Some stories of each find

18th February

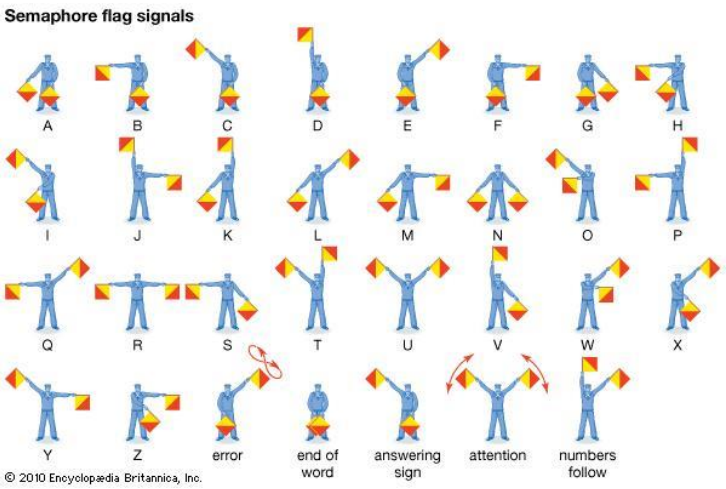
On the day the show opens, two eager treasure hunters from Grimsby visit the show at 10am, along with 300 other people! After a few minutes of attempting to solve the riddles woven within each painting, they give up but decide to try and find the gold in Scunthorpe without the clues!

Upon arriving at Kingsway Gardens, they see a flag on a mast in the park saying "Winner". They take this as a sign that the gold is nearby, but actually the flag is an environmental award given to the gardens for their good work.

Nevertheless, searching nearby they are able to find the Viking Brooch, hidden in the depths of the dry stone wall.

Meanwhile, a member of MENSA and Scout master (with a knowledge of semaphore), has solved the related painting by converting the arrows on the canvas, to spell out the message "In-the-gardens-seven-meters-from-the-flag-is-the-kingsway-xx(rest)"

He arrives just seconds after the first couple have found the gold by chance and watches them walk away in delight!



With the Vikings invading England in 9th Century, the seafaring nature of Semaphore, seemed like a great link to the Viking brooch. The flags in the semaphore and final location connected. The green painting relates nicely to the parkland.

19th February

A teacher from Beverley comes with her husband to see the show. She sees in the first painting clues which say "an Octagonal Place to Listen" searching Scunthorpe for locations that fit this description, she visits an octagonal band stand in Scunthorpe, but the gold isn't there. She gives up for the day and goes home.

Late at night she realises there may be other bandstands in North Lincolnshire and does a quick check on Google maps to see what shape the bandstand is in Brigg. And it's octagonal! She pegs it down there at midnight with her husband and finds the gold…

Described in the exhibition as the easiest painting to crack, the words in the painting spell out the phrase "Octagonal-Place-To-Listen-To-A-Golden-Sink-Plunger"

The clue was designed so hopefully someone locally may be able to find the gold.

The Roman Ram was chosen to be hidden here, to reference Brigg as an old market town.

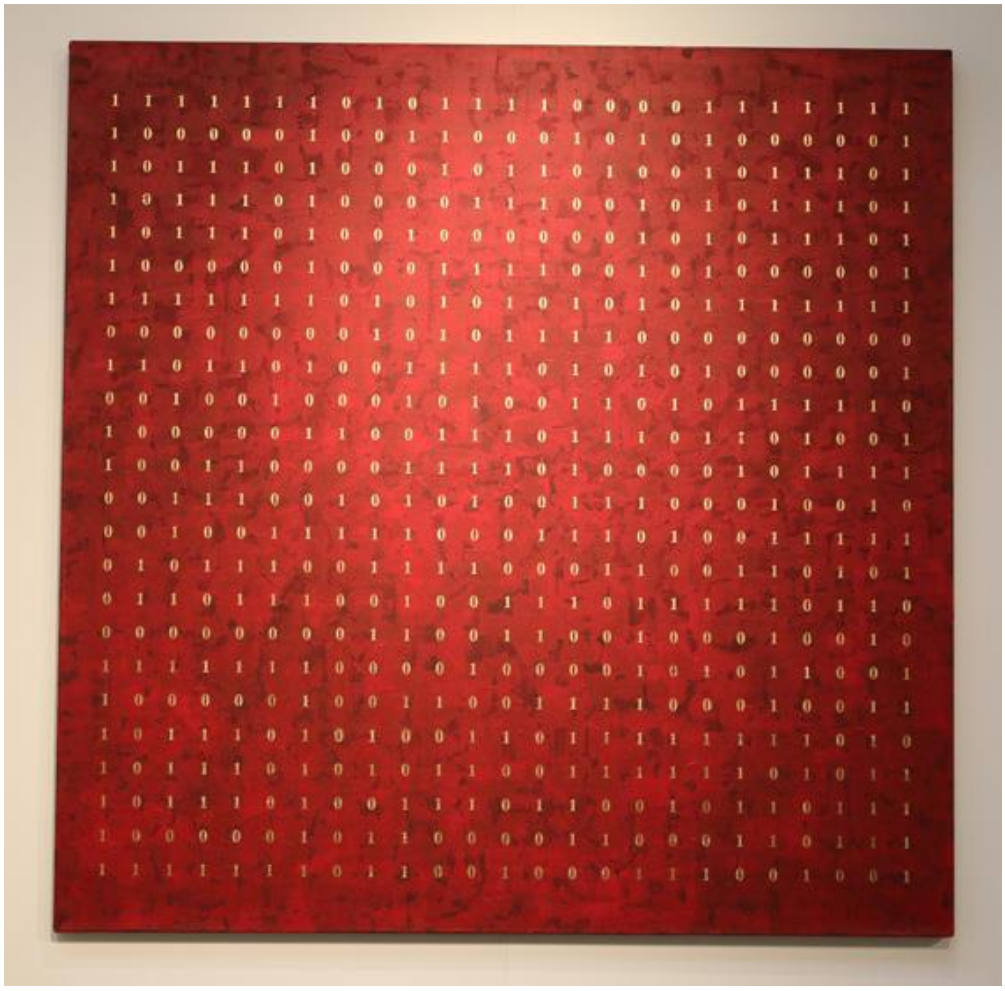
20th February

A crack team of treasure hunters from Scunthorpe, including a member of the armed forces and a nurse, read some of the clues in the first painting, which says an "Octagonal place to listen" and started to search the district for the golden artefacts.

Entering the gardens of Normanby Hall, they spot a sunken garden with an octagonal sundial nearby. Searching the nooks and crannies of the old walled garden around they find the Tudor fisherwoman.

Unfortunately, this is the golden artefact corresponding to the Red binary painting, supposedly our hardest painting to crack!

To help encourage people to crack the codes of the red painting, we are offering to donate £500 to a charity (of their choice) to anyone who can solve the artwork. This was announced exclusively on the BBC One Show.



Hundreds of people have been exploring Scunthorpe and the surrounding landscape looking everywhere for the gold, whether they've been following the clues or not!

In retrospect, maybe instead of hiding the artworks, Luke should have buried them underground? The reason we didn't bury the gold was to stop the public digging up all the parks and gardens of the city! With such enthusiasm about the project we still think this decision was wise!

21st February

Reports are in that people have been caught by security guards, trying to get into the steelworks of Scunthorpe in the mistaken belief that there's gold hidden inside!!

Please remember all the golden artefacts are hidden on publicly accessible land!!

25th February

Deciphering the blue steelworks painting, Robin and Beckie Allen from Grimsby were directed to the GOLD section on Luke Jerram's website. Here, they were presented with the following information….

$(I,8,1)$	$(II,2,2)$	$(IV,19,4)$	$(II,2,4)$	$(I,4,1)$	$(III,2,5)$	$(IV,3,4)$	$(I,3,4)$
$(III,5,4)$	$(II,8,1)$	$(II,1,2)$	$(I,6,2)$	$(IV,1,2)$	$(IV,4,4)$	$(I,9,2)$	$(I,2,2)$
$(II,13,4)$	$(III,5,9)$	$(IV,4,1)$	$(I,3,2)$	$(IV,5,9)$	$(I,2,4)$	$(I,2,3)$	$(III,14,4)$
$(I,2,5)$	$(III,3,2)$	$(I,1,1)$	$(IV,7,4)$	$(II,20,1)$	$(I,7,4)$	$(I,4,2)$	$(II,2,1)$
$(I,7,3)$	$(IV,5,7)$	$(I,11,2)$	$(IV,6,3)$	$(III,3,1)$	$(IV,4,6)$	$(I,34,10)$	$(IV,2,3)$
$(II,2,3)$	$(IV,11,4)$	$(IV,4,7)$	$(I,28,2)$	$(III,2,4)$	$(III,14,3)$	$(III,5,6)$	$(I,5,5)$
$(IV,3,3)$	$(II,6,2)$	$(II,6,3)$	$(IV,5,5)$	$(II,7,2)$	$(IV,2,1)$	$(II,4,1)$	$(I,8,2)$
$(IV,76,3)$	$(I,12,2)$	$(I,5,2)$	$(III,5,8)$	$(II,4,3)$	$(IV,3,1)$	$(III,4,2)$	$(I,5,3)$
$(I,2,1)$	$(III,12,3)$	$(III,3,3)$	$(I,18,2)$	$(IV,8,2)$	$(I,3,1)$	$(II,17,1)$	$(III,66,5)$
$(III,8,7)$	$(II,24,5)$	$(I,1,2)$	$(I,4,3)$				

After working out this information referred to Tennyson's LADY OF SHALOTT they finally got co-ordinates 53.580895, -0.657169 to help them find the golden train artefact, at the base of sapling, within a hedge in Central park, Scunthorpe.

They wrote…

We didn't get to Scunthorpe to visit the museum until Thursday, and spent most of Thursday night trying to solve the puzzle. Robin quickly solved the picture code but got a bit stuck on the key part of the substitution. Beckie filled in the rest of the cipher solution and figured out how to get to the next stage. Our daughters enjoyed trying different ideas along the way too. Robin was quick to spot what type of cipher to use for part 3 but we spent hours on red herrings and wrong turns trying to figure out where to get the last piece of information we needed. As luck would have it, we had visited King Edward VI school in Louth with our daughters right before heading to the museum, and that led Beckie's mind to the right place to solve the final piece of the puzzle. Robin wrote some software to quickly verify various possibilities and as soon as the first letter lined up correctly, we knew we were onto a winning combination.

Despite it being long past normal bedtime (well, it is half term!) we bundled the girls up in their warmest clothes and took the long drive to Scunthorpe. As geocachers, we weren't too disheartened when the prize wasn't at the coordinates, and widened our search to the surrounding area. Robin finally laid his hands on a little black bag and the girls completed our treasure hunt by doing the honours and pulling out a tiny golden train.

1st March

The ammonite; the final gold artefact in its black velvet bag, is uncovered but then discarded a few meters away from its hiding place! Did someone find it and think it was rubbish? Did a dog pick it up thinking it was a toy?

20-21Visual Arts centre staff, have to re-hide the ammonite back in its hiding place!!

9th March - White painting Decoded and Ammonite found!

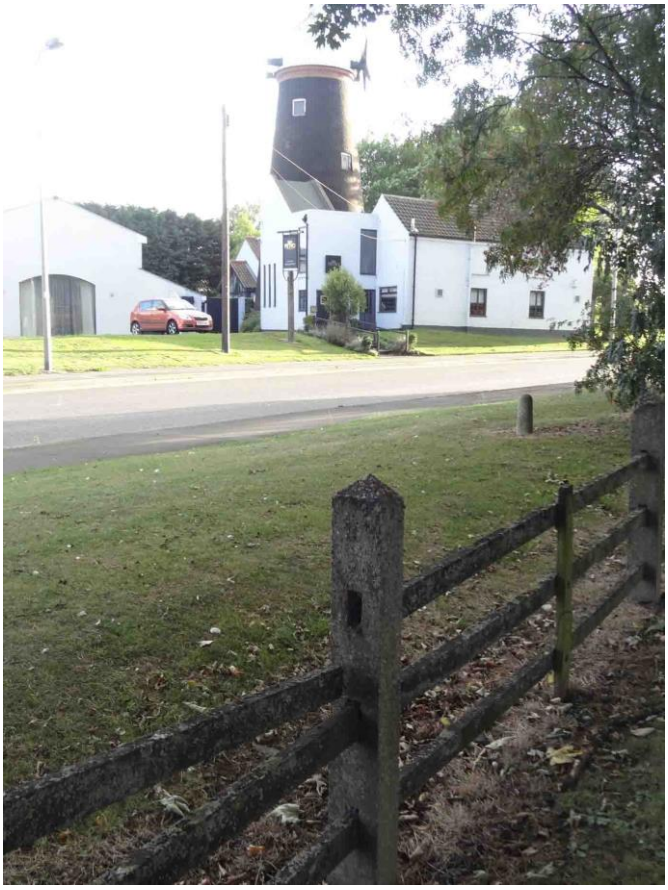
Robin and Beckie Allen from Grimsby said…

We spotted lots of 'clues' in the numbers - all of which turned out to be red herrings! The two lonely 5s, the 3s all being huddled together in the top half, the strings of numbers that made years, the back-to-front 9 telling us to read the numbers from right to left towards the 9 on the adjacent corner, or was it an upside-down 6 telling us to read from the bottom towards the 6 at the top, or maybe both? Could base-26 help us convert the numbers to letters and reveal a message? No, apparently not!

Robin went back for a closer look at the painting when it was quieter, and spotted some spots. He showed me which numbers had the tiny gold dots, and I realised the dots looked like Braille. Beth translated the dots into Braille numbers 0-6, and she noticed that if we paired up the digits, they were all either 40-something or 50-something - well done Beth! Looking at the numbers, I wondered if they were in base-6, but that didn't help. I tried lots of other theories, including converting them from hexadecimal into letters with ASCII, but no luck there either.

A couple of days later, we were still stuck, so Robin went back to check he'd found all the dots... and he hadn't. He had to borrow a chair to get a close enough look at the top right corner! He brought me the right dots; I changed my list of Braille numbers and thought I'd re-tried all my theories with the right numbers. I'd also noticed that the total of the Braille numbers was 4 x 143 (ie four times the number of painted digits.) We were convinced we had to use the Braille numbers to count round the painted digits four times, collecting the digits we landed on, but we got stuck at that point and stared at it for several days.

I went back to basics and looked at the Braille numbers again. I decided to double check with ASCII code, even though I knew it just led to gobbledygook last time I tried. Converting from hexadecimal to letters, I got S... Q... U... A... R... E... (This was suddenly looking promising!) P... C... A... C... E... S... Square pcaces? Um, something's not right there... I checked again, and 43 was definitely a C. Then I remembered that Braille numbers 1-9 look the same as letters A-I, so 43 could have been a 4C, and hexadecimal 4C represents an L. SQUARE PLACES! Again, Beth came in handy with a list of square numbers. Counting round the painting digits, we collected the 1st, 4th, 9th, 16th, 25th, 36th, 49th, 64th, 81st, 100th and 121st digits and got a long number starting with 07717... It sounded a lot like a phone number, so we called it, and got a voicemail telling us, *"Sorry, but I can't answer the phone right now. I'm fenced in opposite St Peter's Windmill."* Google revealed zero windmills in North Lincs called St Peter's. Robin wondered if it was linked to St. Peter's church, near his parents' house in Bottesford. And then I remembered a restaurant in Scunthorpe with a windmill, named San Pietro (much too expensive to ever visit, but it looks very nice.) We knew where the gold was!!!



... but Robin was stuck in a long meeting, and the girls were at dance clubs, then they needed their tea. It was a very long couple of hours waiting to go treasure hunting again, and another long journey down the motorway, then another late night of searching by torchlight. I spotted something that looked a lot like discarded litter at the base of a fence across the road from San Pietro. Again, the girls did the honours and opened up the velvet bag to reveal the final piece of treasure!

The artist Luke said, "I created these small dot clues, in some of the paintings, to ensure that to work out where the golden artefacts were hidden, the public had to actually go and see the exhibition, rather than just study a photograph of a painting online.

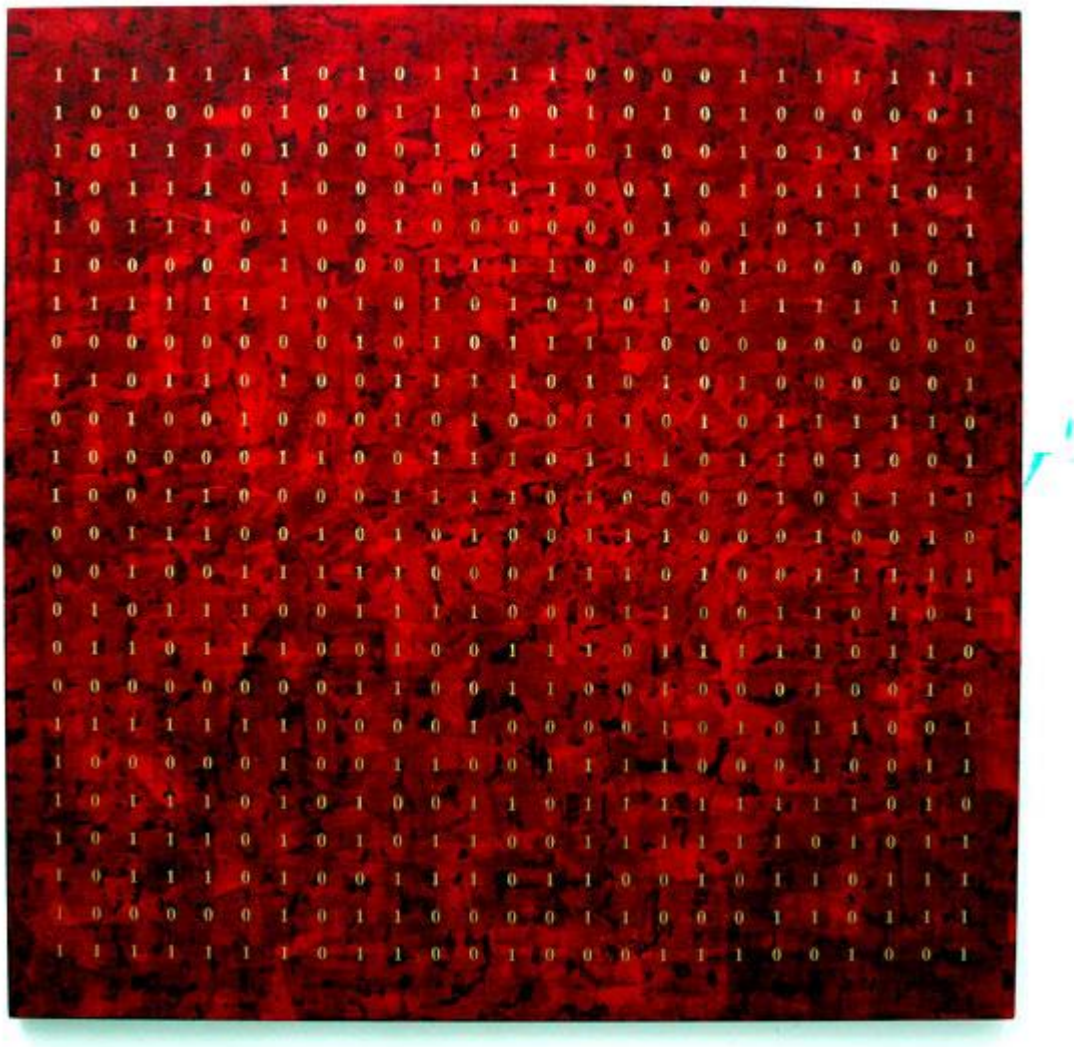
Viking Brooch up for auction

http://www.lincolnshirelive.co.uk/viking-brooch-set-to-fetch-1-500-at-auction-but-all-is-not-as-it-seems/story-30188676-detail/story.html

25th April 2017

More than a year after the exhibition ended and the artist was approached by Andy Carr, an Actuary from Bristol, who had spent weeks successfully decoding the painting. He said "*I immediately recognised the concentric square patterns in the corners of the red painting and thought "that's easy – it's a QR code…" A year later, the gold was gone but I still couldn't relax until the puzzle was solved! I'm delighted to finally figure out the last part."*

The artist Luke Jerram said " *I'm delighted the final painting has finally been cracked. It's been great creating an artwork that animated Scunthorpe and excited the public across the country. It's a wonderful finale to a fun arts and complex project. "*



Converting the binary in the painting into a QR code. After fixing the missing row, the QR code takes you to the webpage lukejerram.com/phi

The puzzle on the webpage is set of layered classical ciphers. Each layer reveals a line from a Stephen Fretwell song which hints at the key to the next:

1. cipher – One time pad but the trick is to rotate the symbols, key – digits of phi
2. cipher - Pig pen substitution, key – standard alphabet, plaintext – glancepastaskylineoffactories…
3. cipher – monoalphabetic substitution, key – THEGROUNDBENEATHYOURFEET, plaintext – abeautifultreeitsashamethattherootofitsme…
4. cipher – Vigenere, key - RUN, plaintext – soifyoushouldfallpleasedontcall…
5. cipher – incomplete columnar transposition, key – EMILY, plaintext – wherethewindbeatsheavyonthesand…
6. cipher – Quagmire IV, keys – DOYOUWANTTOCOMEWITH, STEPHEN, FRETWELL, plaintext – Thegardenofsheffieldiswhereyoumustgoyoullfindmeclosetorelaxationbythepond

The gold was hidden in the wall, behind a bench in the garden of Normanby Hall.

As the gold had already been found, Dan was given a reward of £500 to donate to a charity of his choice.