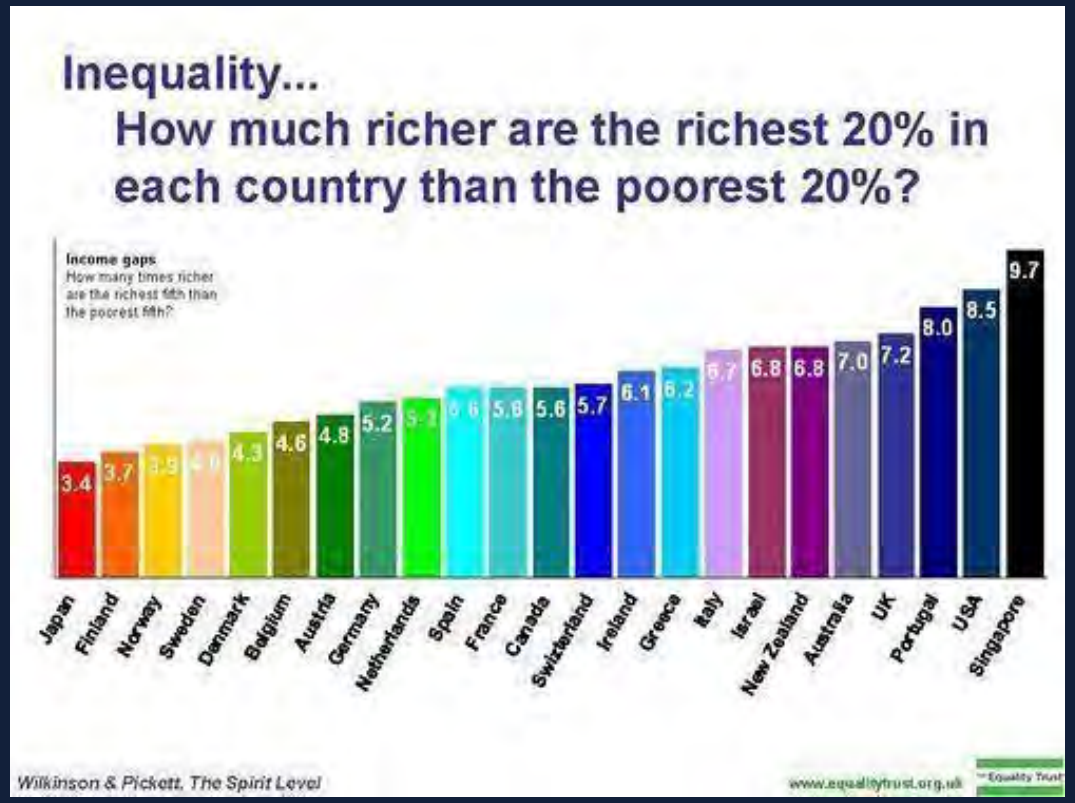
6.Tridimensional recording has evolved in the last decades, but still has space to grow (accuracy, automation, etc.)



Pierre Drap, CNRS

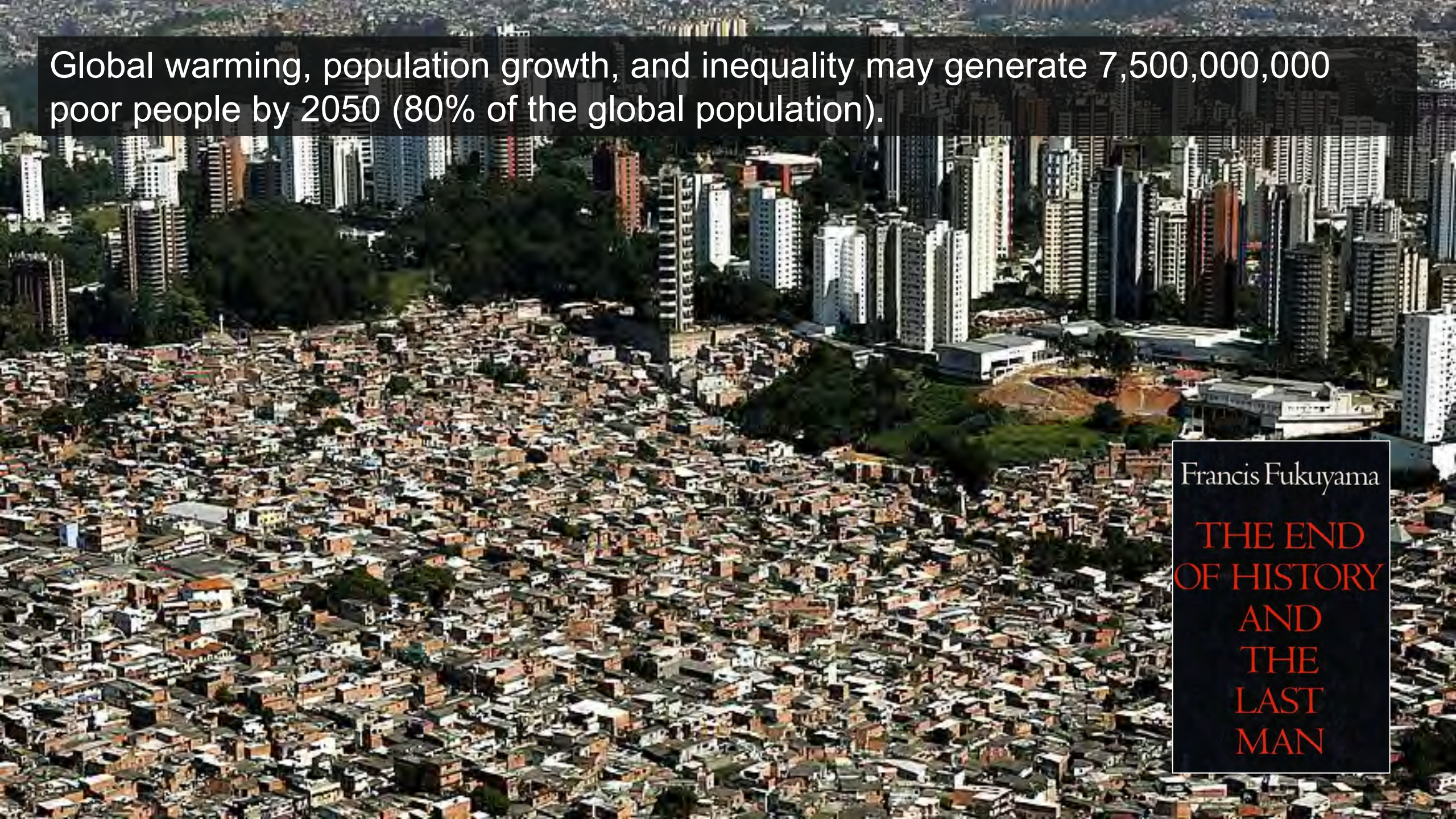
7. It is plausible to assume that sub-bottom profiling will evolve in the next decades to create the underwater equivalent to CT scanning (creating 3D images that have content, as opposed to meshes of points).





…but what is the future and social value of archaeology in a world where inequality is destroying (the western) middle classes?

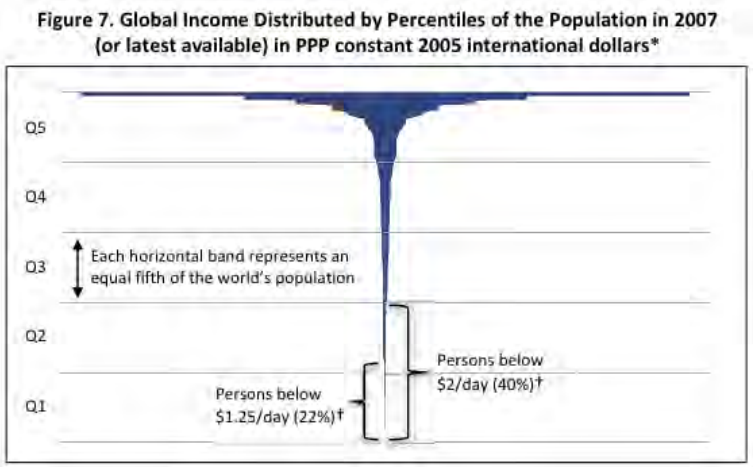
Global warming, population growth, and inequality may generate 7,500,000,000 poor people by 2050 (80% of the global population).



The 21st century still risks becoming a century of scarcity and inequality.

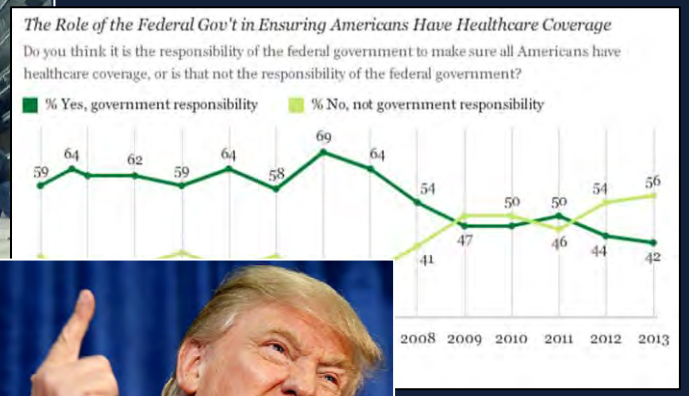
Who will decide what gets to be studied and preserved? And who is going to pay for it?

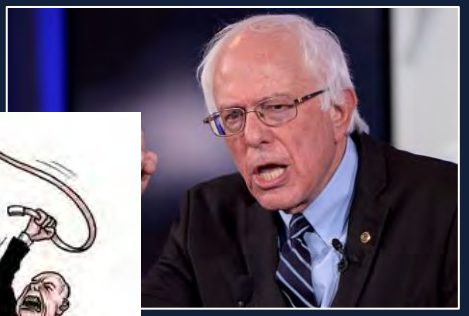
In the West there is pressure to reduce public funding for research (and cut taxes on the wealthier).



Chairman of the House 'Science, Space and Technology Committee' Lamar Smith (R-TX) was skeptical about the value of some taxpayer-supported research.

There are two competing views on the role of governments:





Between the rich and the poor, and the strong and the weak, it is the law that liberates and the freedom that oppresses.

Lacordaire

Europeans seem to believe that small government and deregulated capitalism offer less individual and social options.

William Osborne, composer, 2004, “Marketplace of Ideas: but first, the Bill,” *Arts Journal*.

Paris is famous for its large and widely advertised budget public projects (left Louvre and right Quai d’Orsay). This policy was criticized on an ideological basis, not economic: eg. Fumaroli vs. Jack Lang.

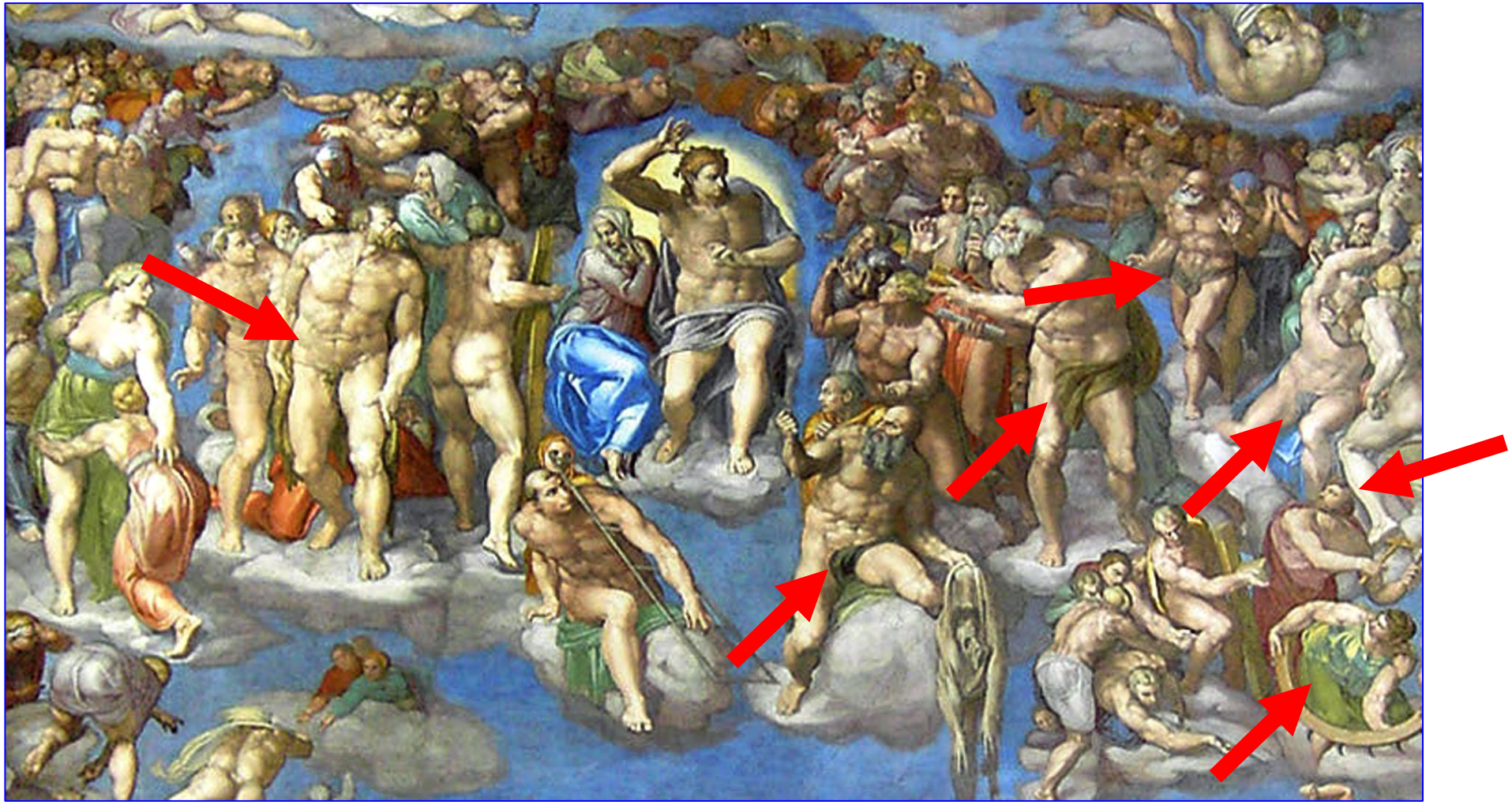
And that capitalism can be a leveling force that makes the world homogenous and destroys cultures and ways of living.

Taxes: *"Germany's public arts funding (…) allows the country to have 23 times more full-time symphony orchestras per capita than the United States, and approximately 28 times more full-time opera houses."*

William Osborne, 2004

Democracy problem: the production of one hour of opera may cost more than most people can afford.

How do we ensure that intellectuals (scientists, artists, etc.) are free to create?



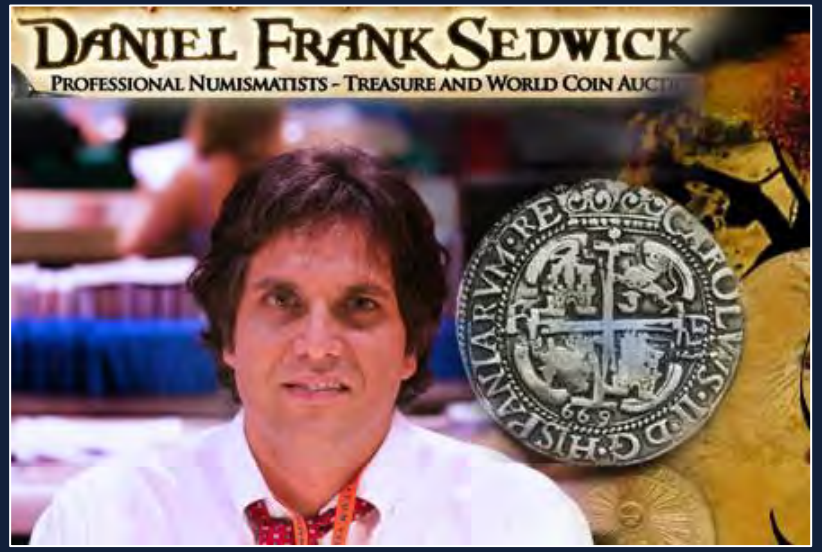
The Last Judgement, Sistine Chapel, Rome. Painted by Michelangelo **and dressed by Daniele da Volterra, il Braghettone**.

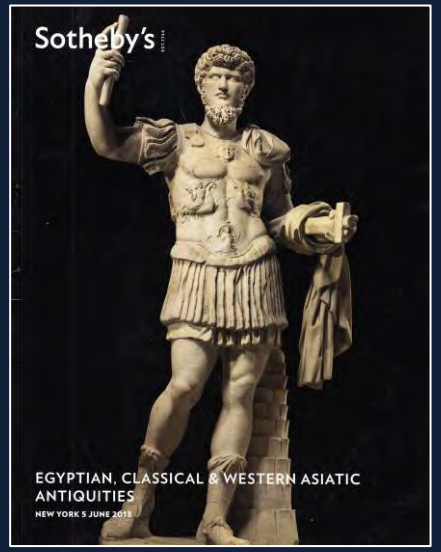
Patrons are a solution, but they will fund what interests them.

Archaeologists help construct and deconstruct collective memories. Like art, archaeology is political. Taxpayer's money, channeled through government agencies, with proposals and juries, promises more independence than patrons can provide.

LEGO would not SELL to Ai Weiwei.

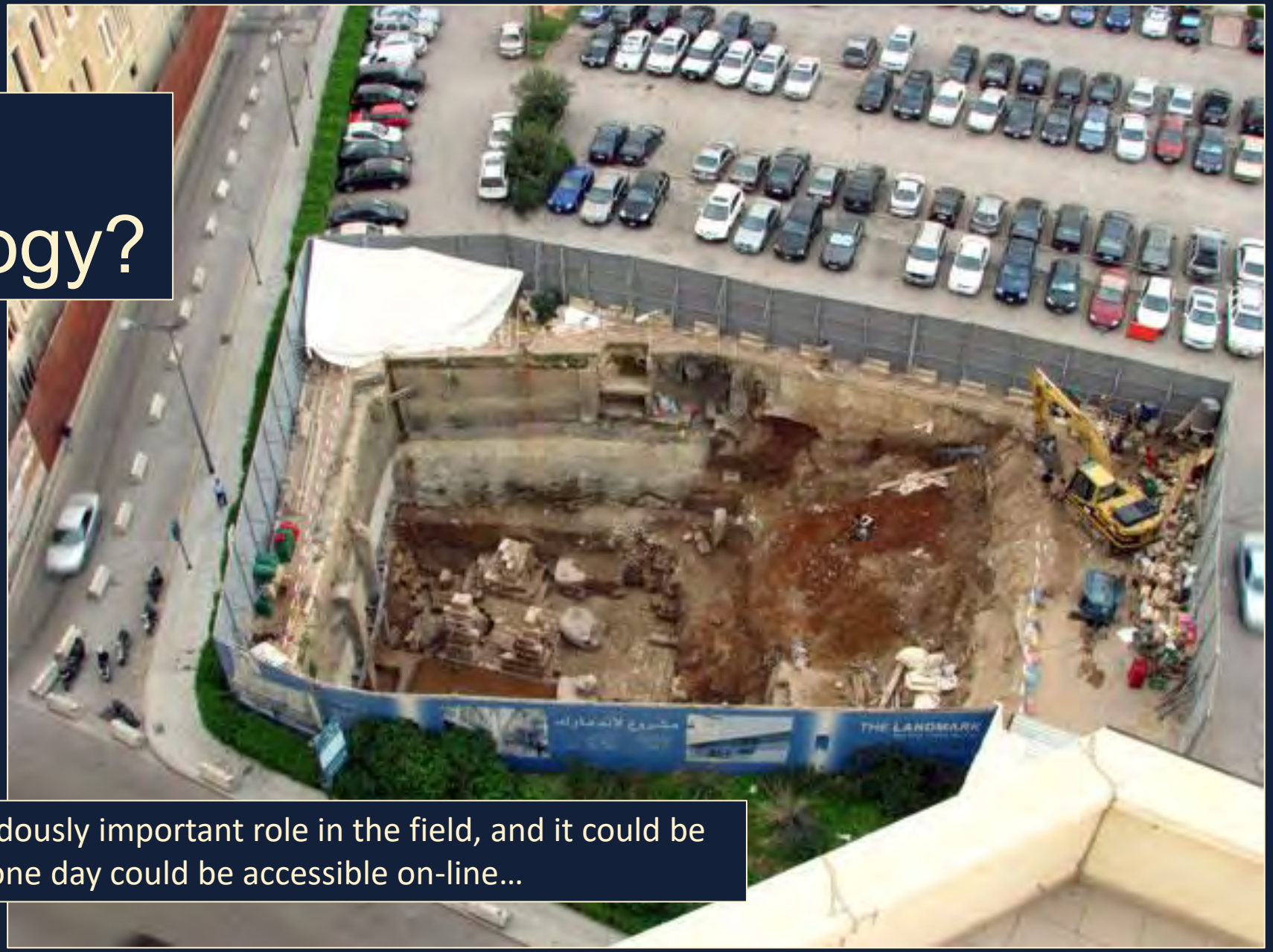
Who will decide which narratives are acceptable, or what gets to be studied and preserved? And who is going to pay for it?





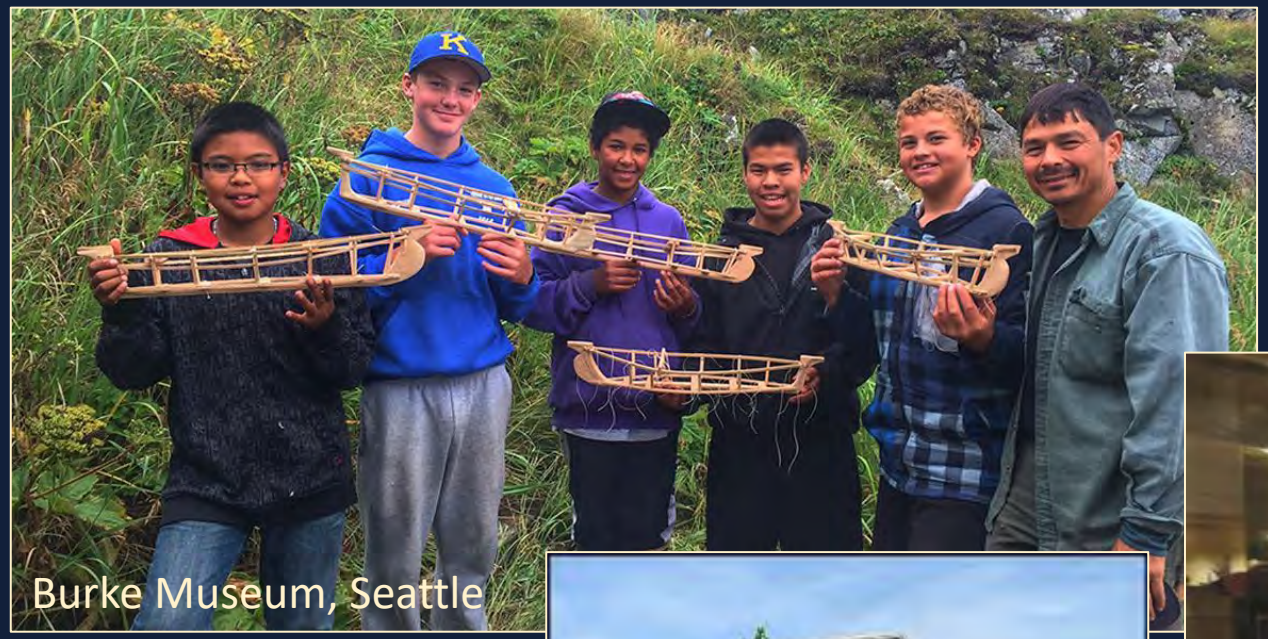
Who will determine what gets to be studied and preserved? And who is going to pay for it?

1. Contract Archaeology?



Contract archaeology has a tremendously important role in the field, and it could be improved. Imagine if their reports one day could be accessible on-line…

2. Patrons, museums, and other private organizations!



Burke Museum, Seattle

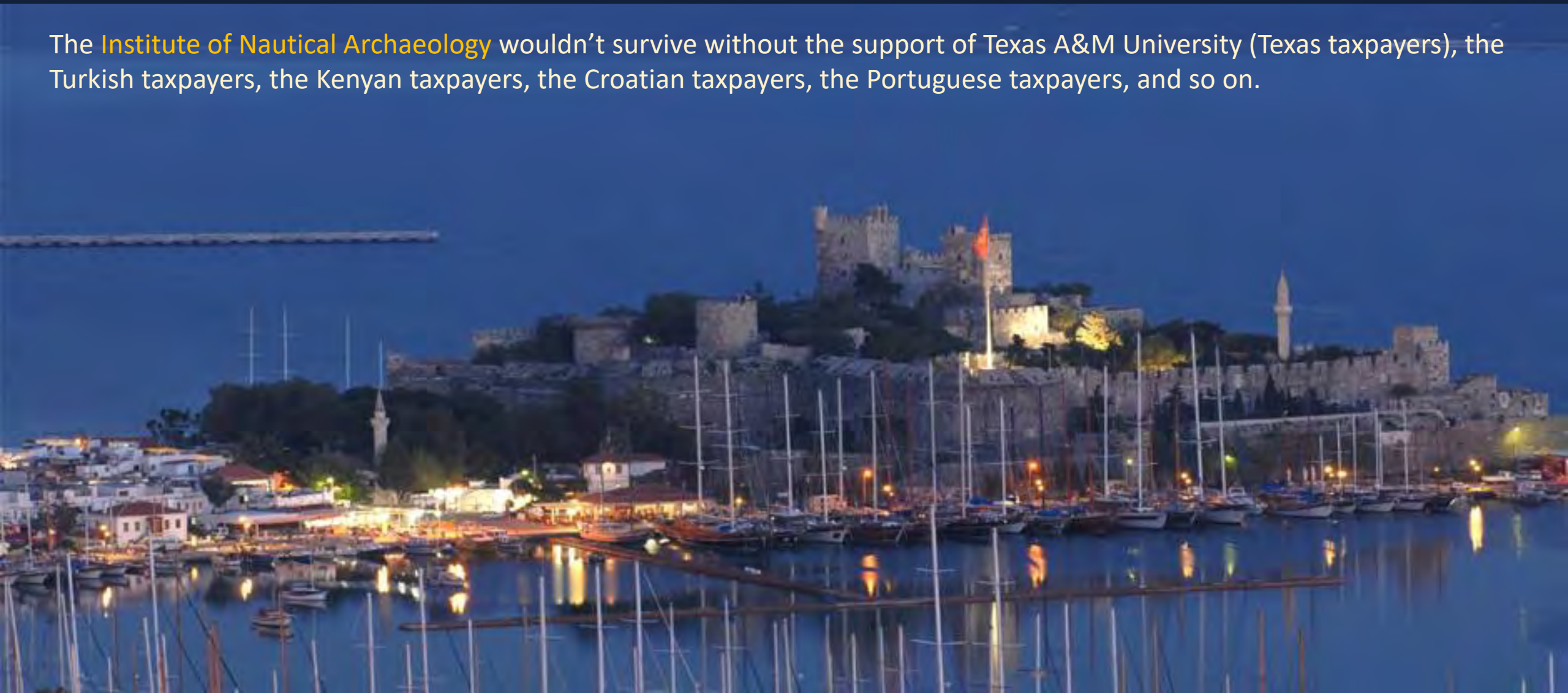
Huayun Museum, Tianjin, China

Arabia Steamboat Museum, Kansas

Erimtan Archaeology and Arts Museum

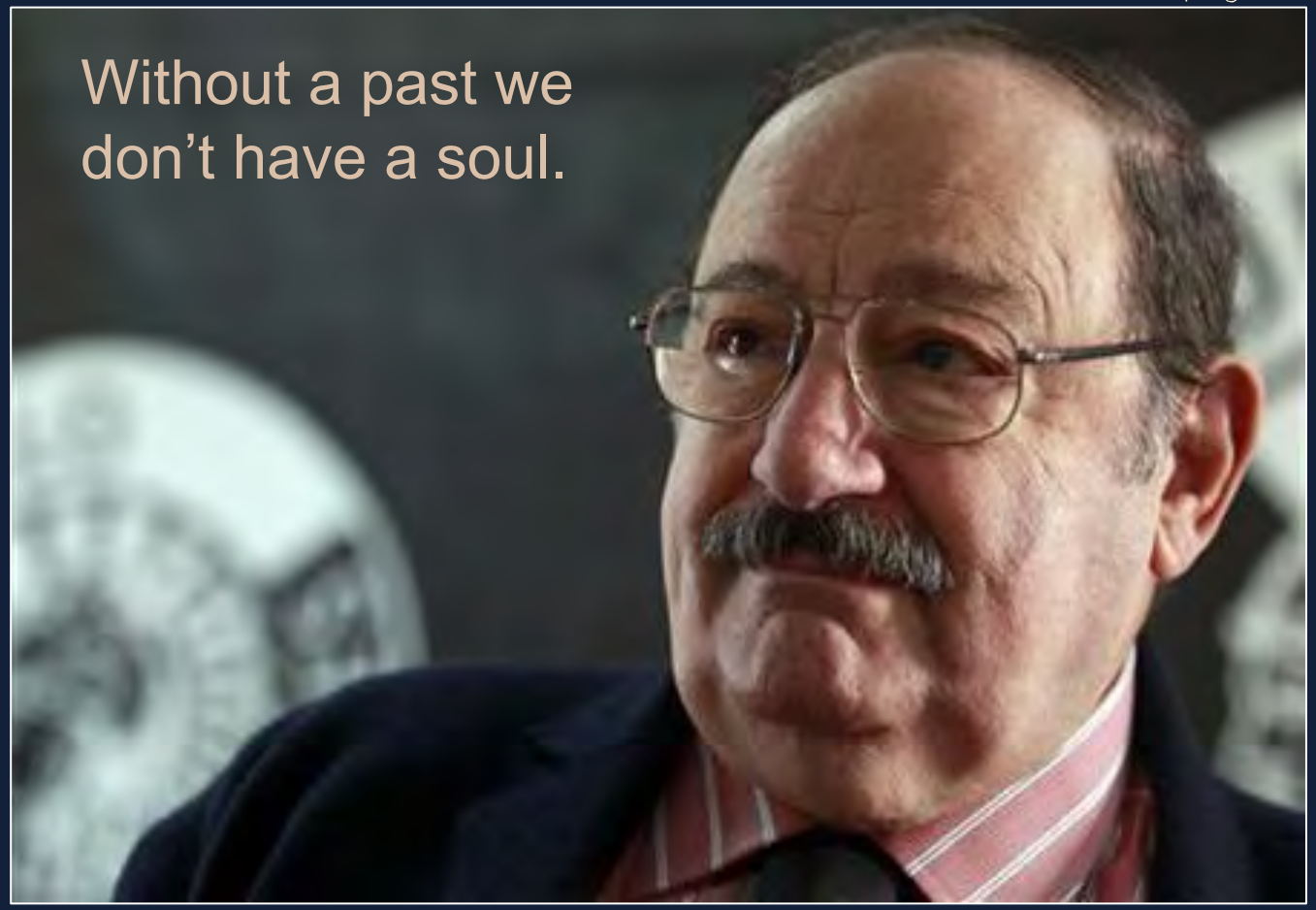
2. Joint ventures with governments.

The Institute of Nautical Archaeology wouldn't survive without the support of Texas A&M University (Texas taxpayers), the Turkish taxpayers, the Kenyan taxpayers, the Croatian taxpayers, the Portuguese taxpayers, and so on.

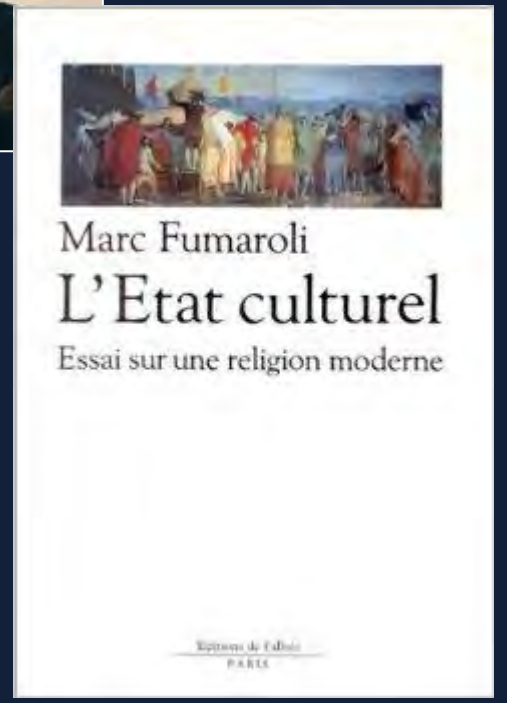


3. Taxpayers?

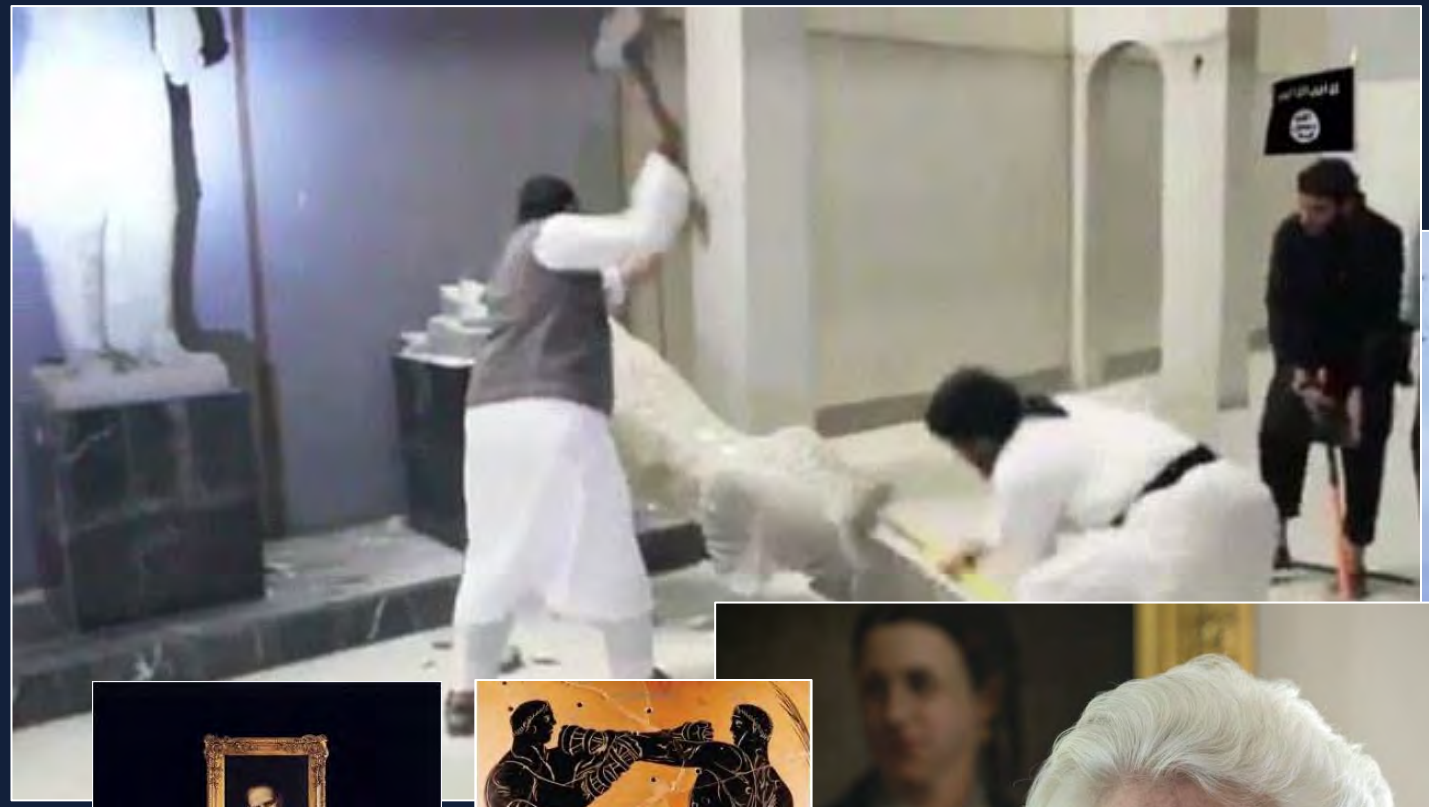
taxpayers

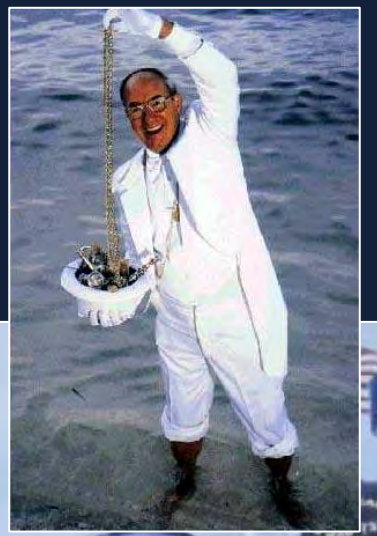


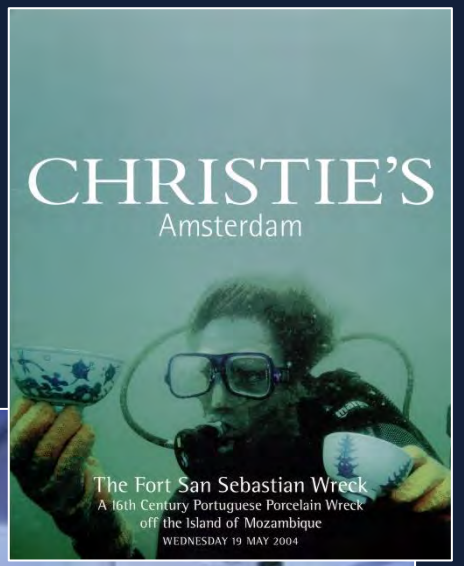
patrons and consumers

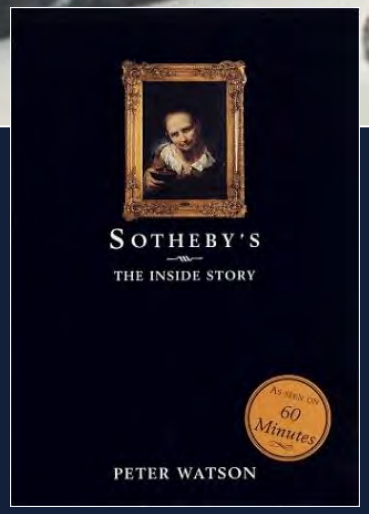


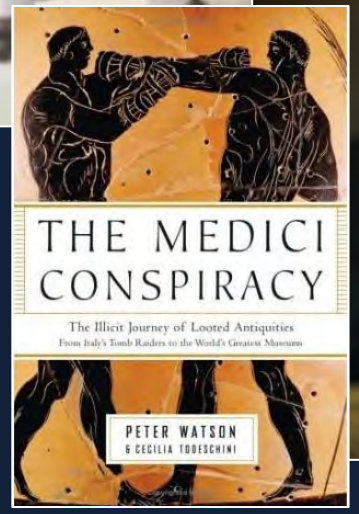
4. Treasure hunters?

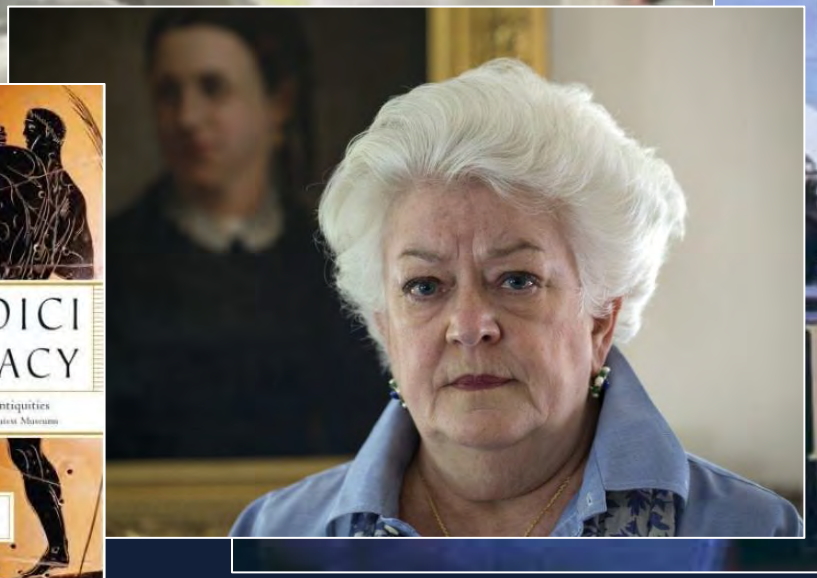


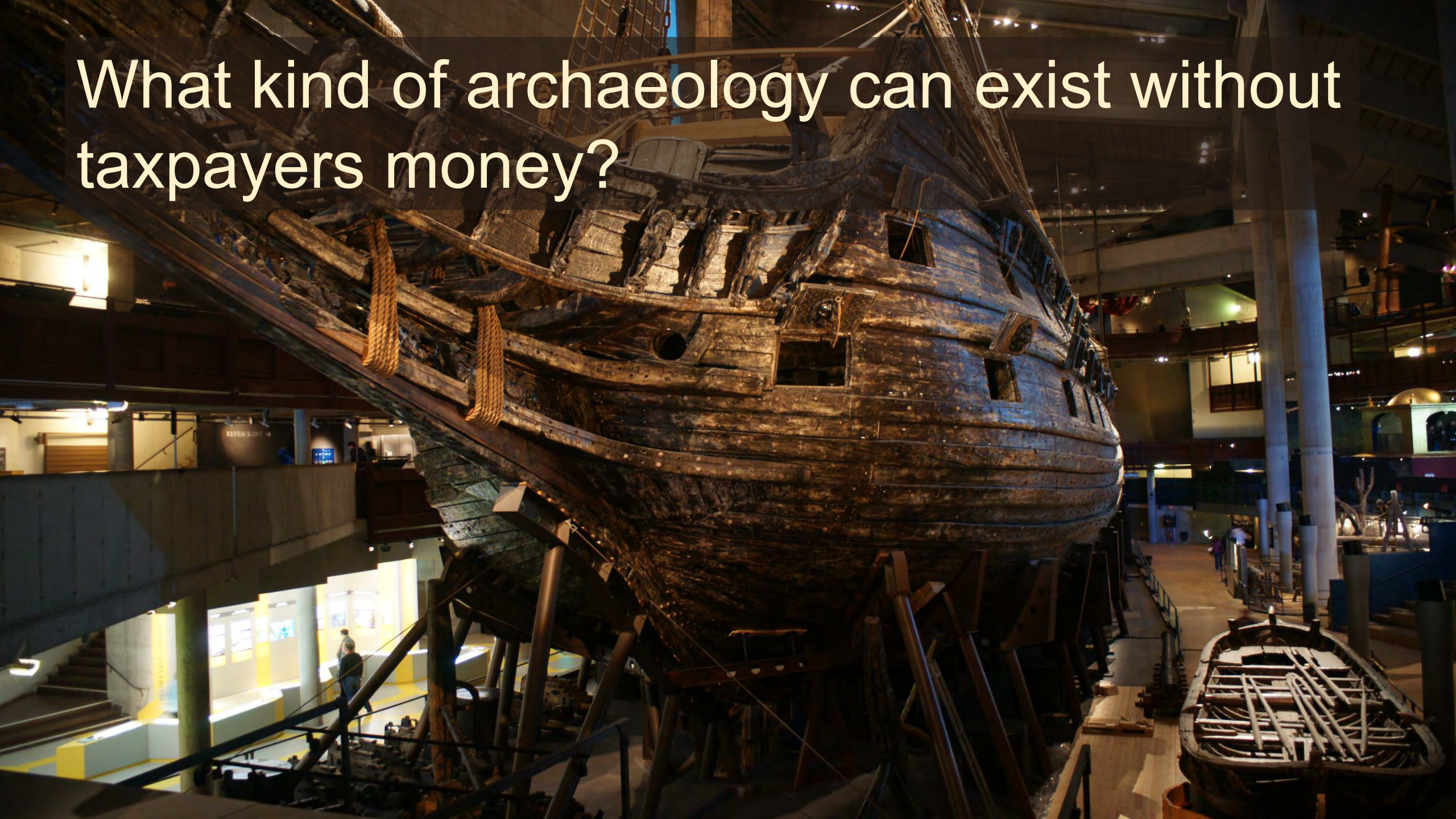











What kind of archaeology can exist without taxpayers money?

Will big projects go away?

Nanhai No.1

What is the social value of archaeology?

Trends:

1. The evolution of ideas is wasteful and feeds on chaos and randomness (brainstorming). Creativity has always been a part of the archaeological thought, but images are less secret than 20 years ago. Archaeology and art must be increasingly considered together.

maurizio cattelan: all retrospective at Guggenheim, new York, 2011

2. Archaeology is including multiple publics and multiple narratives.

2.1. Contract Archaeology

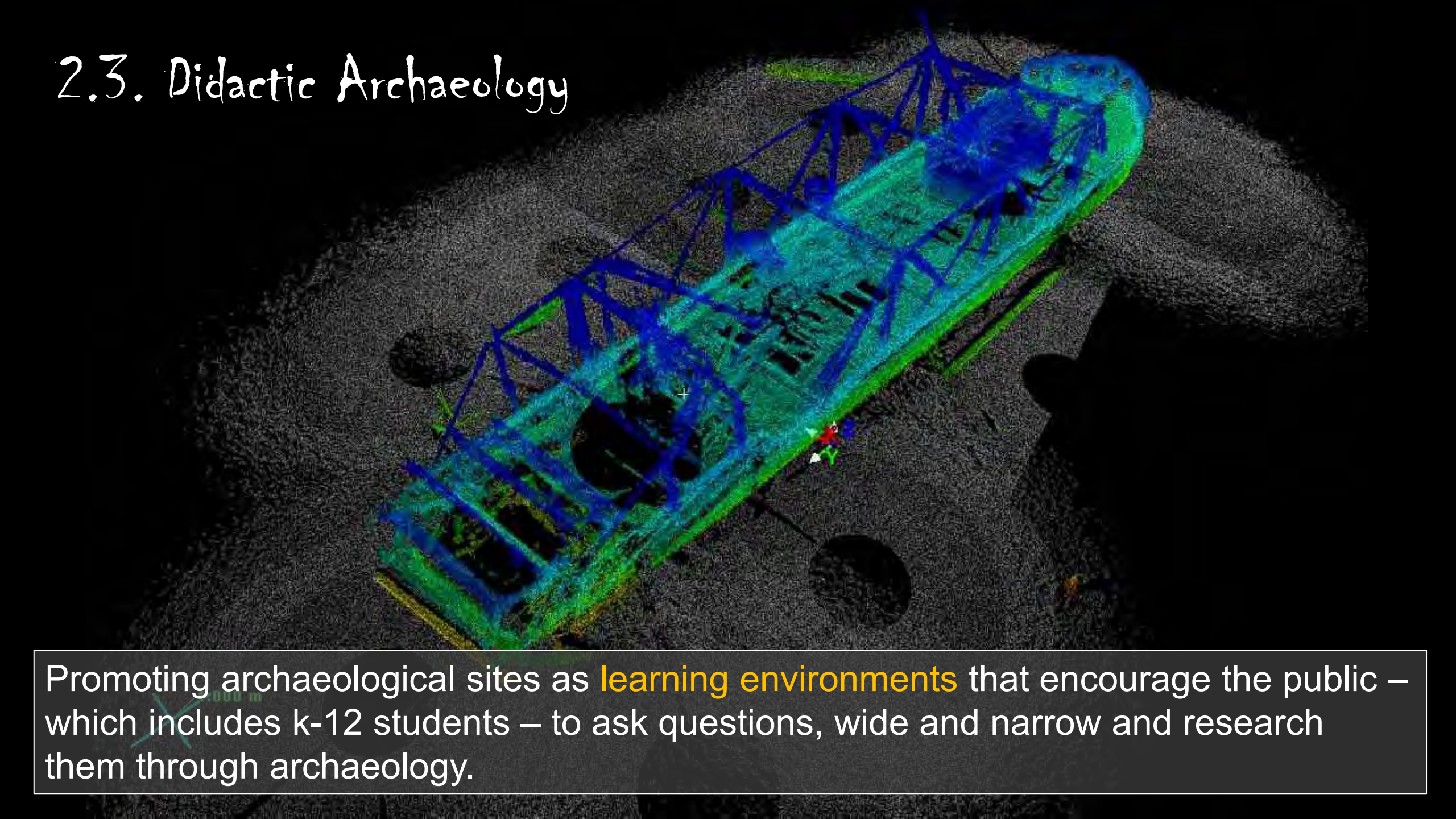
Contract archaeology firms have amazing archives, with large amounts of information that can be analyzed and data mined.

2.2. Public Archaeology

Promoting the debate “surrounding archaeological and heritage issues as they relate to the wider world of politics, ethics, government, social questions, education, management, economics and philosophy.”

Wikipedia

2.3. Didactic Archaeology



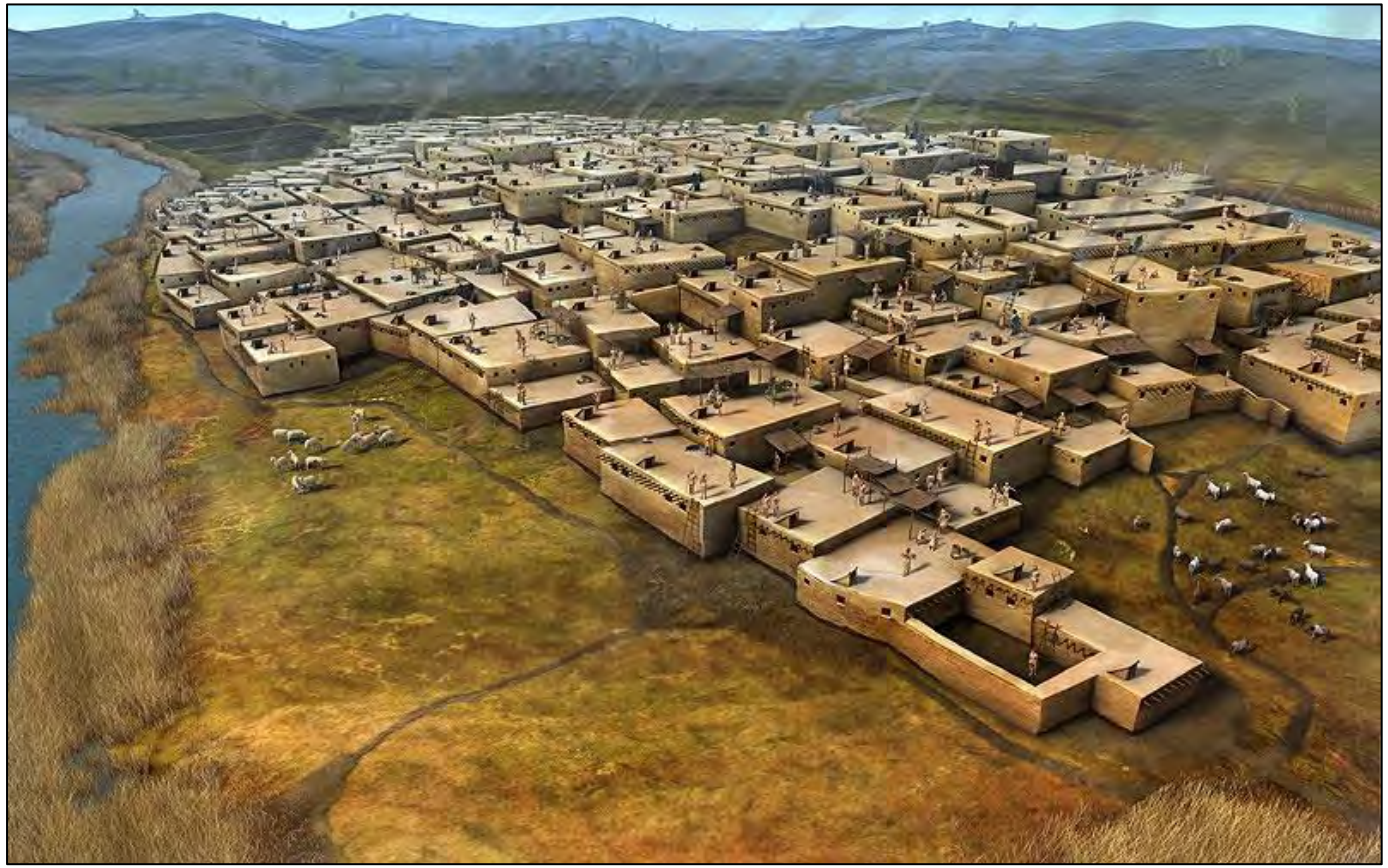
Promoting archaeological sites as learning environments that encourage the public – which includes k-12 students – to ask questions, wide and narrow and research them through archaeology.

2.4. Critical Archaeology

Provoking critical thinking and engaging the public on social issues such as power structures, class struggle, or inequality and ecology.

2.5. Community Archaeology

Engaging local, descendant, or ideologically related communities in the development of projects around archaeological sites.



Hodder's work at Çatalhöyük

3. Computer games are the best medium in the near future

Outreach: showing archaeological sites as landscapes or habitats within which we can see ourselves, simulate our behavior, and try to understand Humanity in its diversity and change through time.

Computers and social networks are the best frames to engage a large public and talk about culture and biology in dialogue with historians, geographers, philosophers, sociologists, biologists, paleontologists, climatologists, but also engineers, and technocrats, marketers, politicians and the media.

Thank you!