

ARMCHAIR TREASURE HUNT 2017

APOPHENIACS ANONYMOUS

Mark Abbott

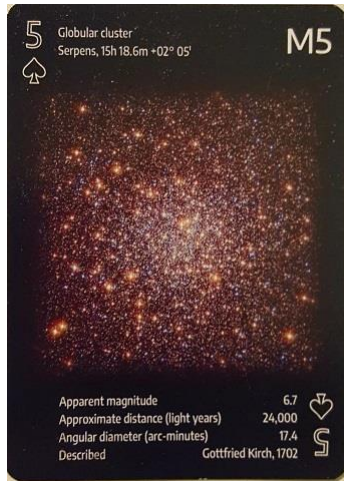
[Although working for CGI, I am not a SSC Member and so ineligible for a Prize]

Table of Contents

CAPTAIN'S LOG	4
OVERVIEW	5
TEASER POSTER	6
Images	6
Code	6
HEXAGON TRAIL	8
Decode	8
Process	8
Answers.....	8
Usage.....	12
MUSIC CIPHER	13
Decipher.....	13
Process	13
PAGE 1 CIPHER.....	14
PAGE 7 CIPHER.....	15
PAGE 9 CIPHER.....	16
PAGE 10 CIPHER.....	16
Usage.....	17
BLUE CARD TRAIL.....	18
Card Description.....	18

Usage.....	20
8x8 Word Square Cipher	21
Decipher	21
Process	21
Usage.....	22
Bird Trail Cipher	23
Decipher	23
Process	23
Usage.....	25
FRENCH HERALDRY.....	26
Process	26
Decode	26
Usage.....	27
PICTURE POSTCARDS.....	28
Overview	28
Process	28
ORDER CARDS BY MOVEMENT.....	28
Deciphering Senders and Recipients.....	30
Deciphering Stamps.....	31
ADD SENDER TO STAMP	32
Recipient Code.....	33
APPLY RECIPIENTS TO SENDERS RETRANSLATE.....	34
Possible Apophenia	35
DOMINO CIPHER.....	36
Decipher	36
Process	36
Usage.....	37
HEXAGON HONEYCOMB.....	38
Introduction	38

Identification	38
Completing the Jigsaw	39
Decoding the Hexagon Honeycomb.....	39
MAP OF SKY	42
Introduction	42
Decode	42
FIND AN ESSEX PLACE	45
BLUE CARD CIPHER.....	46
Decipher.....	46
Process	46
Usage.....	47
COMET CIPHER PART I.....	48
Decipher.....	48
Process	48
Usage.....	49
COMET CIPHER PART II (apophenia by 1744).....	50
Decipher.....	50
Process	50
Usage.....	51
GREY LINES	52
Introduction	52
Decode	52
ATH SCOREBOARD 2017	53
Introduction	53



CAPTAIN'S LOG

ATH Date: 13 January 2018 17:30

Ironically this year's Treasure Hunt proved far less messy than many previous attempts, in which increasingly desperate late night attempts at decoding or answering cryptic questions have often needed to be sustained by a fifth pint of Barolo or "just one more" carafe of Duvel. Not so this year. Steady progress through an elegantly crafted Hunt left time to enjoy a quiet tumbler of apple-flavoured Jim Beam at the end of a hard night's solving.

Appropriately enough then that we should retrieve **Treasure Object M5** from the cleft in a fallen tree at Coneyfield Wood, Messing, at approximately 11:30am on the morning of New's Year Eve, leaving ample time to get a table for a splendidly palatable roast lunch at the nearby Old Crown, not to mention plenty of time for New Year celebrations later in the evening. At this stage, we had done a lot of the donkey work to identify hexagons, blazons, postcard senders and recipients as well

as the sequence of towns along the River Mess. We had finally located the mocked up coat of arms boasting three boxing gloves as that of Messing, most notably displayed under a sign outside All Saints Church. We had also via the miracle of Google Streetmap eliminated many of the public footpath signs around Messing, leaving the one north of Coneyfield Wood as a prime candidate. Our sequence of wintry blue card photos did the rest, and we alighted on our fallen tree. Bereft of our cleft pointer, we briefly searched in vain. But finding a sort of split half way along the fallen tree, a beautiful chorus suddenly emerged from the numbered bird boxes in the trees above us that sounded not a little dissimilar to the fifth piece of Messiaen's *Catalogue d'Oiseaux*, and we felt sure that we had hit exactly the right note!

Subsequently, and at a little more leisurely pace, we found our route around Syria with the aid of a Xylophone that would have given us directions from the church into School Lane and the first pictured wreath. Our Sky Map then revealed how we could use the 12 Messier Objects that we had previously decoded (but not then found a use for) to specify it was the cleft of the tree we had to look in.

Whilst we had solved enough to locate the treasure without too much guesswork, we did muse over our *rosbif* in the Old Crown whether we might with a little fortune have spied a lower Treasure Messier Object card had we been bolder. Very early on the British Gazetteer of place-names confirmed only two places in the British Isles beginning MESS, and identifying Inworth and the Essex Fire & Rescue HQ seemed to confirm Messing in Essex as more likely than the dreary looking Messingham in North Lincolnshire. With the same Google Streetmap scrutiny of footpath signs, and our blue card landmarks, we hypothesised that we would have been able to locate the fallen tree as a likely hiding place. Whether we would have found the box very securely hidden in the tree cleft without the confirmer that we had (IN FALLEN TREE), we shall never know.

What we do know is that we continued to be impressed right up until the end by an extremely neat and tidy Hunt design. To hide so many different messages via the same 65 hexagons was a wonder to behold, and the use of pictures and postcards instead of questions made for a refreshing change. Every time we got stuck and swore that we couldn't solve something with the information to hand, we teased out another decode that provided what we needed. All in all, a thoroughly satisfying month's worth of solving, which looked even better through the telescoped prism of apple-flavoured Jim Beam.

Salut!

Mark Abbott (on behalf of *Apopheniacs Anonymous*)

Email: mark.abbott@cgi.com

Mobile: 07710 328553

OVERVIEW

We look first at the Pre-Hunt **TEASER POSTER** and detail the hints and clues it gave to the forthcoming hunt.

Subsequent sections are ordered roughly as we suspect a “perfect decode” of ATH2017 would have progressed – hints and clues come before decodes that lead a team to the actual treasure site.

We start with the **HEXAGON TRAIL**, this gave us a decode that was meaningful but at the same time phrased in such a way that led us to believe that there was something more there. The meaningful decode allowed us to understand that the letter that we had applied to each Hexagon was correct.

We move on to the **MUSIC CIPHER** – there were 4 musical score on different pages, which we decoded. They gave us a hint towards **MESSIAEN** being a theme and a possible use of the decoded results but that may be Apophenia. We also noted a relationship between the decode and the themes of the ATH.

The **BLUE CARD TRAIL** gave us visual clues of the trail between a start point and an end point containing the treasure. At this stage we do not know where to start (subsequently identified via the **HEXAGON HONEYCOMB** map of Syria) and two important clues pinpointing the actual location still need to be filled in via decodes providing **IN FALLEN TREE** and **IN A TREE CLEFT**.

The **8x8 LETTER GRID** when decoded in association with the **MINESWEEPER** game gave us a set of instructions as to how to go about the decode of the set of Picture Postcards.

The **FRENCH HERALDRY** decode gave us hints as to how to deduce who the sender of the postcard was and from there hints as to who the recipient might be. We also managed to deduce the town of **MESSING** but this was extremely difficult to find such that we suspect it is a back-door solve and maybe meant to be done as confirmation only after the long-haul way has been completed.

The **BIRD TRAIL CIPHER** gave us more clues and instructions as to how to work meaning out of the Picture Postcards.

With those clues you are able to solve the **PICTURE POSTCARDS** yielding another clue for the **TREASURE** trail (that fits into the penultimate Blue Card) and also a clue as to how to decode the completed Hexagon Honeycomb.

The **DOMINO CIPHER** gives a further clue as to how to construct the Hexagon Honeycomb which when matched to a truly weird Syrian news story allows initial construction to start with the first two pieces: **Messi** and his Goal.

The clues allow one to construct the **HEXAGON HONEYCOMB** (actually a map of Syria) from the individual Hexagons. Using clues from the Match of the Day image inside the Honeycomb, from the synaesthesia of **Messiaen**, from the decode of the Picture Postcards and from the Xylophone thematically linked by a grey line one can musically step through the Honeycomb to form a message indicating that Pages must be mapped to the sky.

Using the clue from the Hexagon Honeycomb a team can construct a **SKY MAP** mapping hexagons to Messier Objects thus creating a map between a number from the Messier object to a letter from the Hexagon. Following the Hexagon Honeycomb clue one then order these to get the Treasure Directions, which fit neatly into the “last mile” directions from the Blue Card Trail. Finally, we can use a clue given in this decode to return to the Hexagon Honeycomb decode to extract the name of the village where the treasure is buried.

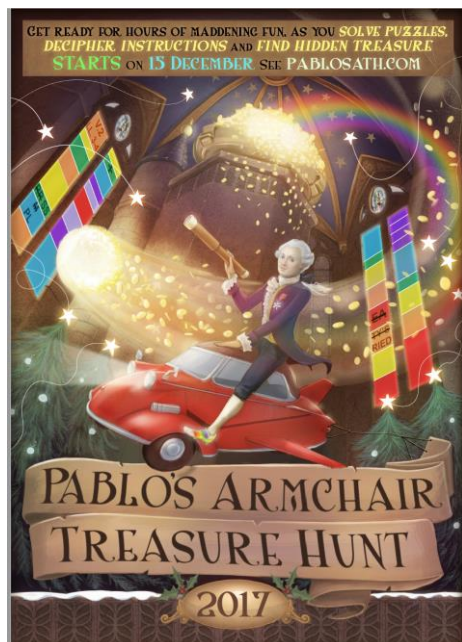
The last card in the Blue Card Trail is the **MESSIER BLUE CARD**, a list of Messier objects – we can now finally use the **SKY MAP** to translate these to characters and to give us, in the final Blue Card, the actual resting place of the treasure.

The **COMET TRAIL CIPHER** tells us about the pub – that it is essentially worth visiting but that we should book. In potential Apophenia we went further and found a secondary code there that gave us a partial name of the pub itself.

Finally, we look at and detail the grey lines connecting and clueing objects in the ATH to each other.

TEASER POSTER

The poster published in November contained a code and a number of pictorial allusions to the various MESSy themes we would



encounter in the main hunt.

Images

- The 17th Century French astronomer Charles **MESSIER** (1730-1817) holding a telescope, notable comet hunter who also published an astronomical catalogue of nebulae and star clusters that came to be known as the '[Messier Objects](#)' which will play a part in the hunt.
- He is pictured chasing a comet with a tail of gold coins and a rainbow leading to the pot of treasure, sitting astride a **MESSERSCHMITT KR200 bubble car**, and wearing a pair of Lionel **MESSI**'s rainbow striped football boots.
- The [blue roof with stars](#) and the [stained glass window](#) that is just faintly visible behind Messier can be found at l'Église de la Sainte-Trinité in Paris, most famously associated with composer Olivier **MESSIAEN**, who was organist there 1931-1992, and a major theme in this year's hunt.
- The hexagonal structure on which the pot of gold coins stands hints at the hexagonal pattern we would come across in the main hunt.
- The two round stained glass windows above the vertical rainbow banners both depict the same reflected image of [St Cecilia](#), patron saint of musicians, playing a [portative organ](#), an allusion presumably to the **Ondes Martenot** keyboard instrument that would feature in the main hunt as a key instrument in some **Messiaen** compositions.

Code

- The vertical rainbow banners beneath the two St Cecilia stained glass windows contain a musical code. The rainbow colours each represent a musical note: Red = A, Orange = B, ... Violet = G. The depth of each coloured strip indicates the duration of the note in a 4/4 time: thinnest $\frac{1}{4}$ strip = Quaver, $\frac{1}{2}$ strip = Crotchet, $\frac{3}{4}$ strip = Dotted Crotchet, and deepest strip 4/4 = Minim.
- Using this note decode and playing the tune resulting from the four rainbow banners, we recognise two lines from a verse of the traditional Christmas carol tune, [Deck the Halls](#).
- The lettering at the top of first strip tells us to look at lines 3 and 4 of Verse 2:
 1. See the flowing bowl before us,
Fa, la, la, la, la, la, la, la, la!
 2. Strike the harp and join the chorus.
Fa, la, la, la, la, la, la, la, la!

3. **Follow me in merry measure,**
Fa, la, la, la, la, la, la, la!
 4. **While I sing of beauty's treasure,**
Fa, la, la, la, la, la, la, la!
- As well as topical mention of the harp, the annotations on certain notes tell us to modify the wording to give us another MESSY clue:
 3. Follow me in me**SSy** **P**Leasure,
Fa, **la**, la, la, la, la, la, la!
 4. While I sing of bu**RIED** treasure
Fa, la, la, la, la, la, la, la!

We never determined the significance of the plus sign on the second "la", although we did notice the font used on the poster is Shangri La.

We would also find this poster code a helpful hint at how to solve the Match of the Day theme rainbow code buried in the Syrian hexagonal honeycomb in the main Hunt, albeit using a different key.

Clearly thing were about to get very messy...

HEXAGON TRAIL

Decode

HAPPY XMAS EPIC NEW YEAR SORTIE FIXING MESS LUCK AND LOVE FROM BRUCE HINDSIGHT

Process

After recognising that the Hexagons form a trail defined by the messed up lines, the first job was to **TIDY** this up and produce a linear, ordered, tidy version of the **HEXAGON TRAIL**. This is shown in photoshop below but rest assured hunters from Apopheniacs Anonymous also used the traditional scissors and sellotape.

It should also be mentioned that Hexagons are generally the shapes used to create footballs, thus forming a thematic link to MESSI.



Answers

#	Identification	MESS Link	Description	L
0	MR MESSY	MESSY		
1	Hornet	MESSERSchmitt	A bit loose but there is a Messerschmitt Hornisse which is German for Hornet	H
2	Azophi crater	MESSIER	Azophi crater - this crater is named after Persian astronomer Abd Al-Rahman al-Sufi https://en.wikipedia.org/wiki/Abd_al-Rahman_al-Sufi . He was also the first to observe M31 (Andromeda Galaxy) - therefore a good Messier link. I don't think he is associated to any other Messier object. Note that M31 is also one of the BE GERM Messier objects. Also a Playfair crater WSW of it	A
3	NASA Pleiades Supercomputer	MESSIER 45	aka Seven Sisters and Messier 45 - M45	P
4	General Sir H C O Plumer	MESSINES	Won an overwhelming victory over the German Army at the Battle of MESSINES in June 1917. The battle started with the simultaneous explosion of a series of mines placed by the Royal Engineers' tunnelling companies beneath German lines.	P
5	Ypres	MESSINES	Link to Battle of Messines (1917) and Messines Ridge , located just south of Ypres	Y
6	Iannis Xenakis	MESSIAEN	Romanian-born, Greek-French composer who pioneered the use of mathematical models in music. Among most important works are	X

			Metastaseis (1953–54) ; percussion works such as Psappa (1975) and Pléiades (1979); Terretektorh (1966). Was a student of MESSIAEN.	
7	Lionel Messi	MESSI	Apart from the Messi theme, common name for both Messier 65 and Messier 66 is 'Leo Triplet' from Leo constellation (he is known as Leo Messi)	M
8	Ascension Island.	MESSIAEN	L'Ascension is a piece for orchestra, composed by Olivier MESSIAEN in 1932–33.	A
9	Swan	MESSIER	Bird beginning S. Messier 17 also known as Swan Nebula	S
10	Essex County Fire and Rescue Service	MESSING	HQ in Kelvedon nr Messing, Essex	E
11	Peckham Rye station	MESSINES	Peckham Farm was explosives mine/crater location as prelude to battle of MESSINES (1917)	P
12	Álex de la Iglesia	MESSI	Spanish film director Álex de la Iglesia who directed film MESSI (2014).	I
13	Caterpillar 953k Truck Loader	MESSINES	Caterpillar CAT 953k Truck Loader. Caterpillar was explosives mine/crater location as prelude to battle of MESSINES (1917)	C
14	Nineveh (from Jonah Window)	MESSING	Jonah Window, Abraham van Linge (1630s) - Christ Church Cathedral, Oxford University, Oxford. The detail shown is city of Nineveh, Iraq (http://www.soniahalliday.com/category-view3.php?pri=61-8-10.jpg). All Saints Church, MESSING, Essex, has "famous painted east window by Abraham van Linge"	N
15	Evil eye	MESSIER	Black Eye galaxy but also called the Evil Eye galaxy (Messier 64): https://en.wikipedia.org/wiki/Black_Eye_Galaxy .	E
16	Whirlpool	MESSIER 51	Messier 51 is Whirlpool Galaxy	W
17	Yellowhammer	MESSIAEN	YELLOWHAMMER from Messiaen's 'Meditations sur le Mystere de la Sainte Trinitie (1969)'	Y
18	Eton Rifles	MESS	"Boys of Eton's Officer Training Corps at drill, 1915." Pic reversed. Gen Plumer (Hexagon 4) was educated at Eton. Assume there may also be an allusion here to Eton MESS	E
19	Madame Adolphine	MESSERSCHMITT	Spanish cartoon - In Spanish they call her La señorita Josefina but the Spanish text says the original name of the character was Madame ADOLPHINE. Hitler was enthused by 1937 plan for long range reconnaissance plane Messerschmitt ME 261 and in particular to use it for record breaking non-stop flight (c.f. Earhart also 1937) to take Olympic torch to Tokyo for 1940 Olympics, so much so that aircraft had unofficial name "Adolphine" http://histaviation.com/me_261.html	A
20	Ring	MESSIER 57	Link with M57 Ring Nebula	R
21	Salm-Salm	MESSIER	Flag of Principality of Salm-Salm. When he was 11 Messier's father died, and his elder brother HYACINTHE MESSIER, who was "at the time employed in the administration of the now forgotten principality of Salm-Salm" took responsibility for Charles.	S
22	Ondes Martenot	MESSIAEN	Early electronic instrument invented by Maurice Martenot; Most notable composer is Olivier MESSIAEN.	O
23	Rainbow	MESS*	Rainbow colours are a key element of hunt and decodes, especially the musical ones. Messiaen used the rainbow in pieces, including <i>Quatuor pour la fin du temps</i> and <i>Livre du Saint-Sacrament</i> . Also Messi's rainbow boots, and looser links to Messier (his M9 is described as a Rainbow Star Cluster). Can't find source of pic - looks like kids TV show with grey cloud and television characters	R
24	Mr Tidy	MESSY	Mr Tidy (black suit) from the Mr MESSY story - (see also 42. Mr Neat)	T
25	Iceni	MESSING	Iceni: a tribe of eastern Britain during the Iron Age and early Roman era. Their territory included present-day Norfolk and parts of Suffolk and Cambridgeshire. Image appears to be logo from some Roman war	I

			game. Village of MESSING/Inworth, Essex, is close to a site called 'The Rampart', which according to legend is where Boudicca, Queen of the Icenii, was defeated by the Romans.	
26	Elephant	MESSIAEN	MESSIAEN used a rhythm called gajalila which translates as the rhythm of the elephant's step (four equal values, the last of which is dotted) time.	E
27	Fingerprint	MESSY	Fingerprints are messy	F
28	Andrés Iniesta	MESSI	Barca team mate of Messi, who passed to Messi start the move for the "Syrian rebels" goal in that El Clasico.	I
29	Xylophone	MESSIAEN	Olivier MESSIAEN composed some bird songs for Xylophone - his Oiseaux exotiques piece the orchard oriole is played by the xylophone	X
30	Ida	MESSEL	Ida or Darwinius discovered nr village of MESSEL, Germany	I
31	Napoleon	MESSIER C/1769 P1	Napoleon the Pig from animated Animal Farm (1999). Charles Messier connected the great comet of 1769 to the birth of Napoleon. Located on French map	N
32	Goal	MESSI	Just goal I think, although outfield player is Barcelona #16	G
33	Messier Crater	MESSIER	Messier Crater	M
34	Eclairs	MESSIAEN	Éclair is French for flash of lightning. Birdcage 3 mine, unused during WWI was exploded by a flash of lightning in 1955. But tighter link is Éclairs sur l'Au-Delà ... (Lightning Over the Beyond ...), an epic orchestral work by Olivier Messiaen	E
35	Swallow	MESSIAEN	There is a link to Messiaen where swallow music is found in movement 11 of Catalogue d'Oiseaux: La Buse Variable. So there is a good thematic link for a swallow (but perhaps you could say that about virtually any bird!).	S
36	Sigmundskron Castle	MESSNER	Sigmundskron Castle aka Firmiano Castle near Balzano in South Tyrol (Italy) Contains the MMM (MESSNER Mountain Museum Firmian) - https://www.sentres.com/en/firmiano-sigmundskron-castle	S
37	(Turanga) Leela	MESSIAEN	(Turanga) Leela - character from the animated TV series Futurama. Her name plays on Turangalīla, the Sanskrit title of the 1948 Turangalīla-Symphonie by French composer Olivier Messiaen	L
38	Untidy	MESSY	Untidy (Japanese: Gōkai) is an Earth-attribute Yo-kai and one of the Wicked Executives. (c.g. H24 Mr Tidy)	U
39	Cress	MESSIER	It is reported that Nicholas Messier first grew watercress in Erfurt, Germany, in the middle of the 16th century. English cultivation started in early 1800, when a farmer near London began to popularize watercress as a salad ingredient. It was not long before it became increasingly difficult to meet the rather sudden increase in demand for watercress. https://www.bwqualitygrowers.com/watercress/history-and-facts/	C
40	Knife Rest	MESSER	Knife in German is MESSER	K
41	Allaeochelys crassesculpta	MESSEL	Two turtles that died during the act of procreation! Discovered Messel Fossil Pit, Germany, 1987	A
42	Mr Neat	MESSY	Mr Neat (white suit) from the Mr MESSY story (see also 24. Mr Tidy)	N
43	Dumbell's	MESSIER 27	Dumbell's Banking Company, Isle of Man £1 note - on https://en.wikipedia.org/wiki/Dumbell%27s_Bank . Dumbbell Nebula is Messier 27 = M27 https://en.wikipedia.org/wiki/Dumbbell_Nebula . Also Messier 76 is Little Dumbell Nebula https://en.wikipedia.org/wiki/Little_Dumbbell_Nebula	D
44	Jeanne Loriod	MESSIAEN	Instrument = Ondes Martenot (see also H22). Early electronic instrument invented by Maurice Martenot; Most notable composer is Olivier MESSIAEN.	L
45	Omega	MESSIER 17	Omega from Doctor Who - - also Messier 17 M17 https://en.wikipedia.org/wiki/Omega_Nebula	O

46	Vacuum Cleaner	MESSY	Vacuum Cleaner clip art - thematic link to Mr Messy	V
47	Eurotamandua	MESSEL	Eurotamandua. Anteater tamandua (lesser anteater) fossil from MESSEL, Germany - http://www.dw.com/en/messel-fossil-exhibit-stuns-in-stuttgart/a-4233402	E
48	St Francis of Assisi	MESSIAEN	That image is taken from the 1961 film starring Bradford Dillman. Francis of Assisi is an opera by MESSIAEN.	F
49	Rosario, Santa Fe	MESSI	Flag of Rosario, Santa Fe birth place of Lionel Messi https://en.wikipedia.org/wiki/Rosario,_Santa_Fe	R
50	Ontario	MESSINES	Ontario - Candian state. Ontario Farm was explosives mine/crater location as prelude to battle of MESSINES (1917)	O
51	Messalina	MESSIER	Messalina played by Sheila White in I, Claudius (1976). Also M7 Ptolemy Cluster is named for Greek astronomer Claudius Ptolemy (AD 90–168), who may also have observed other Messier objects such as M7 and M44.	M
52	Beehive	Messier 44	Close-up honeycomb texture of plant stalk suggests Beehive / plant, linking to M44. Earlier guess was this is called a "Bird Cage" plant as Birdcage was another of the mine locations at Battle of Messine Ridge (1917)	B
53	Rupprecht	MESSINES	Rupprecht, Crown Prince of Bavaria (Rupprecht Maria Luitpold Ferdinand (1869 – 1955). Commander of Army Group A at the time of the battle of Messines: https://en.wikipedia.org/wiki/Mines_in_the_Battle_of_Messines_(1917) .	R
54	Undermine	MESSINES	Undermine (Dino Shout) - Transformers Cybertron (Galaxy Force). Allusion to Messines Ridge mines.	U
55	Claudius (41-54 AD)	MESSIER 7	Claudius (41-54 AD) roman coin. ettering is TI CLAVD CAESAR AVG P M TR P VIII IMP XVI. See also I Claudius at H51. M7 Ptolemy Cluster is named for Greek astronomer Claudius Ptolemy (AD 90–168), who may also have observed other Messier objects such as M7 and M44.	C
56	St Eligius	MESSINES	St Eligius in his Workshop by the 'Master of Balaam' c. 1450 - . Goldsmith by trade, patron saint of coin makers. St Eloi, named for St Eligius, was one on mine locations at Messines Ridge. Also a famous horse shoe myth and Messier 17 also known as Horseshoe Nebula https://en.wikipedia.org/wiki/Omega_Nebula (see also H45 Omega)	E
57	Caroline Hershel	MESSIER	Astronomer Caroline Hershel, sister of William, who discovered several comets, including the periodic comet 35P/Herschel-Rigollet, which bears her name.	H
58	Inworth village sign	MESSING	Small village in the civil parish of MESSING-cum-Inworth, Essex, England, nr Tiptree in Colchester Borough Council area.	I
59	Nebula	MESSIER	From Hercules: The Legendary Journeys. Played by Gina Torres.	N
60	Dipstick	MESSstab	Oil Dipstick & car engine. Dipstick in German is Messstab	D
61	Sombrero	MESSIER 104	Sombrero Galaxy - Messier 104 aka M104	S
62	Island of Ireland Peace Park	MESSINES	Island of Ireland Peace Park - Memorials to the Great War 1914-18 killed, wounded and missing of the 3 Irish volunteer divisions, the 36th (Ulster) Division, the 10th (Irish) Division and the 16th (Irish) Division. They stand alongside the pathway of the Island of Ireland Peace Park, MESSINES, Belgium	I
63	Olga García Pérez	MESSI	Olga García Pérez, player for Barcelona Senoras. Looks like she is Barca number 10 which I guess is a more specific Messi link	G
64	Hubble	MESSIER	Painting looks to be based on a Spiral Galaxy. A number of Messier Objects such as Pinwheel Galaxy (M101) are of this classification, originally described by Edwin Hubble. Not sure who artist is – found astronomy artist Tricia Hodges & Lucia Hames either of whom would give us an H, but can't find exact photo.	H

65	Treasure Chest	MESSING	Our ultimate treasure location	T
----	----------------	----------------	--------------------------------	----------

Usage

Clearly a traditional 'Merry Christmas' type message, but with one or two brief hints to the general MESS themes (fixing MESS) but also an allusion to Olivier Messiaen's Pentecost Mass fifth movement **Sortie** (Le vent de l'Esprit).

MUSIC CIPHER

Decipher

ARCS-EN-CIEL

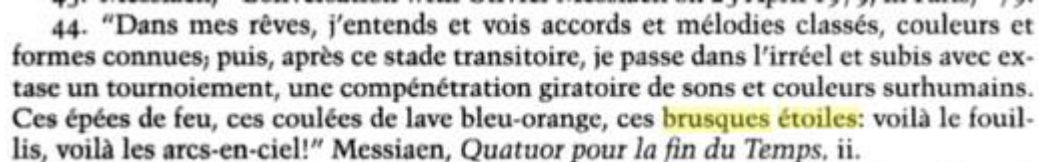
BRUSQUES ETOILES

FOUILLIS

EPEES DE FEU

Process

ARCS-EN-CIEL, **BRUSQUES ESTOILES**, **EPEES DE FEU** and **FOUILLIS** are taken from preface notes by **MESSIAEN** on movement VII of 'Quatuor pour la fin du Temps', entitled 'Fouillis d'arcs-en-ciel, pour l'Ange qui annonce la fin du Temps (Tangle of rainbows, for the Angel who announces the end of time). The bulk of the original French preface is shown in the image below while the following text gives its translation:



44. "Dans mes rêves, j'entends et vois accords et mélodies classés, couleurs et formes connues; puis, après ce stade transitoire, je passe dans l'irréel et subis avec extase un tournoiement, une compénétration giratoire de sons et couleurs surhumains. Ces épées de feu, ces coulées de lave bleu-orange, ces brusques étoiles: voilà le fouillis, voilà les arcs-en-ciel!" Messiaen, *Quatuor pour la fin du Temps*, ii.

"In my dreams, I hear and see ordered chords and melodies, known colors and shapes; then, after this transitional stage, I pass through the unreal and suffer, with ecstasy, a tournament; a roundabout compenetrated of superhuman sounds and colors. **These swords of fire, this blue-orange lava, these sudden stars: there is the tangle, there are the rainbows!**"

ARCS-EN-CIEL: rainbows

BRUSQUES ETOILES: sudden stars

EPEES DE FEU: swords of fire

FOUILLIS: tangle

?? : blue-orange lava

The only piece not referenced is **blue-orange lava – we should have to use this somehow?**

Thematically, this sentence is highlighting a quartet of interwoven (or tangled!) themes:

ARCS-EN-CIEL (rainbow) links into the **COLOUR** theme and also dashed grey lines link it to the **RAINBOW** hexagon – also perhaps a hint on the team/category of this hexagon.

BRUSQUES ETOILES ('sudden stars' or 'hurtling stars') – a grey dashed line links this to a specific year in the comet path on page 7: 1779. This was a bumper year for additions to the Messier catalogue – 8 new objects were added, many of which can be seen in Messier's star chart for comet 1779: <http://www.messier.seds.org/xtra/history/m-charts.html>. So this is linking to the **MESSIER** theme.

EPEES DE FEU (swords of fire) – a grey dashed line links this to the 'Essex County Fire and Rescue' hexagon. So this links to the **MESSING** treasure site sub-theme.

FOUILLIS (tangle or mess) – a grey dashed line links this to the **MESS** line. So this is the general **MESS** theme that we are being instructed to **FIX** from the letters decoded in the hexagon trail.

On the piece on Page 1 there is an anagram **NIEVE O SERIALISM** this decodes simply to:

OLIVER MESSIAEN

The musical scores on pages 1, 7, 9, and 10 are coded using a **MESSIAEN CODING SCHEME** that we found in the book **OLIVER MESSIAEN'S SYSTEM OF SIGNS: NOTES TOWARDS UNDERSTANDING HIS MUSIC**.

Each pitch represent a set of letters and each timing also represents a set of letters – so a (timing, pitch) tuple – which is a note – should represent a unique or close to unique letter represented as the intersection of the timing and pitch sets. These sets are shown below as image extracts from the book.

86 *Olivier Messiaen's System of Signs*

Table 4.1 Distribution of rhythms

Letters	Rhythm	Number of letters
<i>e, i, j, y</i>		4
<i>a, c, d, k, l, q, v, w, x</i>		9
<i>b, g, h, r</i>		4
<i>p, s, z</i>		3
<i>u</i>		1
<i>f</i>		1
<i>n</i>		1
<i>m</i>		1
<i>t</i>		1
<i>o</i>		1

Table 4.2 Distribution of pitches over the chromatic octave

Pitch	Letter	Number of times used
C ₂	<i>c, k, q</i>	3
C ₃	<i>u</i>	1
D	<i>d, l, v, w</i>	4
E ₂	<i>l, n</i>	2
E	<i>e, r</i>	2
F	<i>f, s, z</i>	3
F ₂	<i>i, j, y</i>	3
G	<i>g, p</i>	2
G ₂	<i>m (= A), x</i>	2
A	<i>a</i>	1
B ₁	<i>b</i>	1
B	<i>h, o</i>	2

PAGE 1 CIPHER



Pitch	Pitch Letter Set	Timing	Timing Letters	Intersection
A	A	Q	A, C, D, K, L, Q, V, W, X	A
E	E, R	Q DOT	B, G, H, R	R
C	C, K, Q	Q	A, C, D, K, L, Q, V, W, X	C, K, Q
F	F, S, Z	C	P, S, Z	S
E	E, R	SQ	E, I, J, Y	E
E _b	L, N	CQ.	N	N
C	C, K, Q	Q	A, C, D, K, L, Q, V, W, X	C, K, Q
F _s	I, J, Y	SQ	E, I, J, Y	I, J
E _n	E, R	SQ	E, I, J, Y	E

Eb	L, N	Q	A, C, D, K, L, Q, V, W, X	L
----	------	---	---------------------------	---

Decodes to:

ARCS-EN-CIEL

PAGE 7 CIPHER



Pitch	Pitch Letter Set	Timing	Timing Letters	Intersection
Bb	B	Q.	B, G, H, R	B
E	E, R	Q.	B, G, H, R	R
Cs	U	CSQ	U	U
F	F, S, Z	C	P, S, Z	S
C	C, K, Q	Q	A, C, D, K, L, Q, V, W, X	Q
Cs	U	CSQ	U	U
E	E, R	SQ	E, I, J, Y	E
F	F, S, Z	C	P, S, Z	S
E	E, R	SQ	E, I, J, Y	E
Dn	D, T, V, W	MSQ	T	T
Bn	H, O	MQ.	O	O
Fs	I, J, Y	SQ	C, I, J, Y	I
Eb	L, N	Q	A, C, D, K, L, Q, V, W, X	L
En	E, R	SQ	E, I, J, Y	E
Fn	F, S, Z	C	P, S, Z	S

Decodes to:

BRUSQUES ETOILES

PAGE 9 CIPHER



Pitch	Pitch Letter Set	Timing	Timing Letters	Intersection
F	F, S, Z	C.	F	F
B	H, O	MQ.	O	O
Cs	U	CSQ	U	U
Fs	I, J, Y	SQ	E, I, J, Y	I
Eb	L, N	Q	A, C, D, K, L, Q, V, W, X	L
Eb	L, N	Q	A, C, D, K, L, Q, V, W, X	L
Fs	I, J, Y	SQ	E, I, J, Y	I
Fn	F, S, Z	C	P, S, Z	S

Decodes to:

FOULLIS

PAGE 10 CIPHER



Pitch	Pitch Letter Set	Timing	Timing Letters	Intersection
E	E, R	SQ	E, I, J, Y	E
G	G,P	C	P, S, Z	P
E	E, R	SQ	E, I, J, Y	E
E	E, R	SQ	E, I, J, Y	E
F	F, S, Z	C	P, S, Z	S
D	D, T, V, W	Q	A, C, D, K, L, Q, V, W, X	D

E	E, R	SQ	E, I, J, Y	E
F	F, S, Z	C.	F	F
E	E, R	SQ	E, I, J, Y	E
Cs	U	CSQ	U	U

Decodes to:

EPEES DE FEU

Usage

We note that this is confirmation that **MESSIAEN** is a theme. We note, though that each word starts in (ABCDEF) – significantly the only letter not used is **G** suggesting that this note is important. As it turns out, this is the musical key that is required for the Match of the Day decode.

We also note that the translations could point to all five themes of the hunt:

ARCS-EN-CIEL: points to the SYNETHESIA of **MESSIAEN** – the relationship between music and colour.

BRUSQUES ETOILES: sudden stars – the pre-occupation of **MESSIER**

EPEES DE FEU: sword of fire as a metaphor for war and the battle at **MESSINES**

FOUILLIS: tangle or **MESS,**









BLUE-ORANGE LAVA: points to the colour of **MESSI'S** boots.

BLUE CARD TRAIL

The Blue Cards represent places of interest/confirmation on the route to the Treasure. The ordering of these cards is given by their position on the RIVER MESS, which is a river in LUXEMBOURG, which is represented schematically in the blue box on Page 3. Their position is given by the anagram on each card which is a town on the River Mess.

Card Description

Position On River	Card	Town	Page #	Apopheniacs
1		Schweiler	9	
2		Sprinkange	6	
3		Bettange	12	
4		Recharge	2	

<p>5</p>		<p>Ehlinge</p>	<p>1</p>	
<p>6</p>		<p>Wilkrange</p>	<p>11</p>	
<p>7</p>		<p>Pontpierre</p>	<p>10</p>	<p>Starting with the decode of the BIRD TRAIL which terminates in this card we eventually get to the decode: IN FALLEN TREE (the decode on the card A...Z points us to applying Mod 26 when adding Sender letter to Stamp letter)</p> 
<p>8</p>		<p>Bergem</p>	<p>3</p>	<p>After mapping the pages to the sky and associating HEXAGONS with MESSIER numbers we can decode this set of MESSIER OBJECTS to IN A TREE CLEFT.</p> 

Usage

This is the **PICK UP MESS** at the end of the decode we get from the final decode of the Hexagons and the MESSIER objects.

8x8 Word Square Cipher

Decipher

ORDER CARDS BY MOVEMENT APPLY RECIPIENTS TO SENDERS RETRANSLATE

Process

The first realisation is that the Minesweeper game on P7 is an 8x8 square, exactly the same as the word square on P6. We also notice that a mine with an attached key is thematically linked to the 8x8 word square through a dotted grey line.

So completing the Minesweeper game will give us a key to decode the 8x8 square. Clarkey completed the minesweeper decode on the train en route to or from a Fulham away game. His decode is shown below.



By overlaying the completed Minesweeper grid on top of the 8x8 word square and by using the mine locations as open windows onto that grid the open letters are G-A-Y-G-O-P-H-E-R. This is shown below:



We noticed that the background map shows a very specific area close to the battle of MESSINES (1917), with Oosttaverne and Offen Trench marked to the north. Battle 100 years ago. Prelude was explosion of mines underneath German lines from which many craters still extant. From this we can link the GAYGOPHER decode to a quote from Gen. Harington, Second Army Chief of Staff before the Battles of Messines.

"Gentlemen, we may not make history tomorrow, but we shall certainly change the geography."

As GAYGOPHER is an anagram of GEOGRAPHY (change the geography) we have confirmation that we are searching in the correct direction.

The question remains how to apply the key. The letters in the square contain **plus sign** (which is a sign of the **TRIFID CIPHER**) and we also note that the M20 road connects HOMS and AL MAYADIN. MESSIER object M20 is the **TRIFID NEBULA**. It later transpired that when the page with **JEANNE LORIOD** on was mapped to the sky, that hexagon fell over the TRIFID NEBULA thus mapping Jeanne Loriod to **TRIFID**. The Jeanne Loriod hexagon is connected by a grey line to the Hexagon Honeycomb, final confirmation that the TRIFID CIPHER is in use.

There are a number of ways to linearize the grid and a number of selection options as to whether to remove the GAYGOPHER letters, rearrange them to GEOGRAPHY or leave as they are.

As it turned out the Ciphertext is whole 8x8 grid left to right, top to bottom (don't remove GEOGRAPHY).

Key is Rearranged Geography i.e. GAYGOPHER which we get from the Minesweeper solve applied to the 8x8

Period is 5

Decoded text is

ORDER CARD BY MOVEMENT APPLY RECIPIENTS TO SENDERS RETRANSLATE

Usage

Information as to how to decode the **POSTCARDS** described in the section **Postcards Senders Cipher**.

Bird Trail Cipher

Decipher

ADD SENDER TO STAMP

Process

On Page 10 there is a flight of birds terminating on the PINE PORTER card. Eventually, and using our knowledge of the thematic links, we deduced that this was linked to MESSIAEN and his Catalogue d'Oiseaux. From Wikipedia:

***Catalogue d'oiseaux* ("Catalogue of birds") is a work for piano solo composed of thirteen pieces, written between October 1956 and September 1958 and devoted to birds and his second wife [Yvonne Loriod](#).**

There are thirteen birds referenced in the thirteen pieces – not enough for an alphabet. The birds on the cipher are facing left and right, so each bird has two states and could therefore represent two letters: thirteen birds twenty-six letters. It turns out that we assign the letters A-M to the right facing birds in the pieces 1 through to 13 and M-Z to the left facing birds 13-1. This is shown in the table below.

Bird	Facing	Letter
Alpine Chough	RIGHT	A
Golden Oriole	RIGHT	B
Blue Rock Thrush	RIGHT	C
Black-eared Wheatear	RIGHT	D
Tawny Owl	RIGHT	E
Wood Lark	RIGHT	F
Reed Warbler	RIGHT	G
Short-toed Lark	RIGHT	H
Cetti's Warbler	RIGHT	I
Rock Thrush	RIGHT	J
Buzzard	RIGHT	K
Black Wheatear	RIGHT	L
Curlew	RIGHT	M
Alpine Chough	LEFT	Z
Golden Oriole	LEFT	Y
Blue Rock Thrush	LEFT	X
Black-eared Wheatear	LEFT	W
Tawny Owl	LEFT	V
Wood Lark	LEFT	U

Reed Warbler	LEFT	T
Short-toed Lark	LEFT	S
Cetti's Warbler	LEFT	R
Rock Thrush	LEFT	Q
Buzzard	LEFT	P
Black Wheatear	LEFT	O
Curlew	LEFT	N

We can now apply this to the flight of birds.

Bird	Facing	Decode
Alpine Chough	RIGHT	A
Black-eared Wheatear	RIGHT	D
Black-eared Wheatear	RIGHT	D
Short-toed lark	LEFT	S
Tawny Owl	RIGHT	E
Curlew	LEFT	N
Black-eared Wheatear	RIGHT	D
Tawny Owl	RIGHT	E
Cetti's Warbler	LEFT	R
Reed Warbler	LEFT	T
Black Wheatear	LEFT	O
Short-toed Lark	LEFT	S
Reed Warbler	LEFT	T
Alpine Chough	RIGHT	A
Curlew	RIGHT	M
Common Buzzard	LEFT	P

YIELDING:

ADD SENDER TO STAMP

Usage

Indicates that the sender and stamp form a cipher. Described more fully in **Add Sender to Stamp Cipher**. The result of adding the sender to the stamp provides us with a partial clue as to the location of the treasure **IN FALLEN TREE** – the **BIRD TRAIL** terminates in the penultimate **BLUE CARD** so the destination of this decode gives us eventually the penultimate clue to the location of the treasure.

We can also use this method to decode the two birds separated by ellipsis that appear on the penultimate blue card at the end of the bird trail. This decodes then as **A...Z**, which we take to be a pointer that we need to apply MOD 26 when adding Sender letter to Stamp letter.

FRENCH HERALDRY

Process








We see a slightly tilted map of **FRANCE** inside a wheel with letters associated with **HERALDIC ITEMS**. In the map of FRANCE are a number of locations identified by an **OVAL**, a **HEXAGON** or a **SQUARE**.


The trick is to map each location to a town or village in France and then construct the **COAT OF ARMS** for that located place from the Heraldic Items around the wheel. For each place we will then have a set of letters (one per Heraldic Item) which are anagram of a word (or short phrase).

Additionally, all of the HEXAGON places are related to MESSIER object discovery connections, while OVAL locations on the map of France all relate to places Olivier MESSIAEN lived as a boy and the blue square locations all start with a thematic MESS.

Finally, there is a mine indicating a town in France or in Belgium. We were unable (after some time looking) to find a town or village in that location with the Heraldic Items that were left. That turned out not to matter as the location was that of the TREASURE as indicated by the anagram letters.

Decode

Symbol	Coat of Arms	Town	Letters	Link to Postcard	Thematic
Hexagon		Coutances	FLIER Earhart flew aeroplanes!	Amelia Earhart	Guillaume Le Gentil b. COUTANCES 1725 - discoverer of M32, M36 and M38, as well as the nebulosity in M8
Hexagon		Belgentier	MP Astor was a Member of Parliament.	Lady Nancy Astor	Nicolas-Claude Fabri de Peiresc b. BELGENTIER 1580 - first to identify M42 as a nebula, observed it with a refractor on 26 November 1610.
Hexagon		Laon	OTTOMAN Was an Ottoman Sultan	Bayezid II	Pierre Méchain b. LAON 1744 - friend of Messier, studier of comets and discoverer of a large number of Messier Objects
Hexagon		Rumigny	GR General Relativity	Albert Einstein	Nicolas-Louis de Lacaille b. RUMIGNY in 1713 - discovered M55 on 16 June 1752 while observing from what today is South Africa
Ellipse		Nantes	BRO Younger brother of Rama	Bharata	MESSIAEN lived here: Nantes (1918-19)
Ellipse		Avignon	EARL Robert Dudley is an EARL.	Robert Dudley, Earl of Leicester	MESSIAEN lived here: Avignon (b.10/12/1908)
Ellipse		Grenoble	HERO Hercules is a legendary Hero.	Hercules	MESSIAEN lived here: Grenoble (1914-1918 whilst father away at WWI and moved with mother and uncle)

Ellipse		Ambert	ALIEN ET was an Alien – this is the only one that doesn't relate directly to the sender (although Elliot & Tyler join to give us ET)	Elliott	MESSIAEN lived here: Ambert (1909-1914)
Square		Messery	DOM Honorific for Portuguese gentlemen.	Pêro da Covilhã	MESS
Square		Messei	TOY Apparently Roo is a toy which we of course dispute. Roo was real.	Roo	MESS
Square		Messimy	OFF GUARD JR Smith position.	JR Smith	MESS
Square		Messigny et Vantoux	MGR Short for Monsignor as was Laboa.	Mgr Laboa	MESS
Bomb		MESSING	TREASURE		MESSING / TREASURE

Usage

Firstly as confirmation for us that the **TREASURE** was located in **MESSING**.

Also the anagrams related to the Heraldic Letters are used in the **POSTCARD CODE** to either help (or to confirm) the decode of the **SENDER** of the postcard as the Heraldic Anagram is linked in some way to the SENDER as indicated above.

PICTURE POSTCARDS

Overview

Each page has the front of a POSTCARD showing a picture and the back of the same postcard showing a **MESSAGE**, a **SENDER**, a **RECIPIENT**, a **STAMP** and a **FRANK** in the shape of a hexagon, square or ellipse (related to the hexagons, squares and ellipses on the French heraldic map).

There are a few input clues as how to interpret and decipher the set of postcards. **ORDER CARDS BY MOVEMENT APPLY RECIPIENTS TO SENDERS RETRANSLATE** from the 8x8 word square give what looks like quite comprehensive instructions as to how to proceed.



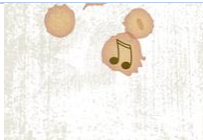

ADD SENDER TO STAMP comes from the BIRD CIPHER and shows us an additional way in which to use the postcards.






This whole process results in two clues: **IN FALLEN TREE** which forms part of the direction to the treasure and **BRASS PLAYER/SECTION** which helps in the musical decode of the HEXAGON HONEYCOMB.

Process

ORDER CARDS BY MOVEMENT

The front pictures of postcards represent the 12 movements of **MESSIAEN'S 'Des canyons aux étoiles'** (the canyons to the stars). It has 12 pieces split over 3 parts - the titles of each **MOVEMENT** fit to postcard pictures. Mapping each card to a movement thus allows us to order the cards in the order of the movements. Henceforth, the order implied by the RHS order column is the order that we will use. The mappings are as follows

Pg	Postcard	Identification	Movement	Ord
1		BRYCE CANYON. Link is explicit as both the picture and the movement are BRYCE CANYON.	Bryce Canyon et les rochers rouge-orange ("Bryce Canyon and the red-orange rocks")	7
2		Jodie Foster as Eleanor Arroway in <i>Contact</i> Arroway is chosen to make first contact with extraterritorial species – an interstellar call.	Appel interstellaire ("Interstellar call")	6
3		The musical notes are on a coffee stain which, when one maps the page to the sky (matching up MESSIER objects to Hexagons) falls on the star ALDEBARAN – giving notes on Aldebaran or song of the star Aldebaran.	Les ressuscités et le chant de l'étoile Aldebaran ("The resurrected and the song of the star Aldebaran") - not sure on specific link	8
4		Roman soldier Centurion in rain. "Hello, <u>God</u> " – this is JOHN WAYNE from the GREATEST STORY EVER TOLD where he utters the immortal line at the base of the crucifixion: "Truly, he is the son of God". Obviously in AWE . Urged by director Stevens to show more emotion and an overwhelming sense of awe, Wayne changed his only line to, "Aw, truly this man was the son of God".	Cedar Breaks et le don de crainte ("Cedar Breaks and the gift of awe")	5

5		Atticus Finch (Gregory Peck) in <i>To Kill A Mockingbird</i> Explicit link through MOCKINGBIRD	Le moqueur polyglotte ("The mockingbird")	9
6		Robin Williams Explicit link through ROBIN . Robin Williams although eyebrows are more grey than white!	Le cossyphe d'Heuglin ("The white-browed robin-chat")	4
7		Your Secret Name From a poem titled "The Woodthrush" by Jeanie Tomasko: 'the song like the secret name of God shivers down the branches, enters the bone in your chest at the place riven by a nameable sadness and sets its seal. Walking in the woods after days of rain my steps'	La grive des bois ("The wood thrush"). Pome 'Plate 279 Wood Thrush' by Jeanie Tomasko (http://allfromthenutshell.blogspot.co.uk/2014/04/)	10
8		Birth Chart of Olivier Messiaen , b. Avignon 10/12/1908 This is an astrological chart – ie it is written in the stars .	Ce qui est écrit sur les étoiles ("What is written in the stars")	3
9		Map of Hawaii Islands. Obama was born in Honolulu (where there is a dot).	Omao, leiothrix, elepaio, shama ("Omao, leiothrix, 'elepaio, shama") - the Omao and elepaio birds are from Hawaii	
10		Baseballer - Baltimore Orioles Adam Jones (currently play at Oriole Park at Camden Yards, Baltimore, Maryland) Explicitly through ORIOLES	Les orioles ("The orioles")	2
11		Matrix Revolution (2003) ZION is the home of the rebels in the Matrix movies.	Zion Park et la cité céleste ("Zion Park and the celestial city") - Zion City on Earth - http://matrix.wikia.com/wiki/Zion	12
12		Le désert ("The desert") – p12 Desert scene. Messiaen was heavily influenced by the writer Ernst Hello works "The word of God", hence the phrase "Hello God".	Le désert ("The desert")	1

Deciphering Senders and Recipients

To be able to follow the clued instructions we need to work out who the **SENDERS** and **RECIPIENTS** are. We then need to move on to understand how to interpret the **STAMPS**.

This section looks at how to decipher the sender and recipients. A clue helps us here in the shape of the **FRANK**: hexagon, square or ellipse. This maps us back to the **FRENCH HERALDRY** puzzle and specifically to the short clues worked out from the letters assigned to the individual items of heraldry.

Simply, if a card has a frank on it in a certain shape, then the clue for that card is one of the four clues from the **FRENCH HERALDRY** that share that shape.

The decipherers are shown below – not that these are now in **MOVEMENT** order.

Pg	Back Text	Sender	Recipient	Explanation	Heraldic Clue	Frank
12	Here's this year's money for holding my brother in Rome. You look after him and I'll stay out of Venice.	Bayezid II	Innocent VIII	Sultan Cem in exile after defeated by his older half-brother Bayezid II (Turkish Sultan of the Ottoman Empire 1481 - 1512), finally with Pope Innocent VIII in Rome in 1489. Bayezid promised not to attack Rhodes, Rome, or Venice, as well as to pay Cem's allowance of 40,000 ducats to the Pope in return for Cem's incarceration, then an annual fee of 45,000 ducats.	OTTOMAN	HEXAGON
10	Your paper on invariants is outstanding; its logic is poetic. No man could have done better.	Albert Einstein	Emmy Noether	Emmy Noether's (b. Erlangen, Bavaria 1892) theorem is about invariance and symmetries. Albert Einstein wrote "pure mathematics is, in its way, the poetry of logical ideas," & described Noether as a master of the craft.	GR (General Relativity)	HEXAGON
8	It was no goblin , and it wasn't mine. But since you asked, it's gone home now.	Elliott	Tyler	Talking about ET to school-mates (Tyler/Steve/Greg). Reference to famous Phone Home line. The goblin comment addressed to mates (http://www.moviequotedb.com/movies/et-the-extra-terrestrial/quote_28999.html) and Elliott and Tyler together again initially gives us E.T., our alien.	ALIEN	OVAL
6	Sorry you got wet - it was nice of you to try and rescue me, but I was all right because we got to the North Pole.	Roo	Eeyore	Winnie the Pooh story in which Roo falls in stream and Pooh saves him with the (North) Pole. But it is Eeyore who "tried" to save Roo with his tail which got wet. Pooh didn't get wet.	TOY	SQUARE
4	Don't be late coming back. Your sandals need filling and I'm not keen to immolate myself.	Bharata	Rama	Hindu Ramayana myths: Eldest son Prince Rama in exile, brother Bharata pleads with him to take the throne on their father's death. Compromise: Bharata will rule for 14 years with authority token of Rama's sandals. Rama will then return and take throne, or Bharata says he will immolate himself.	BRO	OVAL
2	Good idea, I'll see if I can land there. I was wondering how I'd get across the Pacific. xx	Amelia Earhart	Eugene Luther Vidal	Amelia Earhart who died trying to land at Howland Island in the middle of the Pacific on a round the world flight in 1937. It was Eugene Luther Vidal (father of Gore) who suggested she could build and use an airstrip on Howland Island (https://en.wikipedia.org/wiki/Eugene_Luther_Vidal#Department_of_Commerce)	FLIER	HEXAGON

1	I would send an envoy to Portugal, your majesty. In fact, why not allow me to go back at last?	Pêro da Covilhã	Emperor Eskender	Pêro da Covilhã travelled in land to court of Prester John (Ethiopia) and was honorably received by the Emperor Eskender ; lands and lordships were bestowed upon him, but Eskander refused to grant him permission to leave, and his successors evaded granting Covilhã permission.	DOM	SQUARE
3	You can tell Mr Hitler from me: no-one will take him seriously while he looks like Charlie Chaplin.	Lady Nancy Astor	Joachim von Ribbentrop	Nancy Astor , Viscountess Astor (1879-1964), 2nd marriage to Waldorf Astor, entered politics, in 1919 winning his former seat in Plymouth and becoming the first woman to sit as a MP in the House of Commons. "She also told Joachim von Ribbentrop , the German Ambassador who later became the Foreign Minister of Germany, that Hitler looked too much like Charlie Chaplin to be taken seriously."	MP	HEXAGON
5	I would buy your life with all I have, but it was noble of you to give another man your water.	Robert Dudley, Earl of Leicester	Sir Philip Sidney	Sidney was shot at the battle of Zuphen and would die a month or so later of gangrene. After being carried away from the battle, he offered his bottle of water to a soldier in a worse state. His uncle Robert Dudley, the Earl Of Leicester was in charge of the English army and mourned his dying nephew "if I could, I would buy his life with all I have to my shirt I would give it"	EARL	OVAL
7	This one looks even more monstrous than the last. It might be helpful if you bring a torch.	Hercules	Iolaus	Second labour of Hercules is to destroy the hydra of lerna, a monstrous servant with 9 heads. He does not go alone but with Iolaus , who took a torch with him.	HERO	OVAL
9	Man, just for you I'll put a shirt on. When we visit the White House I'll even wear a suit!	JR Smith	Barack Obama	Cleveland Cavaliers won basketball title 2016. JR Smith spent a week without a shirt -leading to amusing Obama bantz at White House when invited. In fact Smith wore a suit.	OFF GUARD	SQUARE
11	You can take refuge here as long as you like. I just hope you like metal.	Mgr Laboa	Gen Noriega	Monsignor (MGR) Jose Sebastian Laboa to Panamanian dictator General Manuel Antonio Noriega when he tried to take refuge in the Vatican embassy in Panama. The Papal nuncio was key in persuading Noriega to hand himself over to the Americans. Americans played heavy metal outside to try and speed his departure.	MGR (Monsignor)	SQUARE

Deciphering Stamps

The STAMPS are birds and translate in the same way as the BIRD TRAIL CIPHER we described earlier. The decipher is shown below:

Pg	Bird	Directions	Letter
12	BLUE ROCK THRUSH	RIGHT	C
10	CURLEW	RIGHT	M
8	CETTI'S WARBLER	RIGHT	I

6	REED WARBLER	LEFT	T
4	GOLDEN ORIOLE	LEFT	Y
2	CETTI'S WARBLER	RIGHT	I
1	WOODLARK	RIGHT	F
3	TAWNY OWL	RIGHT	E
5	ALPINE CHOUGH	LEFT	Z
7	BLACKEARED WHEATEAR	LEFT	W
9	ALPINE CHOUGH	RIGHT	A
11	SHORTTOED LARK	LEFT	S

ADD SENDER TO STAMP

As we now have STAMPS and we have SENDER we can apply the ADD SENDER TO STAMP clue. This is shown below.

Sender	Char	#	Stamp	Char	#	Res	Char (Res Mod 26)
Bayezid II	B	2	BLUE ROCK THRUSH (right)	C	3	5	E
Albert Einstein	E	5	CURLEW (right)	M	13	18	R
Elliott	E	5	CETTI'S WARBLER (right)	I	9	14	N
Roo	R	18	REED WARBLER (left)	T	20	38	L
Bharata	B	2	GOLDEN ORIOLE (left)	Y	25	27	A
Amelia Earhart	E	5	CETTI'S WARBLER (right)	I	9	14	N
Pêro da Covilhã	C	3	WOODLARK? (right)	F	6	9	I
Lady Nancy Astor	A	1	TAWNY OWL (right)	E	5	6	F
Robert Dudley, Earl of Leicester	L	12	ALPINE CHOUGH (left)	Z	26	38	L
Hercules	H	8	BLACKEARED WHEATEAR (left)	W	23	31	E
JR Smith?	S	19	ALPINE CHOUGH (right)	A	1	20	T
Mgr Laboa	L	12	SHORTTOED LARK (left)	S	19	31	E

This decodes to a string: **ERNLANIFLETE**

We now have an interesting decode for this but it depends on the set being already ordered by movement – this is not strictly necessary as the final decode is simply an anagram but we include this because it is nice!

Messiaen was obsessed with palindromes and he quite often used a system of associating the different movements of a piece together, e.g. in *Livre d'Orgue* there are 7 movements, movements 1 and 7 are associated to each other, as are movements 2/6

and 3/5 (there might be something similar going on in the cloud bubble with the different coloured hearts matching). This also has some similarity with the bird code, which associates A to Z. If you try this type of transformation on the above text starting from the outer pairs and going inwards you get:

EE
RT
NE
LL
AF
NI

Reading this backwards gives:

IN FALLEN TREE

Alternatively, reverse it, because those interversions start at 12 and drop down to 1

ETELFINALRE

Apply interversion I from Quatre Etudes (6,7,5,8,4,9,3,10,2,11,1,12)

This is Messiaen's *ciseaux ouverts* permutation (intersion) i.e. an "open-scissors interversion" (as explained in example 2-12 at <http://digitool.library.mcgill.ca/thesisfile96698.pdf>)

IN FALLEN TREE

This was the final piece of the directions that started (for us) with the decode of the BLUE CARDS: after the blue post and then the pond you get to a FALLEN TREE and the treasure is IN the FALLEN TREE. The treasure was indeed within the fallen tree but very deep within a cleft between two branches (we think) so deep we almost didn't find it.



In the context of the description of the hunt this is used as the clue in the penultimate **BLUE CARD** falling (sic) right after the pond and before the MESSIER OBJECTS in the final blue card.

Recipient Code

To be able to **APPLY RECIPIENTS TO SENDERS** we need to understand what RECIPIENTS are or mean. We note that the **ADD SENDER TO STAMP** was **singular** for both sender and stamp while this clue is **plural** meaning that we have to take ALL of the recipients in some way. Here we look at the RECIPIENTS DECODE and describe its meaning. This is shown below

Order	Orig	Recipient	Letter
1	12	Innocent VIII	I
2	10	Emmy Noether	N

3	8	Tyler	T
4	6	Eeyore	E
5	4	Rama	R
6	2	Eugene Luther Vidal	V
7	1	Emperor Eskender	E
8	3	Joachim von Ribbentrop	R
9	5	Sir Philip Sidney	S
10	7	Iolaus	I
11	9	Barack Obama	O
12	11	Gen Noriega	N

This decodes to **INTERVERSION**.

This allows us to expand the "ORDER BY MOVEMENT" decode by treating the **RECIPIENTS** as essentially a variable and replacing with the decode above. The full decode from the 8x8 SQUARE now reads:

ORDER CARDS BY MOVEMENT
APPLY INTERVERSION TO SENDERS
RETRANSLATE

An **INTERVERSION** is essentially a **PERMUTATION** used by **MESSIAEN**. This is from the wiki page about the **MESSIAEN** piece *Quatre études de rythme*.

The elements are reordered according to a wedge-shaped process, which Messiaen elsewhere called "permutation in the form of an open fan". The first permutation produces a new ordering which Messiaen called "Interversion I". The same permutation scheme applied to this first intervention produces "Interversion II", and so on

So it would seem that we are being asked to apply one of **MESSIAEN'S INTERVERSIONS** or **PERMUTATIONS** to the Senders.

APPLY RECIPIENTS TO SENDERS RETRANSLATE

We now have all the pieces to perform the final part of the instructions with, which the decode of the recipeinst is:

APPLY INTERVERSION TO SENDERS RETRANSLATE

After applying the ORDER CARDS BY MOVEMENTS instruction, the order of the sender letters are as below:

P12	P10	P8	P6	P4	P2	P1	P3	P5	P7	P9	P11
1	2	3	4	5	6	7	8	9	10	11	12
B	E	E	R	B	E	C	A	L	H	S	L

APPLY INTERVERSION TO SENDERS: an interversion is essentially a permutation and we use **INTERVERSION VI** from *Quatre études de rythme*:

8, 1, 10, 6, 3, 12, 4, 5, 11, 2, 7, 9

To do this correctly we need to number 12 to 1 from the start of the string.

P12	P10	P8	P6	P4	P2	P1	P3	P5	P7	P9	P11
12	11	10	9	8	7	6	5	4	3	2	1
B	E	E	R	B	E	C	A	L	H	S	L

Which results in:

BLECHBLAESER

When we then finally **RETRANSLATE** from German to English we get

BRASS PLAYER/SECTION

Either works as a translation. What we need is **BRASS PLAYER**.

This is used in the musical decode of the HEXAGON honeycomb and tells us which part of the musical score to use for the decode.

Possible Apophenia

We noticed some relationships between the pictures on the front of the postcards and the answers to the senders and recipients, although we couldn't tie them all in:

- P2 postcard showing Jodie Foster in a scene from the film Contact in which she studies radio signals from space and possible extra-terrestrial life. Much effort was made to contact Amelia Earhart by radio both when she was approaching Howland Island and after her plane disappeared, when it hoped she might have crash landed on a nearby island somewhere. There is also a tangential link here with Adolphine clued in Hexagon 19 on p8. In the film, Foster's team discover a video buried in the signal: Adolf Hitler's opening address at the 1936 Summer Olympics in Berlin (the first television signal strong enough to leave Earth's atmosphere). Adolphine was the unofficial name for Messerschmitt ME 261, the long range reconnaissance plane that it was planned to use for a record breaking non-stop flight to take Olympic torch from Berlin to Tokyo for 1940 Olympics, similar to the record Earhart was trying to break when she died.
- P4 postcard showing John Wayne and alluding to his quote "Awe, truly this man was the son of God!" links loosely to the brothers, for Bharata told Rama: "Brother, you are my father and my God".
- P5 postcard shows Atticus Finch character in To Kill a Mockingbird, and the message is from Earl of Leicester to Sir Phillip Sidney. A descendent of the latter was also called Phillip Sidney, Third Earl of Leicester (1619-98) and was to whom John Dryden wrote a dedication describing him as "a second (Titus Pomponius) **Atticus**" (110-31BC), patron of Cicero.
- P6 postcard showing ROBIN Williams links to CHRISTOPHER ROBIN the owner of the TOYS.
- P8 postcard shows the astrological chart and written in the stars – where ET came from.
- P9 postcard shows Hawaii, with President Obama the recipient being born in Honolulu which is marked on the postcard map.
- P10 – it is often over-looked that after Einstein's emigration to the US in 1933, some promising early showings as a catcher for the Baltimore Orioles came to nothing when he opted instead to continue a career of scientific study.

DOMINO CIPHER

Decipher

HELP LIONEL TO REARM REBELS

Process

The decode starts with the pictures on the bottom right of the page. The first picture is shown below:



The left hand side of the picture are the Popes: **Pope Nicholas IV** (grey image), **Pope Paul VI** (photo), **Pope Eugene IV** (coin) which gives us **POPES**. On the right hand side of the image is the publicity photo from the BBC's **Messiah** showing (L-R), **Helen McCrory, Ken Stott, Neil Dudgeon** and **Maxine Peake**: this gives us **MESSIAH**. Together they give us **POPE'S MESSIAH**.

From Wikipedia: *Messiah* (1712) is a [poem](#) by [Alexander Pope](#) which [Samuel Johnson](#) translated into [Latin](#) in December 1728. The first line of this English translation is: **YE Nymphs of Solyma! begin the song**, which if you stand back and scrunch up your eyes is what the set of rectangles, shown below, is representing.



The red rectangle is the H of NYMPHS. This is a very clear indicator that the code is based on a (word, letter) pair as the first domino (also helpfully coloured red) shows (2, 5) or the second word and the fifth letter. The second word is NYMPH and the fifth letter is H. This confirms (word, letter). The decode proceeds simply with each domino reading its (word, letter) from the line in the document subsequent of the previous domino: first domino uses line 1, second domino line 2 etc.

The full decode is shown below

#	Domino	W#	L#	Line	Word	Letter
1	(2,5)	2	5	YE Nymphs of Solyma! begin the song	NYMPHS	H
2	(6, 2)	6	2	To heav'nly themes sublimer strains belong	BELONG	E
3	(6, 3)	6	3	The mossy fountains, and the sylvan shades	SYLVAN	L
4	(4, 1)	4	1	The dreams of Pindus, and th' Aonian maids	PINDUS	P
5	(1, 3)	1	3	Delight no more—O Thou my voice inspire	DELIGHT	L
6	(3, 4)	3	4	Who touch'd Isaiah's hallow'd lips with fire	ISAIHHS	I
7	(2, 4)	2	4	Rapt into future times, the bard begun	INTO	O
8	(6, 6)	6	6	A virgin shall conceive, a virgin bear a son!	VIRGIN	N
9	(2, 2)	2	2	From Jesse's 2 root behold a branch arise	JESSES	E

10	(4, 6)	6	4	Whose sacred flower with fragrance fills the skies;	FILLS	L
11	(1, 1)	1	1	Th' ethereal spirit o'er its leaves shall move	Th	T
12	(4, 2)	4	2	And on its top descends the mystic dove	TOP	O
13	(3, 2)	3	2	Ye Heav'ns! from high the dewy nectar pour	FROM	R
14	(4, 4)	4	4	And in soft silence shed the kindly shower	SILENCE	E
15	(3, 1)	3	1	The sick and weak the healing plant shall aid	AND	A
16	(1, 2)	1	2	From storms a shelter, and from heat a shade	FROM	R
17	(2, 4)	2	4	All crimes shall cease, and ancient fraud shall fail	CRIMES	M
18	(3, 5)	5	3	Returning Justice lift aloft her scale	HER	R
19	(1, 5)	1	5	Peace o'er the world her olive wand extend	PEACE	E
20	(3, 3)	3	3	And white-robed Innocence from Heav'n descend	ROBED	B
21	(4, 6)	6	4	Swift fly the years, and rise th' expected morn	RISE	E
22	(1, 4)	4	1	O spring to light, auspicious babe! be born	LIGHT	L
23	(3, 6)	3	6	See Nature hastes her earliest wreaths to bring	HASTES	S

Which gives us:

HELP LIONEL REARM REBELS

Usage

Helps us to identify **SYRIA** as the country represented by the **Hexagon HoneyComb** and the initial locations for the two special pieces, **MESSI** and the **GOAL**.

HEXAGON HONEYCOMB

Introduction

When the pages are joined together the HEXAGON HONEYCOMB becomes clear – a delineated area that is clearly a shape into which the individual hexagons should be fitted.



We notice four objects inside of the honeycomb:

- An AK47
- Some writing in Arabic or a related language
- A television set playing a colourful Match of the Day Theme
- The BLUE CARD showing the pond

We also notice that the **COLOURED XYLOPHONE** is thematically linked through a dotted grey line.

Identification

From the **DOMINO CODE** we deciphered: **HELP LIONEL REARM REBELS.**

On our travels we had also found reference to an extremely strange article that says Syrian TV channel **ADDOUNIA** claim that in setting up a goal for his team-mate Pedro against Real Madrid, **LIONEL MESSI** outlined to Syrian rebels gun smuggling routes from Lebanon into Syria.

<http://www.ibtimes.co.uk/barcelona-s-lionel-messi-sending-messages-syrian-317327>

Messi's dribble, pass and subsequent goal detail a route between **HOMS** and **AL MAGADIN** (or **AL MAYADIN**).

Putting the two together we identify the Hexagon Honeycomb as a map of **SYRIA**. The previously identified AK47 – as befits a gun runner such as MESSI is located over HOMS and the writing is the same as we find on Google Maps when we look at Al Mayadin in Syria.



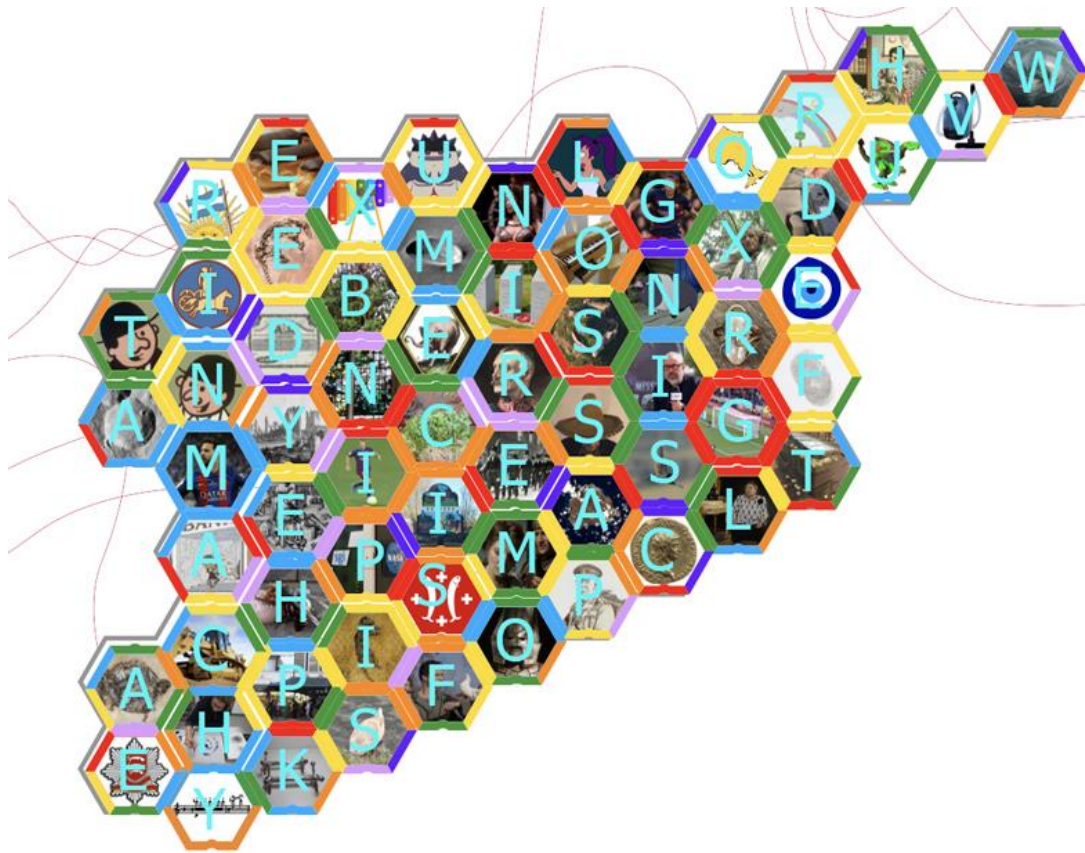
We also note that the only route between HOMS and AL MAYADIN goes via the **M20** – a previously identified MESSIER OBJECT.

Completing the Jigsaw

To start the jigsaw we recognised that the hexagon pieces fitted together colour to colour: red to red, blue to blue etc. We also noted that the hexagons all have one concave and one convex 'bump' indicating the direction of each of the hexagons inside the map. We were thrown for a while by the red herring of some hexagons with matching colours touching each other in the ATH document (and in one case already joined). Our initial working assumption was that this was giving us a head start, much as some traditional jigsaws arrive with a few pieces pre-joined. However after much late-night head scratching we realised that this was not the case.

We also recognised two special pieces, one for **MESSI** (all blue edges) and one for a **GOAL** (all red edges). It would seem natural to place **MESSI on HOMS** and the **GOAL on AL MAYADIN** to represent Messi running the guns between Homs and Al Mayadin (his goal)

Credit to Calum for the final piecing together of the jigsaw shown below. Its always good to have a third year Mathematics student around when you need something computationally complex to be done.



We do not know if this is APOPHENIA, but if you read along from MESSI to the GOAL with the first step to the Y North East of the M for Messi and then proceed snake like toward the goal you get: M-Y-I-C-E-S-S-I-G which is an anagram of:

MESSY CGI

This looks very much like a confirmation that we have done the right thing: **MESSY** being a theme of the ATH and **CGI** being the current incarnation of **LOGICA** the originators of the hunt. One could claim that this counts as the **LOGICA** question.

Decoding the Hexagon Honeycomb

We had always suspected that the **SYNTHESIA** of **MESSIAEN** would play an important part in this years ATH and the proliferation of colour would seem to confirm that. In some way we would have to "play" a tune on the Hexagon Honeycomb. For that we require a tune to play and also a means to convert the notes of the tune to colours as unlike **MESSIAEN** we cannot do that ourselves.

We notice the previously described **Match of the Day colourful tune** and that we should use this is confirmed by the **BRASS PLAYER/SECTION** decode from the **PICTURE POSTCARDS**. The melody of the Match of the Day theme tune is played on the trumpet. The score for the trumpet melody can be found easily and we note that as there is a single F# in the key that it must be in the **KEY OF G**.

We also note that the initial letters for the phrases decoded from the **MUSIC SCORES** come from ABCDEF but no G – it is possible that this is another hint to use the Key of G but may also be APOPHENIA.

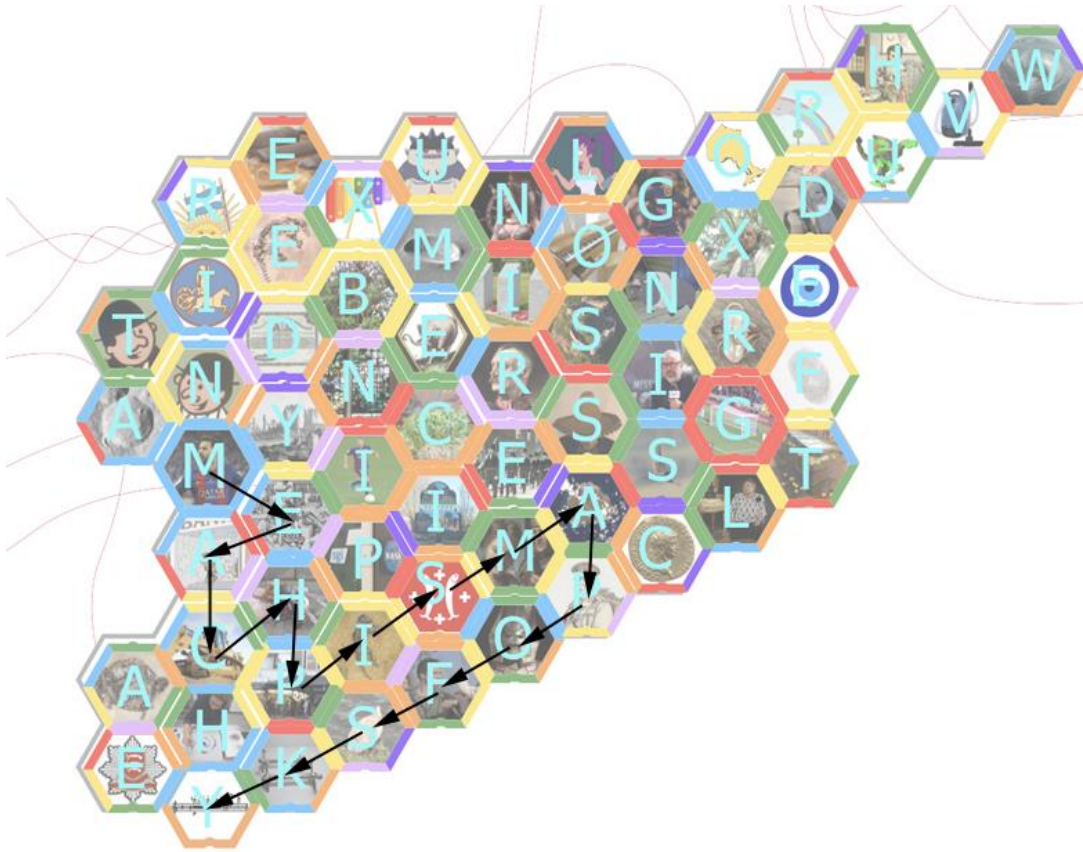
We also note the linked **COLOURFUL XYLOPHONE**. It seems reasonable to assume that this is also in the KEY OF G. This would then give as a translation between notes and colours as is shown below.

NOTE	COLOUR
G	RED
A	ORANGE
B	YELLOW
C	GREEN
D	BLUE
E	INDIGO
F#	VIOLET

We can then translate the melody of the **MATCH OF THE DAY** theme tune into colours using this table as is shown below.

#	NT	COL	#	NT	COL	#	NT	COL	#	NT	COL	#	NT	COL
1	D	BLUE	16	D	BLUE	31	D	BLUE	45	E	INDIGO	60	A	ORANGE
2	G	RED	17	F	VIOLET	32	G	RED	46	F	VIOLET	61	G	RED
3	B	YELLOW	18	A	ORANGE	33	B	YELLOW	47	G	RED			
4	D	BLUE	19	C	GREEN	34	D	BLUE	48	G	RED			
5	B	YELLOW	20	A	ORANGE	35	B	YELLOW	49	F	VIOLET			
6	B	YELLOW	21	A	ORANGE	36	B	YELLOW	50	F	VIOLET			
7	B	YELLOW	22	A	ORANGE	37	B	YELLOW	51	E	INDIGO			
8	B	YELLOW	23	A	ORANGE	38	B	YELLOW	52	G	RED			
9	B	YELLOW	24	A	ORANGE	39	B	YELLOW	53	D	BLUE			
10	C	GREEN	25	B	YELLOW	40	C	GREEN	54	D	BLUE			
11	D	BLUE	26	C	GREEN	41	D	BLUE	55	E	INDIGO			
12	B	YELLOW	27	A	ORANGE	42	B	YELLOW	56	D	BLUE			
13	A	ORANGE	28	G	RED	43	C	G	57	C	GREEN			
14	B	YELLOW	29	A	ORANGE	44	D	BLUE	58	B	YELLOW			
15	C	GREEN	30	B	YELLOW	45	E	INDIGO	59	B	YELLOW			

We then start on the MESSI Hexagon in the Hexagon Honeycomb and step our way through according to the colour trail defined above (only first part of message is shown for illustration)



Giving us:

EACH P IS MAP OF SKY EACH PIC IS MESSIERS O NUMBER IN A TIDY INCREASING ORDER

The usage of this is described in the **SKY MAP** section,

MAP OF SKY

Introduction

We learned from the **HEXAGON HONEYCOMB** decipher that **EACH P IS MAP OF SKY EACH PIC IS MESSIERS O NUMBER IN A TIDY INCREASING ORDER**. We interpret this as **EACH PAGE IS MAP OF SKY** so we need to map each page of the ATH to a section of the astronomical sky. Moreover, **EACH PIC IS MESSIERS O NUMBER** – we interpret this as each HEXAGON piece maps to a MESSIER OBJECT.

So each page is mapped to the astronomical heaven with each hexagon piece on the page falling on a Messier Object. This gives us a map between a **letter (hexagon)** and a **number (Messier Object)**. We interpret IN A TIDY INCREASING ORDER as an instruction to order by increasing Messier Object Number.

An illustration is shown below of our first breakthrough using Photoshop to overlay a section of the astronomical sky on an ATH



Page. Although very difficult to accurately match the two it was clear that we were on the right path with both all the Hexagons matching to Messier Objects but also the **COFFEE STAINS** matching to the **STARS!** We didn't use Photoshop more than this as it was not required and a visual comparison of the pages with a map of Messier Objects proved to be sufficient.

Decode

So by re-ordering the hexagons into Messier Object order the Christmas message from Bruce Hindsight was decoded as:

FIND AN ESSEX PLACE AMID EVERY EIGHTH BOX IN SYRIA. GO W FROM CH. TURN L. PICK UP MESS.

These are our **TREASURE DIRECTIONS** – finally! We interpret W as **WEST**, CH as **CHURCH** and **MESS** and the **RIVER MESS** visual directions we deciphered from the **BLUE CARD** section. The Essex Place is the final part of the decode that gives us **MESSING** in **ESSEX**.

At the end of this decode we have a complete set of directions taking us from the **CHURCH** in **MESSING** to the **CLEFT** in a **FALLEN TREE** and a **TUPPERWARE BOX** we have waited a fortnight to find.

The final SKY MAP decode is shown below.

#	Pg	Hexagon	Letter	M#	Messier Name
1	1	Vacuum Cleaner	V	31	Andromeda Galaxy
2	1	Eurotamandua	E	32	
3	1	Rainbow	R	34	
4	1	Lionel Messi	M	76	Little Dumbbell Nebula
5	1	Sigmundskron Castle	S	110	
6	2	Hornet	H	40	Winneke 4
7	2	Omega	O	51	Whirlpool Galaxy
8	2	Cress	C	97	Owl Nebula
9	2	Knife Rest	K	101	Pinwheel Galaxy
10	2	General Sir H C O Plumer	P	106	
11	2	Elephant	E	108	
12	2	Sombrero	S	109	
13	3	Francis of Assissi	F	1	Crab Nebula
14	3	Ypres	Y	35	
15	3	Evil eye	E	36	
16	3	Andrés Iniesta	I	37	
17	3	Olga García Pérez	P	38	
18	4	House of Salm	S	58	
19	4	Yellowhammer	Y	59	
20	4	Ring	R	60	
21	4		H	84	
22	4	Treasure Chest	T	86	
23	4	Undermine (Dino Shout)	U	87	Virgo A
24	4	Rosario, Argentina	R	89	
25	4	Nineveh (from Jonah Window)	N	90	
26	5	Napoleon	N	10	
27	5	Eclairs	E	12	
28	5		S	14	
29	5	Messier Crater	M	107	

ATH2017: Apopheniacs Anonymous Entry

30	6	Mr Tidy	T	41	
31	6	Caroline Hershel	H	46	
32	6	Beehive	B	47	
33	6	(Turanga) Leela	L	93	
34	7	Messalina	M	27	Dumbbell Nebula
35	7	Dipstick	D	29	Cooling Tower
36	7	Inworth village sign	I	56	
37	7	Nebula	N	57	Ring Nebula
38	8	Madame Adolphine	A	8	Lagoon Nebula
39	8	Jeanne Loriod	L	20	Trifid Nebula (link to 8x8 Trifid decipher)
40	8	Allaeochelys Crassesculpta	A	21	
41	8	Caterpillar 953k Truck Loader	C	22	Sagittarius Cluster
42	8	Iceni	I	28	
43	8	Xylophone	X	54	
44	8	Ondes Martenot	O	69	
45	8	Whirlpool	W	70	
46	9	Álex de la Iglesia	I	4	
47	9	Mr Neat	N	6	Butterfly Cluster
48	9	Dumbell's	D	7	Ptolemy Cluster
49	9	Peckham Rye station	P	19	
50	9	Island of Ireland Peace Park	I	62	
51	9	Claudius (41-54 AD)	C	80	
52	10		S	16	Eagle Nebula
53	10	St Eligius	E	17	Omega, Swan, Horseshoe or Lobster Nebula
54	10	Iannis Xenakis	X	18	
55	10	Essex County Fire and Rescue Service	E	24	Sagittarius Star Cloud
56	10	Ascension Island.	A	25	
57	11	Azophi crater	A	65	Leo Triplet
58	11	Goal	G	66	Leo Triplet
59	11	NASA Pleiades Supercomputer	N	95	

60	11	Ida	I	96	
61	11	Untidy	U	105	
62	12	Eton Rifles	E	30	
63	12	Fingerprint	F	72	
64	12	Rupprecht	R	73	
65	12	Ontario	O	75	

When the Hexagon Letters shown above are ordered in a TIDY INCREASING ORDER ie increasing Messier Object Number, the letters then read in sequence:

FIND AN ESSEX PLACE AMID EVERY EIGHTH BOX IN SYRIA. GO W FROM CH. TURN L. PICK UP MESS

The interpretation of this was given in the DECODE at the start of this section

FIND AN ESSEX PLACE

We are told to **FIND AN ESSEX PLACE AMID EVERY EIGHTH BOX IN SYRIA**. We take this to mean to look in the previous decode we got from the musical walk through SYRIA i.e. through the **HEXAGON HONEYCOMB** as we called it.

EACH P IS MAP OF SKY EACH PIC IS MESSIERS O NUMBER IN A TIDY INCREASING ORDER

In this text take every eighth letter:

EACH P IS **M**AP OF SKY **E**ACH PIC IS **S** MESSIER **S** O NUMBER **I**N A TIDY **I**NCREASIN**G** ORDER

Which gives us the town of **MESSING** in **ESSEX**.

BLUE CARD CIPHER

Decipher

IN A TREE CLEFT

Process

The blue edged card on page 3 contains two columns of eight letter words, none of which seem to make sense on first reading but all of which sound like they could be words. The columns are headed RA and NPD which a little Googling revealed were likely to mean **RIGHT ASCENSION (RA)** and **NORTH POLAR DISTANCE (NPD)**. An RA/NPD pair would allow us to identify an object in the sky.

The overall heading for the card says **Pubs A. S. P.; VIII; 109**. Again this didn't mean anything to us initially, but a little searching found some similarly structured references as part of the publications of the **Astronomical Society of the Pacific (ASP)**. Handily, the ASP web site has a search function at

<http://iopscience.iop.org/journal/1538-3873>

which allowed us to search for an article by volume and page. Volume 8 (VIII) page 109 turns out to be **A CIPHER-CODE FOR ASTRONOMICAL MESSAGES** by Edward S Holden. Call it a hunch, but the phrase "Cipher code" told us we were heading in the right direction.

The first concern was that the relevant article is dated 1st April 1896. Surely not an April Fool? Fortunately we persevered. It turned out that each of our 16 eight letter words could be split into two parts – the first three letters and the last five – each generating a five digit number. This is achieved via lookup tables (TABLES in a PUBLICATION!?). For example

HODIVATE = HOD ; IVATE

HOD = 104 ; IVATE = 68

So **HODIVATE = 10468**.

We proceeded to turn each word into its 5 digit equivalent using this method.

R . A .	N . P . D .
HODIVATE = 10468	FONAHOLD = 07811
LARENDOW = 18536	DULINIZE = 05658
LAFERKIN = 18038	HUFATION = 11423
FAPIPTIK = 06460	HORIBODE = 11044
LUGOROUS = 20589	HIPERKIN = 10238
BAPEBLOW = 00427	DOPAFRAS = 04908
DUDIREKT = 05361	DUGILEGE = 05552
KINOCEAN = 16170	HOZINODE = 11259
LAFAVISH = 18026	HUDABATE = 11302
HOYALONE = 11115	DAPARINE = 03420
LUGEMBUE = 20535	HIPEJEKT = 10232
JALIRIZE = 12262	FOLABOUT = 07703

The next step was to turn each five digit number into something relevant. The document told us how. In the case of an RA, a code of **abcde** is equivalent to an RA of **ab hours cd.e minutes**. So HODIVATE = 10468 = 10 hours 46.8 minutes.

For the NPD column the format was slightly different; an NPD of **abcde** is equivalent to **abc degrees, de minutes**. So FONAHOLD = 07811 = 78 degrees 11 minutes.

This gave us an RA/NPD pair for each of the 12 lines on the card. Noting that Declination = 90 – NPD and using the Wikipedia list of Messier Objects at

https://en.wikipedia.org/wiki/List_of_Messier_objects

we were able to establish that each RA/NPD pair pointed us to a specific Messier object.

Pair	R.A.	N.P.D.	Messier Object
HODIVATE/FONAHOLD	10h 46.8m	78°11'	M96
LARENDOW/DULINIZE	18h 53.6m	56°58'	M57
LAFERKIN/HUFATION	18h 3.8m	114°23'	M8
FAPIPTIK/HORIBODE	6h 46.0m	110°44'	M41
LUGOROUS/HIPERKIN	20h 58.9m	102°38'	M73
BAPEBLOW/DOPAFRAS	0h 42.7m	49° 8'	M31
DUDIREKT/DUGILEGE	5h 36.1m	55°52'	M36
KINOCEAN/HOZINODE	16h 17.0m	112°59'	M80
LAFAVISH/HUDABATE	18h 2.6m	113° 2'	M20
HOYALONE/DAPARINE	11h 11.5m	34°20'	M108
LUGEMBUE/HIPEJEKT	20h 53.5m	102°32'	M72
JALIRIZE/FOLABOUT	12h 26.2m	77° 3'	M86

So, a sequence of 12 Messier objects that sat unused for quite a while until we determined that each of the 65 hexagons could be associated with a Messier Object and thus each Messier Object could provide a letter. This gave us a decode of for the final blue card of the River Mess trail of

IN A TREE CLEFT

Usage

This blue card is the final card on the River Mess trail (signified by the anagram BE GERM). It told us to look in the cleft in the middle of the fallen tree at the treasure site, which we did indeed do, although more by treasure hunters' instinct than anything else because we hadn't yet finished this decode!

COMET CIPHER PART I

Decipher

PUB PALATABLE BUT WE SUGGEST GET A TABLE

Process

On Page 7 there is an ellipse of years – the ellipse reminds us of the path a comet may take and the years are those in which MESSIER was active and searching for comets. We note also the Paul Kufner's painting of the Great Comet of 1769 (Napoleon's Comet) with a grey dashed line connection to the first in the sequence of comet path years: Messier was the first to observe Napoleon's Comet in 1769, describing the tail as curved and the head appearing **RED**dish (the RED colour perhaps giving us a hint to not trust the outcome of this decode).

For each comet observed a comet designation id is assigned - this takes into account of the type of comet, the year and month it was found. The important part is the month - the naming convention assigns a letter to the part of the month - each month is split into 2 halves and the letter assigned accordingly. The ids are all in the link:

<http://www.messier.seds.org/xtra/history/44comets.html>

And the table below applies this to the years providing the decode.

Year	Desig. new	Letter
1769	C/1769 P1	P
1780	C/1780 U2	U
1760	C/1760 B1	B
1769	C/1769 P1	P
1785	C/1785 A1	A
1770	D/1770 L1	L
1785	C/1785 A1	A
1773	C/1773 T1	T
1785	C/1785 A1	A
1760	C/1760 B1	B
1770	D/1770 L1	L
1766	C/1766 E1	E
1760	C/1760 B1	B
1780	C/1780 U2	U
1773	C/1773 T1	T
1788	C/1788 W1	W
1766	C/1766 E1	E
1793	C/1793 S1	S

1780	C/1780 U2	U
1798	C/1798 G1	G
1798	C/1798 G1	G
1766	C/1766 E1	E
1793	C/1793 S1	S
1773	C/1773 T1	T
1798	C/1798 G1	G
1766	C/1766 E1	E
1773	C/1773 T1	T
1785	C/1785 A1	A
1773	C/1773 T1	T
1785	C/1785 A1	A
1760	C/1760 B1	B
1770	D/1770 L1	L
1766	C/1766 E1	E

Which yields:

PUB PALATABLE BUT WE SUGGEST GET A TABLE

Usage

Noting that the MESSY line crosses the comet path, continues through the **INWORTH** hexagon before re-crossing the comet path, enthusiastic treasure hunters may be tempted to try Inworth as a potential start of a treasure trail - not so AA! Indeed, there is a cafe/bar in Inworth, THE RED DOG CAFE, which has on its menu 'Red Dog' hot dogs – i.e. the pub name is RED (which means it is potentially a red-herring) but it is also edible or palatable. The remaining instruction to 'GET A TABLE' implies that we need to use a non-pub table in order to complete this puzzle (see Part 2 of this decode).

(Pub was indeed palatable but we were early enough not to have to book. Refers to **THE OLD CROWN** pub in **MESSING**.)

We also note that **1771** comet is missing – this would give a **G** which is the key of the **XYLOPHONE**.

COMET CIPHER PART II (apophenia by 1744)

Decipher

LA COURONNE (THE CROWN)

Process

As noted earlier, the head of the comet of 1769 had a **RED**dish colour and we are instructed to avoid a pub with **RED** in its name, suggesting we should stay clear of anything coming out of this decode. But like all comets, they have two tails, so just perhaps there is something useful to come out of this decode after all – the good tale if you like. From Part 1 of this decode we are instructed to 'GET A TABLE'. Most noticeably, from the decode of the 'BE GERM' blue card on page 3, we have a table listing the Right Ascension and North Polar Direction of 12 Messier objects. The comet path and the Messier objects are thematically linked: Messier observed comets, nebulae and star clusters at the same time – in fact the nebulae and star clusters appear to more of an inconvenience, getting in the way of the serious, and profitable, business of comet hunting. But more than this, we have a strong hint from the dashed line connecting the Messiaen 'BRUSQUES ETOILES' decode to a point in the comet path which approximately matches the year 1779. The translation of 'brusques etoiles' could be 'sudden stars' or 'hurtling stars' – our interpretation is that while tracking the path of comet 1779, Messier obtained observations for a bumper crop of those annoying non-comet objects, including the first known observation of an asteroid, '2 Pallas'. On the back of these and later observations, Messier created a star chart for comet 1779 that included the path of the comet and the positions of around 28 other Messier objects (see <http://www.astrobril.nl/1779A1.html>) – this star chart is what 'brusques etoiles' is hinting at. This star chart will come in useful later on.

We have mentioned already how the MESSY line intersects the comet path, but the letters between the two intersection points are also of interest here. Assume that we have marked the comet years with the letters from the 'PUB PALATABLE' decode. From the first intersection point at the **L** in PALATABLE, the MESSY line continues through the **INWORTH** hexagon, the **NEBULA** hexagon, the minesweeper game, before intersecting at the **T** in PALATABLE. Our assumption is that along with **L** and **T** we also use the **A** in LAT giving a hint at **LATIN**. It is also assumed the path of the MESSY line through the minesweeper game is also hinting at its use.

Having previously noted how inter-related the observation of comets and other Messier objects are, we fill in the Messier object numbers from our table which are consistent with observation dates. The ordering of the objects is important. Between the **L** (1770 comet) and **A** (1785 comet) we order by increasing observation date/Messier number: M57 (1779), M72 (1780), M73 (1780), M80 (1781), M86 (1781), M96 (1781), M109 (1781); between the **A** (1785 comet) and **T** (1773 comet) we order by descending observation date/Messier number: M109 (1781), M96 (1781), M86 (1781), M80 (1781), M73 (1780), M72 (1780), M57(1779).

Using our **LATIN** hint, we convert Messier object numbers into Latin (i.e. Roman numerals) and format the Roman numerals into an 8x8 decoding grille, consistent with the grid from the minesweeper game:

L	V	I	I	L	X	X	I
I	L	X	X	I	I	I	L
X	X	X	L	X	X	X	V
I	X	C	V	I	C	I	X
C	I	X	X	C	V	I	L
X	X	X	V	I	L	X	X
X	L	X	X	I	I	I	L

X	X	I	X	L	V	I	I
---	---	---	---	---	---	---	---

The mine locations in the minesweeper game were used as the decoding points in a 'decoding grille' that was applied to the 8x8 letter grid on page 6 (thematically linked to the underground mines detonated at the Battle of Messines in 1917). Here we apply the same method of decoding against the 8x8 letter grid but use the locations of the L letters in place of the mines. The reasons for using the L are due to: a) the JEANNE LORIOD hexagon (used already as a hint for the TRIFID decode) has a dashed line connecting to the 8x8 letter grid – the signification letter from this hexagon is an L; b) there are a total of 10 Ls in the decoding grille - when added to the 9 mines from the minesweeper game a total of 19 mines will have 'exploded' in the letter grid – thematically identical to the number of large craters formed at Messines Ridge after detonation of underground mines at the Battle of Messines on 7th June 1917. This decode gives the following, scrambled message:

ADJDYXXXER

Rearranging this message into a table-like structure (re-using the hint that we need to **GET A TABLE**):

D	DAY
XXX	J ^{ER}

When writing Roman numerals, J is often used in place of I at the end of a number; in combination with **ER**, when translated from French into English gives '1st' while **XXX** is interpreted as a Roman numeral giving the number 30. We know that the ER needs to be associated with the J since any other number in French would require an 'eme' suffix. Interpreting the **D** column as Declination and the **DAY** column as the day of observation we can pinpoint a precise position of comet 1779 from Messier's star chart (see <http://www.astrobril.nl/1779A1.html>). It turns out that only one location is possible with these parameters: the observation point is on 1st March 1779, located in the picture of '**LA COURONNE**' constellation (The Crown) – see image below. Given the hint about a pub that we shouldn't go to, it seems reasonable that this is the name of a pub that we should be going to. We suggest this is a pointer to 'The Old Crown' pub in Messing – very close to the start of the treasure trail and ideally suited to celebrating the successful retrieval of treasure and mulling over our long tails of apophenia!



Usage

Beer and food.

GREY LINES

Introduction

The GREY LINES in the ATH join one object or part of the ATH to another object or part of a hunt. These items are therefore linked give a bi-directional clue – if you have one it helps to get the other

Decode

Point 1	Point 2	Significance
Music : Arcs-en-Ciel [p1]	Hexagon 23 Rainbow (R) [p1]	Arcs-en-ciel = Rainbow
8x8 word square to [p6]	Hexagon 44 Loriod [p8] and mine key [p8]	Mine key indicates to use the Minsweeper decode to extract the key from the 8x8 word square. Jeanne Loriod hexagon maps through the SKY MAP to the TRIFID Messier Object indicating to use the TRIFID Cipher.
Painting : C/1769 P1 (Messier) over Nuremburg [p7]	Timeline 1769 [p7]	Hint at comet timeline
Music : Brusques Etoiles [p7]	Timeline between 1773 & 1785 [p7]	In 1779 Messier thought he had discovered a comet that later became M61. M61 http://www.messier-objects.com/messier-61/ is classified as a Starburst galaxy due to the rate of new star formation and also a place where 7 supernova have been observed. Either new stars or nova are candidates for 'sudden stars'. Starburst is not a bad translation of Brusque Etoile
Postcard back "... even more monstrous ..." [p7]	Hexagon 59 Woman with ship's wheel (N) and TV symbol [p7]	This was NEBULA from the HERCULES TV show indicating that HERCULES would also be a subject of the indicated postcard.
Syria map outline [p8]	Hexagon 29 Xylophone (X) [p8]	The XYLOPHONE (in the key of G) is used to map notes to colours.
Music : Mess [p9]	Middle of hexagon trail line [p9]	Messy part of trail
Music : Eppes de Feu [p10]	Hexagon 10 Essex Fire & Rescue (E) [p10]	Feu / Fire link

ATH SCOREBOARD 2017

Introduction

Even as this document was being written this puzzle was the one that seemed to be eluding us. We did note a couple of tantalising details though

The five teams represented by symbols all relate to one of the hunt's MESSy themes

- Musical note – Olivier **MESS**iaen
- Football – Lionel **MESS**i
- Scribbled line – Mr **MESS**y
- Minesweeper mine – **MESS**ines Ridge
- Telescope – Charles **MESS**ier

We had various suspicions about the scores and, in particular, the appearance of scores with quarter marks. Our best theory related to musical time but we couldn't find a way of making this work.

The total score of all teams is 20, which in itself is a 'score'. Scores, of course, figure in the hunt via Olivier Messiaen's musical scores and also via the goal scored in the hexagon map of Syria while Lionel Messi was helping to re-arm the rebels.

In a fit of possible last minute apophenia we pondered that four of the teams could be mapped to our decodes of Messiaen's musical scores as follows

- Page 1 - arcs-en-ciel = rainbow => Messi (football 6/4)
- Page 7 - brusques etoiles = sudden star / comet => Messier (telescope 40/4)
- Page 9 - fouillis = Mess => Messy (Mr Messy squiggle 9/4)
- Page 10 - epees de feu = Swords of Fire => Messines (mine 20/4)

[END]