## The Rookies' Answers

## The Teaser Poster

1. The poster shows astronomer Charles Messier...
2. ...astride a Messerschmitt KR200 Bubble Car (version shown was adapted by a New Zealander, Dave Blackmore "in a nod to manufacturer Messerschmitt's Bf 109 also known as ME109 fighter planes") ...
(There is a rock group called Ritchie Blackmore's Rainbow which, in conjunction with Dave Blackmore, is suggestive of the village of Blackmore, near Ingatestone in Essex. This is part of a false trail to Blackmore / Ingatestone.)
3. ...wearing a rainbow football boot (a la Lionel Messi)
4. The tiny stained glass windows at the back are from Sainte Trinite in Paris, where the organist once was the composer Olivier Messiaen.
5. The rainbow bars represent part of the song "Deck the Halls". The colours represent the pitch of the notes, going up one note for each colour in the spectrum. The height of the bars represent the duration of the notes. The plus sign indicates that one note is sharp.
6. The other letters within the coloured bars point to verse 2 lines $3-4$ of the song, and then change the lyrics to:

FOLLOW ME IN MESSY PLEASURE (FA LA LA LA LA LA LA LA)
WHILE I SING OF BURIED TREASURE (FA LA LA LA LA LA LA LA LA)
7. All of the above points to a "Messy" theme.

## The Main Hunt

8. The title of the hunt is "Another Fine Mess".
9. The pages of the hunt fit together as so:

10. The "tea stains" form a map of the night sky, linking with Messier and the astronomical theme. The Hexagons are Messier Objects and there are 12 constellations shown. They look like this:

11. A clue to this connection is given by the postcard depicting Messiaen's birthchart. There is a large tea stain on the sign of Capricorn, which is one of the constellations depicted in the tea stains.
12. Each page of the hunt depicts the night sky at a different scale so that, when they are fitted together, the overall map is not accurate. This is indicated by the altered version of the poster on backs of the playing cards, which shows some of the stars out of position.
13. One of the constellations shown is Sagittarius. Part of this constellation is known as "the Teapot". The source of the tea stains perhaps.
14. There's a picture of Mr Messy at the start of a messy tangled line which links picture hexagons.
15. The hexagons have a messy theme. The table below shows the hexagons in order from Mr Messy to the treasure, their identity and link to the Messy theme, and the Messier object number represented by their position on the map of the night sky.

| PICTURE |  <br> MESSY LINK | MESSIER OBJECT NO. <br> CORRESPONDING TO <br> LOCATION |
| :--- | :--- | :--- |


|  | Messerschmitt Hornet | 40 |
| :--- | :--- | :--- |


|  | YPRES 1917 <br> The tactical objective of the <br> attack at Messines was to <br> capture the German <br> defences on the ridge, which <br> ran from Ploegsteert <br> (Plugstreet) Wood in the <br> south, through Messines and <br> Wytschaete to Mt. Sorrel, to <br> deprive the German 4th Army <br> of the high ground south of <br> Ypres |  |
| :--- | :--- | :--- |


|  | JUVENILE MUTE SWAN <br> Cygnus constellation <br> contains two Messier <br> Objects, 29, and 39. <br> Messier Object 39 is located <br> at the tail of Cygnus. <br> Also the Swan Nebula (aka <br> the Omega Nebula) is <br> Messier object 17 |  |
| :--- | :--- | :--- | :--- |
| ESSEX FIRE SERVICE |  |  |
| Their HQ is in Kelvedon, very |  |  |
| close to Messing. |  |  |, 24


|  | CATERPILLAR TRACTOR <br> Caterpillar was one of the <br> mines at the Battle of <br> Messiness | 22 |
| :--- | :--- | :--- |


|  | YVONNE LORIOD <br> Messiaen | 59 |
| :---: | :---: | :---: |
|  | ETON TRAINEES <br> Eton Mess | 30 |
|  | ADOLPHINE <br> Messerschmitt Adolfine | 8 |
|  | RING <br> Messier Object 57 | 60 |



|  | 28 |
| :--- | :--- | :--- |
| Supposedly a derivative from |  |


|  | ANDRES INIESTA <br> Teammate of Messi | 37 |
| :---: | :---: | :---: |
|  | RAINBOW XYLOPHONE <br> Symbolising Messiaen's synesthetic association of music and colours | 54 |
|  | IDA <br> Fossil from the Messel Pit fossil site | 96 |
|  | NAPOLEON THE PIG from Animal Farm <br> Messier wrote an astrological treatise about Napoleon | 10 |


|  | GOAL <br> Messi is about to score <br> This still is from a match <br> between Barcelona and <br> Espanyol in September 2017. <br> Messi is about to complete a <br> hattrick. | MESSIER CRATER <br> Messier Crater |
| :--- | :--- | :--- |
|  | ECLAIRS <br> Eclairs is a piece by <br> Messiaen | 107 |


|  | Messner Mountain Museum |  |
| :--- | :--- | :--- |


|  | KNIFE REST |
| :--- | :--- | :--- |
| The German word is |  |
| "Messerbänkchen" | 101 |


|  | JEANNE LORIOD <br> Messiaen's sister-in-law and <br> world's leading exponent of <br> the Ondes-Martenot (another <br> hexagon) | 20 |
| :--- | :--- | :--- |
|  | OMEGA from Doctor Who | 51 |


|  | FRANCIS OF ASSISI | 1 |
| :--- | :--- | :--- |


|  | BEEHIVE <br> Messier Object 44 (also the hexagons fit together as in a beehive) | 47 |
| :---: | :---: | :---: |
|  | RUPPRECHT VON BAYERN <br> German commander at Messines | 73 |
|  | UNDERMINE <br> References to mines used at Messines. | 87 |
|  | CLAUDIUS <br> Husband of Messalina (another hexagon) and a temple to him was destroyed by Boudicca of the Iceni (another hexagon) | 80 |


|  | ST ELOI <br> One of the mines of the Battle of Messines | 17 |
| :---: | :---: | :---: |
|  | CAROLINE HERSCHEL <br> Discovered several Messier Objects | 46 |
|  | INWORTH <br> In the Parish of Messing-cum-Inworth | 56 |
|  | Gina Torres as NEBULA (from TV show Hercules) <br> Messier Object 13 was described as a nebula in the constellation Hercules | 57 |


|  | DIPSTICK <br> Messiaen piece called Diptyque | 29 |
| :---: | :---: | :---: |
|  | SOMBRERO <br> Messier Object 104 | 109 |
|  | IRISH DIVISION <br> Battle of Messines | 62 |
|  | OLGA GARCIA <br> No. 10 in Barcelona's women's team, cf Lionel Messi, No. 10 in the men's team <br> Also connects to the essay, A Message to Garcia. | 38 |


|  | LIA HALLORAN <br> Artist influenced by Messier <br> objects, resulting in exhibition <br> "Deep Sky Companion" | 84 |
| :--- | :--- | :--- |

16. Arranged in the order following the tangled line from Mr Messy, the initial letters of the objects spells out a festive message from the puzzle setters.

HAPPY XMAS. EPIC NEW YEAR SORT I.E. FIXING MESS. LUCK AND LOVE FROM BRUCE HINDSIGHT
(or possibly HAPPY XMAS. EPIC NEW YEAR SORTIE FIXING MESS. LUCK AND LOVE FROM BRUCE HINDSIGHT)
17. An alternative reading could be:

HAPPY XMAS. EPIC NEW YEAR. SORT, I.E. FIX, "ING MESS". LUCK AND LOVE FROM BRUCE HINDSIGHT
... suggesting "Messing" as the location via an anagram.
18. Arranging the hexagons in numerical order by the associated Messier object number, the initial letters of the object spell out the message:
19. FIND AN ESSEX PLACE AMID EVERY EIGHTH BOX IN SYRIA GO W FROM CH TURN L PICK UP MESS
20. W FROM CH TURN L means West from Church and turn left.
21. The hexagons fit together into the grey outline shape, which is shaped like Syria, with their outside colours matching, as follows:

22. Although it is actually Syria, the more obvious first guess is that this is a map of Essex. If so, the hexagon which begins with I and depicts a town sign is in the correct location for Ingatestone. This is part of a false trail to Ingatestone.
23. Starting from Messalina you can trace a line through consecutive hexagons that says "MESSING ORD XREF TL". Messing is in the Ordnance Survey TL grid ref.
24. There are a series of dominoes, the first one of which is red. There is also a picture "domino": one one half it shows three Popes (Paul VI, Eugenius IV, and Nicolas IV), on the other 4 actors (Helen McCrory, Ken Stott, Maxine Peake, Neil Dudgeon) from the TV series Messiah. This represents (Alexander) Pope’s Messiah.
25. There is a redacted sentence with one letter highlighted in red. It matches the first line of Pope's Messiah which is: Ye Nymphs of Solyma! begin the song. The highlighted letter is the H in nymphs.
26. This points to the fact that the red domino (2:5) represents an H (the second word, fifth letter) of the first line. Applying this rule to each successive line of the poem leads to

Ye nymphs of Solyma! begin the song:
To heavenly themes sublimer strains belong.

The mossy fountains and the sy|van shades,

The dreams of Pindus and the Aonian maids,
Delight no more. O thou my voice inspire
Who touched Isalah's hallowed lips with fire!

Rapt into future times, the Bard begun:

A virgin shall conceive, a virgin bear a son!

From Jesse's root behold a branch arise,
Whose sacred flower with fragrance fills the skies:

The ethereal spirit o'er its leaves shall move,

And on its top descends the mystic dove.

Ye heavens! flom high the dewy nectar pour,
And in soft silence shed the kindly shower!

The sick and weak the healing plant shall aid,

From storms a shelter, and from heat a shade.
All crimes shall cease, and ancient fraud shall fail;
Returning Justice lift aloft her scale;

H

E

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0
$N$

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$T$

0
$R$
$E$

A
$R$

M
$R$
Peace o'er the world her olive wand extend, ..... $E$
And white-robed Innocence from heaven descend. ..... B
Swift fly the years, and rise the expected morn! ..... E
O, spring to light, auspicious Babe, be born! ..... L
See Nature hastes her earliest wreaths to bring, ..... $S$

## HELP LIONEL TO REARM REBELS

27. This relates to a news story about Lionel Messi sending secret messages to arms runners. Yes really! Well, not really, but it was a real story. His dribbles / passes were interpreted as instructions to Syrian rebels as to how to transport arms over the border with Lebanon (near the city of Homs) to Al-Mayadeen
28. The grey shape containing the hexagons represents a map of Syria. The picture of Messi appears over an image of a gun when slotted into its space - which corresponds with where the arms come into the country over the Lebanese border near Homs. The hexagon with the picture of the goal appears over the Arabic word الييادين, which is a place name - Al Mayadeen (different spellings are available), which is in the appropriate place within the map. Messi's thought bubble hearts correspond with a path from him to the goal / from Homs to Al Mayadeen. These are also the only two hexagons with the same colours on all sides.
29. The clue about rearming rebels suggests two thing. Firstly, it suggests that there is some message to be found in the direction of Messi's movements and, secondly, it suggests that the image of a gun might be something which can be used to assist some rebels or other. The main candidates for the rebels to be armed are the Iceni and the Dumbbells hexagon, which in fact depicts a banknote from the Isle of Man, where there was a rebellion in 1651.
30. Although the correct message from Mr Messy's tangled line is SORT I.E. FIXING MESS, a more natural first reading of the message is SORT BY FIXING MESS. This is a false trail which leads to the idea of moving the hexagons by fixing one or more of them in place, and rotating others around them.
31. The image of Lionel Messi has a thought bubble above his head containing 7 hearts, coloured in accordance with the first 4 colours of the rainbow. The shape of the
hexagons suggest a path for him to follow and, if this path is followed (starting from Ypres), it finishes with the goal hexagon.
32. This path does not yield a useful message but the Match of the Day image has a clue in that, like Messi's thought bubble, it is coloured using horizontal rainbow stripes. However, the stripes go through the rainbow in the opposite direction, which suggests that Messi's path should also go in the opposite direction, starting by travelling down rather than up.
33. If this path is followed, it spells nonsense which ends with the letters -MAS, which is suggestive of a festive greeting. The fact that the goal does not appear to be in quite the right place also suggests that Messi is in slightly the wrong position.
34. The false clue SORT BY FIXING MESS suggests that Messi, Messalina or the Messier Crater is the hexagon to be fixed in place. But this neither arms the rebels nor allows Messi to be moved. Therefore, the Ypres hexagon, which denotes the Messines ridge, is to be fixed first. If the six hexagons around it are rotated two places anti-clockwise, the Manx rebels will be armed.
35. It is clear that Cress needs to be moved to create a festive greeting, so now it is time for Messi to be fixed in place, and the hexagons around him (including Ypres) to go one place clockwise. To complete the message, Ypres must be fixed in its new location, with the hexagons around it moving one place clockwise.
36. The route from Messi to the goal suggested by the hearts (and extended so that it starts from Mr Tidy) now goes via:

TIDY - NINEVEH - MESSI - ELOI - CRESS - MAS

## i.e. Tidings and have a messy hell of a Christmas

37. There is an alternative solution which is less festive but marginally more helpful. The Iceni can be armed by fixing Mr Neat and rotating 180 degrees around him. Messi's path will end on the hexagon depicting Napoleon the pig, which is one of a sequence of hexagons spelling out MESSING. This would be roughly the correct location for Messing-cum-Inworth, if the map were one of Essex.
38. The MESS part of MESSING (Messalina, Eton, Sombrero, Sigmundskron) can now be fixed. If so, (restarting from the original locations of the hexagons), the hexagon which is now known to be Inworth can be rotated to Napoleon's original position, its correct location on a map of Essex.
39. However, the revelation that the message is SORT I.E. FIXING MESS, and that the map is Syria rather than Essex, shows that this is simply a clue to the location of the treasure, rather then the correct way of altering the map.
40. The correct way to alter the map is to treat it as a Syria-shaped (or Essex-shaped) region in the few miles around Messing-cum-Inworth. If so, the Essex Fire Service is in its correct location in Kelvedon, and Inworth is also in the right place. Messing is on the Napoleon hexagon, as the above clue suggests, and the treasure hexagon is SSE of Messing towards, but not quite as far out as, the Rampart (for which the Iceni hexagon is also a clue). This is where the treasure is!
41. The rainbow xylophone with a grey line attached to the hexagons, the Match of the Day theme rainbow musical notes, and the Deck the Halls code on the teaser poster, all suggest that the hexagons contain a musical cipher.
42. The pieces of music are labelled "Nieve O. Serialism" which is an anagram of Olivier Messiaen (a composer who was an innovator in serialism).
43. Messiaen used a cipher whereby particular notes stand for letters, in particular in his work Méditations sur le mystère de la Sainte Trinité (the church on the teaser poster). Applying this cipher to the musical extracts gives:


BRUSQUES ETOILES = SUDDEN STARS (i.e. Comets)


## FOUILLIS = MESS

44. These themes appear in Messiaen's Quatuor pour la fin du temps. From the preface: "Ces épées de feu, ces coulées de lave bleu-orange, ces brusques étoiles : voilà le fouillis, voilà les arc-en-ciel!" These are themes in the hunt: the piece of music representing rainbows is linked by a line to the hexagon with the picture of the rainbow; the "sudden stars" to a list of comets; the "swords of fire" links to the hexagon with the Essex Fire Service insignia (the swords are found on the Essex flag); and "mess" to one of the tangles.
45. There is a series of pictures of birds, which all feature in Messiaen's Catalogue d'Oiseaux.
46. Alpine chough - Catalogue Number 1 (facing right)
47. Black eared wheatear-4 (R)
48. Black eared wheatear - 4 (R)
49. Short-toed lark - 8 (L)
50. Tawny owl-5 (R)
51. Curlew - 13 (L)
52. Black eared wheatear-4(R)
53. Tawny owl-5 (R)
54. Cetti's warbler - 9 (L)
55. Reed warbler - 7 (L)
56. Black wheatear - 12 (L)
57. Short-toed lark - 8 (L)
58. Reed warbler - 7 (L)
59. Alpine chough - 1 (R)
60. Curlew -13 (R)
61. Buzzard - 11 (L)
62. The Catalogue d'Oiseaux consists of 13 pieces all representing different birds. As the birds are shown facing in two different directions, there are 26 combinations in all, which is suggestive of an alphabetical cipher. Therefore, the catalogue numbers relate to the letters A - M when the bird is facing right, Z - N when facing left. This leads to:

## ADD SENDER TO STAMP

47. This is an instruction relating to the postcards (more of which later).
48. There is an $8 \times 8$ minesweeper grid. When it is solved, the 9 bombs are in the following locations:

Row 2 column 3
R3 C1
R3 C4
R3 C6
R4 C4
R5 C1
R5 C7
R7 C5
R8 C5
49. There is an $8 \times 8$ letter square. It is printed over a map of Oosttaverne, just south of Ypres on the Messines Ridge, a WW1 battlefield.
50. The minesweeper grid shows a time of 310 . There were several battles fought at Ypres, the last of which concluded on 2 October 1918, so the "puzzle was solved" and peace fell on the region on $3 / 10$.
51. The minesweeper grid and the letter square are linked with a grey line, they are also both $8 \times 8$ grids, and the fact that the letter square is printed over a picture of a minefield indicates that the two are linked.
52. There is a symbol which combines a bomb and a key linking the Jeanne Loriod hexagon to the letter square. This suggests that the Jeanne Loriod hexagon is a key to solving the letter square, and that the minesweeper puzzle is also linked. In fact, this hexagon maps to Messier Object 20, the Trifid Nebula, which indicates that a trifid cipher should be used to decode the letter square.
53. When the locations of the bombs in the minesweeper grid are matched to the letter grid it spells GAYGOPHER. (There is actually a Gay Gopher on Twitter, he's an LGBT mascot and therefore has a rainbow profile picture, in keeping with the theme of the hunt).
54. GAYGOPHER is an anagram of GEOGRAPHY. General Harrington, Chief of Staff to General Plumer, the British Commander of the Second Army at the Battle of Messines (one of our hexagons), said on the eve of the battle: "Gentlemen, I don't know whether we are going to make history tomorrow, but at any rate we shall change geography", which explains the anagram of geography.
55. The fact that the letter square contains a 27 th character ( + ) also supports the use of the trifid cipher.
56. Removing the letters "GAYGOPHER" from the encryption and using this as a code word decodes the letter square. The period used is 5 , as suggested by the scoreboard.

## ORDER CARDS BY MOVEMENT APPLY RECIPIENTS TO SENDERS RETRANSLATE

This is another instruction relating to the postcards (more of which later).
57. There is a map of France. There are several locations marked by red hexagons, blue squares and white ovals. There is a bomb symbol. The map is surrounded by a circle containing letters and then a further circle containing heraldic symbols.
58. The red hexagons are:

Laon - birthplace of astronomer and Messier object discoverer Mechain (he discovered Messier object 107, which is beside the map of France on the "tea stain" map.) Rumigny - birthplace of astronomer and Messier object discoverer Lacaille Coutances - birthplace of astronomer and Messier object discoverer Le Gentil Belgentier - birthplace of astronomer and Messier object discoverer Peiresc
59. The blue squares are:

Messei
Messery
Messigny-et-Vantoux
Messimy
60. The white ovals are:

Avignon
Ambert
Grenoble
Nantes

These are all places where Messiaen spent his childhood.
61. The bomb symbol marks Messines / Oosttaverne (the location of the battle shown in the background of the letter square).
62. The bomb symbol links to the word TREASURE which is a clue that the treasure is located not far from a battlefield (i.e. The Rampart).
63. The coats of arms of the above places are:

| Place | Coat of Arms |
| :--- | :--- | :--- |
| Rumigny |  |
| Coutances |  |
| Belgentier |  |


| Messery |  |  |
| :--- | :--- | :--- |
| Messigny et Vantoux |  |  |
| Messimy |  |  |
| Anignon |  |  |
| Arenoble |  |  |


64. The icons in the circle around the map are elements taken from these coats of arms, with a letter next to them

| LETTER | ICON | COAT OF ARMS |
| :---: | :---: | :---: |
| E | $85$ | Ambert |
| 0 |  | Laon |
| R |  | Rumigny |
| F | $5$ | Messimy |
| 1 | $\sqrt{3}$ | Ambert |
| R | (a) | Messigny-et-Vantoux |
| M |  | Avignon or Belgentier |
| 0 | $\frac{d a}{5}$ | Laon |
| E |  |  |
| M |  | Messigny-et-Vantoux |
| T |  |  |


| A |  |  |
| :---: | :---: | :---: |
| E |  |  |
| R |  |  |
| R | $8$ |  |
| M |  | Laon |
| H |  | Grenoble |
| 0 | $11$ | Messery |
| E | 0 | Coutances |
| R | 0 | Coutances |
| R |  | Nantes |
| I | 0 | Coutances |
| A | $\downarrow$ | Avignon |
| A |  | Ambert |
| L |  | Coutances |
| L | 5 | Avignon |
| D | 토붕 | Messery |


| F |  | Coutances |
| :---: | :---: | :---: |
| R | $\because$ | Avignon |
| R |  | Grenoble |
| Y | 1 | Messei |
| A | \% | Messimy |
| 0 |  | Nantes |
| G | $\begin{aligned} & \text { な్ర } \\ & \text { ºl } \end{aligned}$ | Messimy |
| F |  | Messimy |
| M | $11$ | Messery |
| G |  | Rumigny |
| E |  | Avignon or Belgentier |
| A |  | Laon |
| N |  | Ambert |
| U |  | Messimy |
| T |  | Messei |
| L |  | Ambert |


| S | $8$ |  |
| :---: | :---: | :---: |
| B |  | Nantes |
| R |  | Messimy |
| E |  | Grenoble |
| O |  | Messei |
| G | gig | Messigny-et-Vantoux |
| U | $8$ |  |
| 0 |  | Grenoble |
| N |  | Laon |
| T | 会 | Laon |
| D |  | Messimy |
| T | 然 | Laon |
| P | R | Belgentier |
| 0 |  | Messimy |

65. The three hexagons within the circle and the tea stains on it, provide various clues as to which towns are depicted by the coats of arms. For example, the tea stain on the duck of Laon, and the Napoleon hexagon, jointly indicate that this is from a town in which a battle was fought during the Napoleonic Wars, the Battle of Laon.
66. Combining the letters associated with the elements from each coat of arms, in the correct order (the background shield first, then the other elements in order top to bottom, left to right) gives descriptions matching the senders of the postcards (more of which later). The original symbol marking the town on the map - square, oval or hexagon matches up with the postmark on the postcard matching that description.

| Place | Coat of Arms | Letters <br> (rearranged) | Postcard Link |
| :--- | :--- | :--- | :--- |
| Laon |  | OTTOMAN | Sultan Bayezid II (an <br> OTTOMAN ruler) |
| Rumigny |  | GR | Albert Einstein (GR $=$ <br> General Relativity) |
| Coutances |  |  |  |
| Belgentier |  |  |  |
| Avignon |  |  | Amelia Earhart (a famous |
| aviatrix or FLIER) |  |  |  |


| Ambert | ALIEN | Elliot from ET (a film about <br> an ALIEN) |  |
| :--- | :--- | :--- | :--- |
| Grenoble |  |  | Hercules (a legendary <br> HERO) |
| Nantes |  | BRO | Bharata (the BRO of Rama, <br> the recipient of the postcard) |
| Messei |  |  |  |

67. The remaining symbols are: white background, red chevron, "boxing glove" x 3 , yellow flower $\times 3$ and the remaining letters are: ETAERRSU = TREASURE
68. The remaining symbols can be combined to form a coat of arms that is from the village of Messing in Essex, indicating that the treasure can be found there.

69. There are 12 postcards. Each has a picture on one side, and on the other a message, a stamp with a bird on it, and a postmark. The "to / from" section is blank, but can be deduced from the message.
70. The pictures on the postcards each represent a movement from Messiaen's work "Des canyons aux étoiles... (From the canyons to the stars...)". We decoded the instruction "order cards by movement" so these are listed in the appropriate order.

| Picture | Represe <br> nts | Stamp | Postmark | Message | From / To | Link to table <br> above |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Desert <br> dunes <br> (Hello, <br> God) | Le désert <br> (the <br> desert) | Blue <br> Rock <br> Thrush <br> (facing <br> (Moveme <br> right) | Hexagons | Here's this <br> year's <br> money for <br> holding my <br> brother in <br> Rome. You | Sultan <br> look after <br> him and I'll <br> stay out of <br> Venice. | OTTOMAN <br> To |
| Innocent VIII <br> (Sultan <br> Bayezid was <br> an Ottoman <br> Sultan) |  |  |  |  |  |  |


| Baseball player Adam Jones of the Baltimore Orioles | Les <br> orioles <br> (the <br> orioles) <br> (Moveme <br> nt no 2) | Curlew (facing right) $13 R=$ M | Hexagons | Your paper on invariants is outstanding ; its logic is poetic. No man could have done better. | Albert <br> Einstein <br> To <br> Emmy Noether | GR (General Relativity) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| An astrologic al birth chart representi ng Messiaen' s date of birth | Ce qui est écrit sur les étoiles (what is written in the stars) <br> (Moveme nt no 3) | Cetti's Warbler (facing right) $9 R=1$ | Ovals | It was no goblin, and it wasn't mine. But since you asked, it's gone home now. | Elliott (from the film ET) <br> To <br> Tyler | ALIEN (ET was an alien) |
| Robin Williams on a chat show | Le cossyphe d'Heuglin (the white-bro wed robin chat) <br> (Moveme nt no 4) | Reed Warbler (facing left) $7 \mathrm{~L}=\mathrm{T}$ | Squares | 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 | Hjalmar Riiser-Larsen <br> To <br> Lincoln Ellsworth | TOY (a reference to the mascot on Riiser-Larsen's expedition) |
| Roman soldier (hello god) | Cedar Breaks et le don de crainte (Cedar Breaks and the gift of awe) Cedar | Golden Oriole (facing left) $2 \mathrm{~L}=\mathrm{Y}$ | Ovals | Don't be later coming back. Your sandals need filling and l'm not keen to immolate myself. | Bharata <br> To <br> Rama | BRO (Bharata and Rama were brothers) |


|  | Breaks is a natural amphithe atre <br> (Moveme nt no 5) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jodie <br> Foster in Contact, a film about receiving a message from space | Appel interstellai re (interstell ar call) <br> (Moveme nt no 6) | Cetti's Warbler (facing right) $9 R=1$ | Hexagons | Good idea! I'll see if I can land there. I was wondering how l'd get across the Pacific xx | Amelia <br> Earhart <br> To <br> Gene Vidal | FLIER (Earhart was a pilot) |
| Bryce Canyon, Utah | Bryce <br> Canyon <br> et les <br> rochers <br> rouge-ora <br> nge <br> (Bryce <br> Canyon <br> and the <br> red-orang <br> e rocks) <br> (Moveme <br> nt no 7) | Woodla rk (facing right) $6 R=F$ | Squares | I would send an envoy to Portugal, your majesty. In fact, why not allow me to go back at last? | Pero da Covilha To <br> Empress Eleni of Abyssinia | DOM (da Covilha was a Portuguese gentleman) |
| Blank (with a musical note on a tea stain that correspon ds with the star Aldebaran ) | Les <br> ressucités <br> et le <br> chant de <br> l'étoile <br> Aldebara <br> $n$ (the <br> resurrecte <br> d and the <br> song of <br> the star | Tawny Owl (facing right) $5 R=E$ | Hexagons | You can tell Mr Hitler from me: no-one will take him seriously while he looks like Charlie Chaplin | Nancy Astor <br> To <br> Joachim von <br> Ribbentrop | MP (Astor was the first female MP) |


|  | Alderaba <br> n") <br> (Moveme <br> nt no 8) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atticus <br> Finch from <br> To Kill a <br> Mockingbi rd | Le <br> moqueur <br> polyglotte <br> (the <br> mockingbi <br> rd) <br> (Moveme <br> nt no 9) | Alpine Chough (facing left) $1 \mathrm{~L}=\mathrm{Z}$ | Ovals | I would buy your life with all I have, but it was noble of you to give another man your water | The Earl of Leicester To Philip Sidney | EARL (of Leicester) |
| "Your <br> Secret <br> Name" <br> "The secret name of god" is a line from the poem the Wood Thrush by Jeanie Tomasko | La grive des bois (the wood thrush) <br> (Moveme nt no 10) | Black eared Wheate ar (facing left) $4 \mathrm{~L}=\mathrm{W}$ | Ovals | This one looks even more monstrous than the last. It might be helpful if you bring a torch | Hercules <br> To <br> Iolaus <br> *There is a link from this card with a TV logo to the hexagon with a character from the TV programme Hercules | HERO <br> (Hercules was a hero) |
| Hawaiian Islands | Omao, leiothrix, elepaio, shama (all birds from Hawaii) <br> (Moveme nt no 11) | Alpine Chough (facing right) $1 R=A$ | Squares | Man, just for you l'll put a shirt on. When we visit the White House l'll even wear a suit! | JR Smith <br> To <br> Barack <br> Obama | OFF GUARD (JR Smith's playing position) |


| The Battle of Zion from the film Matrix Revolution s | Zion Park <br> et la cité céleste (Zion <br> Park and the celestial city) <br> (Moveme nt no 12) | Short toed lark (facing left) <br> $8 \mathrm{~L}=\mathrm{S}$ | Squares | You can take refuge here as long as you like. I just hope you like metal. | Monsignor José <br> Sebastián <br> Laboa <br> To <br> Manuel <br> Noriega | MGR <br> (Monsignor) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

71. Where a postcard contains "Hello God", it indicates that the recipient is a divine or semi-divine figure, and the same applies to the postcard which says "Your Secret Name", because the wood thrush connection shows that it is God's secret name to which it refers. Rama is a god and both Iolaus and Innocent VIII (like most medieval popes) are semi-divine figures.
72. The postcards have various tea stains on them, which typically fall on pronouns. These are to give emphasis to the importance of being careful about properly identifying the sender and the recipient of each postcard from the context.
73. In the absence of instructions, the natural thing to try is to construct a message by alternating senders and recipients. This appears to produce a message in French which begins BIEN ET but the rest of the message is nonsense. It would be tempting to think that the instruction to RETRANSLATE applies to this message, but it doesn't.
74. Our first instruction is to ADD SENDER TO STAMP. To do this you take the initial letter of the sender, and add it to the letter suggested by the bird on the stamp, following the Catalogue d'Oiseaux code used before. You take the numerical position of both letters within the alphabet, add them together, and translate that to a new position number and letter.
75. Our next instruction is to ORDER CARDS BY MOVEMENT. As above, we have ordered the cards from 1 to 12 according to the order of movements in Des Canyons aux Etoiles.
76. Our next instruction is to APPLY RECIPIENTS TO SENDERS. The initial letter of of the recipients spells out the word INTERVERSION.
77. Interversion is a French word which has the general meaning which is the same as the English word "inversion", meaning a reversal.
78. Interversion also refers to a permutation scheme used by Messiaen (notably in his work Quatre Etudes de Rythme in relation to a series of 12). An example of an interversion in this work is changing a sequence ordered from 12 to 1 to the specific sequence $6,7,5$, $8,4,9,3,10,2,11,1,12$.
79. NB changing the order of the postcards from the page numbers on which they were originally found to the order of the movements has some of the properties of an interversion but it does quite not fit with any of the interversions in Messiaen's scheme.
80. The interversions of Messiaen are a specific example of a card shuffling technique known as a "Mongean shuffle". Messiaen himself described it as a permutation in the form of an open fan.
81. The initials of the senders of the postcards, which are numbered from 1 to 12 below, in the order in which the postcards appear in the Canyons sequence, must be reordered from 12 to 1 , by way of an inversion or a reversal.
82. Secondly, the interversion in paragraph 78 above must be applied in order to reorder the postcards for a further time. The cumulative effect of these reorderings is to reorder the postcards numbered from 1 to 12 to the sequence $7,6,8,5,9,4,10,3,11,2,12,1$.
83. The word RETRANSLATE can be understood in several ways. It could be that two different interversions, or reorderings of the postcards, are being applied. It could be that two different meanings of the French word interversion are being used. Or it could be that the letters have to be converted into numbers in order to apply the interversions, and then have to be converted back into letters again.

|  | Stamp | Sender | Recipient | Sender + stamp | Intervert |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1}$ | $\mathrm{C}(3 / 26)$ | $\mathrm{B}(2 / 26)$ | I | $(3+2=5 / 26=) \quad \mathrm{E}$ | $7=\mathrm{I}$ |
| $\mathbf{2}$ | $\mathrm{M}(13 / 26)$ | $\mathrm{E}(5 / 26)$ | N | $(13+5=18 / 26=) \quad \mathrm{R}$ | $6=\mathrm{N}$ |
| $\mathbf{3}$ | $\mathrm{I}(9 / 26)$ | $\mathrm{E}(5 / 26)$ | T | $(9+5=14 / 26=) \quad \mathrm{N}$ | $8=\mathrm{F}$ |
| $\mathbf{4}$ | $\mathrm{T}(20 / 26)$ | $\mathrm{R}(18 / 26)$ | E | $(20+18=38 / 26=) \mathrm{L}$ | $5=\mathrm{A}$ |
| $\mathbf{5}$ | $\mathrm{Y}(25 / 26)$ | $\mathrm{B}(2 / 26)$ | R | $(25+2=27 / 26=)$ | A |
| $\mathbf{6}$ | $\mathrm{I}(9 / 26)$ | $\mathrm{E}(5 / 26)$ | V | $9=\mathrm{L}$ |  |
| $\mathbf{7}$ | $\mathrm{F}(6 / 26)$ | $\mathrm{C}(3 / 26)$ | E | $(6+5=14 / 26=) \quad \mathrm{N}$ | $4=\mathrm{L}$ |


| $\mathbf{8}$ | $\mathrm{E}(5 / 26)$ | $\mathrm{A}(1 / 26)$ | R | $(5+1=6 / 26=) \quad \mathrm{F}$ | $3=\mathrm{N}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{9}$ | $\mathrm{Z}(26 / 26)$ | $\mathrm{L}(12 / 26)$ | S | $(26+12=38 / 26=) \mathrm{L}$ | $11=\mathrm{T}$ |
| $\mathbf{1 0}$ | $\mathrm{W}(23 / 26)$ | $\mathrm{H}(8 / 26)$ | I | $(23+8=31 / 26=) \mathrm{E}$ | $2=\mathrm{R}$ |
| $\mathbf{1 1}$ | $\mathrm{A}(1 / 26)$ | $\mathrm{S}(19 / 26)$ | O | $(1+19=20 / 26=) \mathrm{T}$ | $12=\mathrm{E}$ |
| $\mathbf{1 2}$ | $\mathrm{S}(19 / 26)$ | $\mathrm{L}(12 / 26)$ | N | $(19+12=31 / 26=) \mathrm{E}$ | $1=\mathrm{E}$ |

84. As per the table above, when all these instructions are followed the message produced is:

## IN FALLEN TREE

85. There are 8 cards with blue edges, most of which have a combination of words and pictures. Another blue edged card has 8 red spots along a river.
86. These cards provide further visual directions on how to reach the treasure when arranged in the correct order, followed by the final two instructions "IN FALLEN TREE" (from the bird sequence and postcards) and the result of the BE-GERM cipher (see derivation below). The correct order of the cards is presumably determined by using the words on the cards (but we're not sure how...).

| Picture | First Word | Second Word | Correct order to <br> find treasure |
| :--- | :--- | :--- | :--- |
| Alpine choughs ... <br> face to face = A... | PINE | PORTER | 7 |
| Wreath on round <br> window | WHOLE | CRUISE | 1 |
| Public footpath sign | PINK | RANGES | 2 |
| Stile | BEAT | GENT | 3 |
| Tree | NECK | GALE | 4 |
| Post | HEN | WRING | 6 |
| Frozen pond | CAKE | GERM | 8 |
| List of codes ** | BE |  |  |

87. **The card with the list of codes has references to the Royal Astronomical Society and the Astronomical Society of the Pacific (ASP). The ASP published a "Cipher Code for Astronomical Messages" by Edward S Holden. Applying this to the words on the card gives various locations in the night sky. Those locations match with Messier objects as follows:

| Right Ascensions | North Polar Distances | Messier Object No. | Picture Hexagon in this location |
| :---: | :---: | :---: | :---: |
| HODIVATE 10468 | FONAHOLD 07811 | 96 | IDA |
| LARENDOW 18536 | DULINIZE 05658 | 57 | NEBULA |
| LAFERKIN 18038 | HUFATION 11423 | 8 | ADOLPHINE |
| FAPIPTIK 06420 | HORIBODE 11044 | 41 | TIDY |
| LUGOROUS 20589 | HIPERKIN 10238 | 73 | RUPRECHT |
| BAPEBLOW 00427 | DOPAFRAS 04908 | 32 | EUROTAMANDUA |
| DUDIREKT 05361 | DUGILEGE 05552 | 36 | EVIL EYE |
| KINOCEAN 16170 | HOZINODE 11259 | 80 | CLAUDIUS |
| LAFAVISH 18026 | HUDABATE 11302 | 20 | LORIOD |
| HOYALONE 11115 | DAPARINE 03420 | 108 | ELEPHANT |
| LUGEMBUE 20535 | HIPEJEKT 10232 | 72 | FINGERPRINT |
| JALIRIZE 12262 | FOLABOUT 07703 | 86 | TREASURE |

88. Putting the letters from the Hexagons together from these Messier objects spells:

IN A TREE CLEFT, which is the final clue to the treasure's location.
89. The fact that the last letter comes from the word "Treasure" is another indication that this is where the treasure can be found.
90. And lo, we travelled to MESSING, went WEST FROM THE CHURCH, turned LEFT, followed the pictures in order, ("pick up mess" i.e. pick up the trail marked by the photographs) which are locations on the way from the village leading to and in Coneyfield Wood.






91. We then found a FALLEN TREE, looked in its CLEFT and found the TREASURE!


92. There is a curved line with dates. It is linked with a dotted line both to a piece of music that reads "sudden stars" and to a black and white picture depicting a comet (The Great Comet of 1769 over Nuremberg, by Paul Küfner).
93. The dates are years in which Messier discovered comets. The designation of those comets are:

C/1760 B1
C/1763 S1
C/1764 A1
C/1766 E1
C/1769 P1
D/1770 L1
C/1771 G1
C/1773 T1
C/1780 U2
C/1788 W1
C/1793 S2
C/1798 G1
C/1785 A1
94. By matching the list of years to the letter associated with that comet, it gives:

## PUB PALATABLE BUT WE SUGGEST GET A TABLE

95. This suggests the location of the treasure has a nearby pub - The Old Crown is in Messing and was indeed determined to be "palatable".
96. It is also a clue to how to solve the astronomical cipher on the BE-GERM card. There is a tea stain on the words "Pubs" and it is necessary to "get a table" in order to solve the cipher.

## Hint(s)

97. We were sent a hint with playing cards, and a mangled quote.
98. We identified the quote as being based on Alexander Pope's An Essay on Man: Epistle II "Know then thyself, presume not God to scan; The proper study of mankind is man." This gives a hint to the other Pope work we needed to solve the Dominoes Puzzle Pope's Messiah.
99. The sequence of cards: King of Spades, 5 of Spades, 6 of Hearts, 6 of Clubs, Queen of Hearts, Queen of Clubs, 8 of Hearts, Queen of Diamonds, 5 of Diamonds. Spades and diamonds represent $A$ to $M$ in the order from Ace (low) to King, while hearts and clubs represent N to Z in the same order, so the message reads:

## MESSY YULE

This gives a hint to how to solve the sequence of bird stamps.

