ATH for Dummies - Answers

Home Page

ATH for Dummies was set by Rosalind Barden's ATH team. The opening sentence of the home page:

> Turn off your television, pour yourself a hearty cordial, get out
> your ouija board and try your hand at Rosalind and Morticia's
> Armchair Treasure Hunt

was just a hint as to why we chose the name *Morticia* for the synthetic person representing the team. *Television* is perhaps the word best known to have hybrid roots; it comes from Greek *tele*, meaning *far*, and Latin *visio*, meaning *I see*. (*Automobile* and *hexadecimal* are similar.) *hearty* and *cordial* are German and French-derived words having about the same meaning. And finally *ouija* is formed from the French and German words for *yes*. Morticia herself is constructed from French *le mort* and German *der Tisch*, both meaning *dummy* in the bridge sense – in bridge the dummy is the hand placed face up on the table for the duration of the play. Thus Morticia is herself a small double dummy problem, presaging the double dummy problem at the centre of the quiz.

The main actors behind Morticia are Paul Barden, Jonathan Mestel and Frances Hinden.

The rest of the opening paragraph:

> If you can deal with the compilers' obscure questions, finesse their
> mysterious ciphers, and trump their devious tricks, you may be able
> to squeeze out the location of this year's treasure box, which is
> somewhere in the south of England.

contains some fairly obvious hints – *deal*, *finesse*, *trump*, *squeeze* – at what you have to do to solve the quiz.

Poster

The picture on the poster is *Composition IX, Card Players* by Theo van Doesburg. Piet Mondrian and van Doesburg were the leaders of the Dutch non-figurative art movement *De Stijl – The Style*. It does look like two card players if you cock your head at it.

Announcements

There were two gentle hints in the announcements. On Christmas Eve, we wished you good luck, referring to the "good luck on Christmas Eve" message on page 10. And on New Year's Day, we advised you to keep "looking studious", referring to *The Old Vicarage, Grantchester*, where "Tennyson notes, with studious eye".

Themes

- Playing cards (obviously)
- Byron
- Rupert Brooke's poem *The Old Vicarage, Grantchester*
- The number 19: this is the 19th ATH

Construction

Most of the quiz is taken up in defining a bridge deal. Each of the four hands gets two pages of questions, pictures and non-question text. The first question give the hand's "shape" as a four digit number representing the number of spades, hearts, diamonds and clubs in that order, as is conventional. Then thirteen questions give the thirteen cards, more or less cryptically. The thirteen cards are hinted at also by a picture or other text (sometimes more than one card per picture). A few of these clues relate to the themes.

The deck of cards shown on page one maps to the somewhat oddly worded note *Playing cards will help…* It's traditional to have an acronym, so the questions are arranged so that the cards in each hand spell out a message under this mapping, albeit carrying little meaning.

The intention of all this is to make it possible to make out the complete deal even if there are a few questions you can't do (but it should be easier to do them once you've worked out the deal).

The deal is a so-called "double dummy" problem – a bridge deal where the solver is asked to work out the best play with all the cards on view. The not very difficult cipher at the top of page seven gives the conditions of the problem. If you solve the double dummy problem, the cards taken in the order in which they are played spell out a quotation from the poem, directing you to the area of the treasure site – the annotated version of the poem at
http://eir.library.utoronto.ca/rpo/display/poem231.html tells you where.

The pictures at the bottom of page nine provide an additional series of clues leading to the area of the treasure site.

Page ten is largely taken up with an additional cipher, and instructions for solving it. The decoded message confirms the nature of the problem by telling you where you can download (for a fee) a program which will help you with the double dummy analysis.

Detailed directions to the treasure are given in the cipher at the bottom of page nine.

Other clues relate to the themes in various ways.

The Treasure

The box contains a pack of playing cards and a postcard reproduction of a portrait of Byron from the National Portrait Gallery. On the postcard is written:

Congratulations on leaving your armchair and finding the treasure box.

Please take the highest remaining playing card. The cards rank in the order in which they were played, the first card played ranking highest. Make sure you know what you're doing; marks will be deducted for claims containing the wrong card!

If you don't know which card to take, make a note of which cards are missing. Credit will be given for finding the treasure early.

In either case, please contact the compiler by email on
ATHfordummies@hotpop.com

Please replace everything (except your card) carefully, trying not to be seen doing it.

If you don't know what any of this is about, then congratulations anyway on finding the box. Please put everything back – there's no actual treasure here.

More details of this hunt can be viewed at http://public.logica.com/~ath/

Page one

Ace and ten of hearts: this is a mnemonic for ATH. The cards selected provide a little education about Christmas in Iceland. *Jólatré* is a Christmas tree, *Stúfur* is one of the thirteen Christmas elves – you can read about them at http://www.european-schoolprojects.net/festivals/Iceland/elves.htm

You might also read this as a clue for the A10, which is on the route to the treasure.

A picture of the church clock in Grantchester: *Stands the Church clock at ten to three?* So why is it showing half past three? Because that's what Brooke wrote in his first draft – see http://www.ac026.dial.pipex.com/WALK/walks/walk_26.shtml . The handwritten drafts can be seen in the King's College archives, or more accessibly in *Rupert Brooke: Four Poems*. No one now knows what was actually going on with the clock in 1911: it was stopped for many years at ten to three after the poem became well known.

RvT E-E+2: RvT is the conventional abbreviation for Chaucer's *The Reeve's Tale*. E is defined on page ten as 67. You can read *The Reeve's Tale* at http://www.librarius.com/canttran/reevtale/reevtale067-132.htm . Lines 67-69 are:

> At Trumpyngtoun, nat fer fro Cantebrigge,
> Ther gooth a brook, and over that a brigge,
> Upon the whiche brook ther stant a melle;

It is thought that the mill was at Byron's Pool – see for example http://www.iankitching.me.uk/history/cam/glossary.html . Brooke refers to this in *The Old Vicarage, Grantchester*:
> Dan Chaucer hears his river still
> Chatter beneath a phantom mill
Where 'Dan' is an honorific not a name.

A woodcut of the Old Vicarage in Grantchester, with the annotation "N.(B.) (R.)B. (2..6)". N.B. is Byron – he took the name Noel from his wife's family in 1815, and used those initials consistently from 1822, perhaps in acknowledgment of a legacy from his estranged wife's mother, Lady Noel. See http://engphil.astate.edu/gallery/byron10.html for examples. So "N.(B.)" is just "Noel". "R.B." is Rupert Brooke, so that (R.)B. is "Brooke". (2..6) is Ada for "the second to sixth characters", i.e. "Rooke". Noel Rooke created this woodcut, for the 1916 edition of *The Old Vicarage, Grantchester*. Should you not possess that edition, you can find the picture in Nigel Jones' recent biography of Brooke.

"Somewhere in England I've mislaid a box": – 'mislaid' is an artifice, but it makes sense of the next sentence:

"Playing cards will help to show this loss hid within some roots": This is an anagram of the quotation you can get from the double dummy problem. The odd wording should suggest that this sentence has been constructed for a reason, and there are 52 letters, corresponding nicely to the 52 playing cards below.
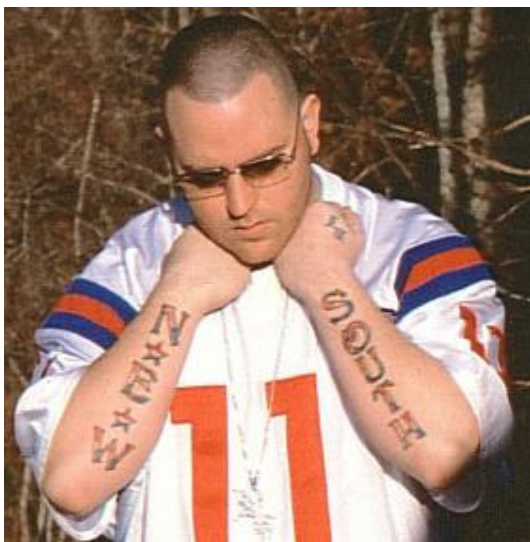
"If you find the box follow the instructions. You may need your answers to help you." Specifically, you need the solution to the double dummy problem.

A pack of playing cards, laid out in two rows of 26 cards. The first card – the seven of diamonds – represents 'p', the second 'l', the third 'a' and so on.

"It will help if you can tell the reds from the blacks": being able to "tell the reds from the blacks" is a grudging compliment among bridge players. This is just to tell you that you can use a black and white printout so long as you can distinguish the red text.

"By my dad". I don't know how easy it is to guess this from the acknowledgment to him, but my dad is called Ron - "ByRon". Well, it amused *me*.

"The order of Bubba Sparxxx' arms": Bubba Sparxxx is the progenitor of "New South" hip-hop. He has tattoos on his forearms to help him remember this, but the spacing makes it look to me like an abbreviated form of "New, East, West, South". And that is the order in which the four hands are given. You can find out more at http://www.slantmagazine.com/music/music_review.asp?ID=322 . (Never let it be said that this quiz is not up with the zeitgeist.)

Picture of Aurora Borealis: In the North – that's what *Borealis* means.

Picture of a silver bear on a chain: the name Byron may be derived from 'Bruin', a bear. Or perhaps from 'barn', but you didn't want to see a picture of a barn, did you? Byron used to keep a bear at Cambridge University (but not in his room as is often claimed), because the rules forbade him to keep a dog, and is said to have led it around on a chain. The bear is also another clue for north: the Great Bear constellation is in the north and the word *arctic* comes from the Greek *arktos*, a bear.

Incidentally, this is a grizzly bear, not a polar bear. A polar bear has a flatter forehead. Byron's bear was presumably something smaller. The heraldic animal of Berlin, where *The Old Vicarage, Grantchester* was written, is a black bear.

Questions:

(1) What do you get if you subtract Shakespeare's purported psalm from the first composite Fibonacci number with a prime index?

The nineteenth Fibonacci number is 4181,which is 37*113. (The number 19 is significant later.)

There is a theory that the text of the 46th psalm in the King James Bible was translated by Shakespeare. This bible was first published in 1611 when Shakespeare was 47 years old, so no doubt it was being worked on when he was 46. The 46th word is 'shake' and the 46th word from the end is 'spear'. You can see all this at http://www.pen.k12.va.us/Div/Winchester/jhhs/math/facts/psalm46.html .

However, to make it work they have to ignore the last word of the psalm, 'Selah', which is a Hebrew word probably meaning 'pause'. Since it wasn't translated, it doesn't count, they say. (Likewise, to make this the 19th ATH I've ignored the 1987 quiz, which wasn't set, see http://public.logica.com/~ath/archive/index.htm)

You don't have to believe any of this is meaningful. You just subtract 46 from 4181 and get 4135. So the North hand has four spades, one heart, three diamonds and five clubs.

(2) What, according to Rambo, was the sword of justice?

The three of spades. In the words of Jack Cole, played by Dack Rambo, in the seventies TV series *Sword of Justice* "The three of spades is the sword of justice. Its rapier marks the end!". Spades were originally swords, from the Spanish *espada*. You can read more about the series at http://www.tvacres.com/greetings_sword.htm

(3) Who prevented Oscar Wilde's walking stick from coming to life?"

The knave of spades. This comes from a letter written in 1900 six months before his death by Wilde to his friend Robert Ross, in which he describes meeting the pope:

> I was deeply impressed, and my walking-stick showed signs of budding, would have budded, indeed, only at the door of the Chapel it was taken from me by the Knave of Spades. This strange prohibition is, of course, in honour of Tannhauser.

You can read the letter at http://www.bookrags.com/books/slpwl/PART58.htm

Pope Urban IV (reigned 1261-64) is said to have told the penitent Tannhäuser that it is as impossible for him to be pardoned as it is for the pilgrim's barren staff to blossom, only to find three days later that the staff had indeed grown flowers. Wilde's illustrator, Aubrey Beardsley, wrote an unfinished novel *Under the Hill* based on the Tannhäuser story. Wilde himself had referred to it in *The Ballad of Reading Gaol:*

> Since the barren staff the pilgrim bore
> Bloomed in the great Pope's sight.

Why Wilde called the man who took his stick "the Knave of Spades" I do not know.

Rupert Brooke, in his first year at King's College, lived in a room formerly occupied by Beardsley.

(4) In connexion with what club did Swift accuse Stella of madness?

Basto, the ace of clubs. In letter five of his *Journal to Stella*, written on September 30th, 1710:

> Why, the reason you lost four and eightpence last night but one at Manley's was, because you played bad games: I took notice of six that you had ten to one against you: Would any but a mad lady go out twice upon Manilio; Basto, and two small diamonds? Then in that game of spades, you blundered when you had ten-ace; I never saw the like of you: and now you are in a huff because I tell you this. Well, here's two and eightpence halfpenny towards your loss.

Stella was Esther Johnson, whom Swift may secretly have married in 1716. She was playing Ombre, of which more later.

(5) What did the governor's wife Anna always draw?

The queen of clubs. This comes from *The Inspector General* by Nikolai Gogol. The governor's wife is Anna Andreyevna; in Act 3 Scene 3 she's discussing her colouration with her daughter:

> That's nice! And aren't my eyes dark? They are as dark as can be.
> What nonsense you talk! How can they be anything but dark when
> I always draw the queen of clubs.

(6) What instruction subtracts one from a zero-page memory location on a computer which sold for $666.66?

C6. The computer is the Apple I, which went on sale in kit form in 1976. The Apple I, like many other early personal computers, used the inexpensive 6502 microprocessor, which included a DEC (decrement) instruction and a zero-page memory addressing mode, using a single byte address to refer to a location in the first 256 bytes of memory. The hexadecimal opcode to combine them was C6. See for example http://www.6502.org/tutorials/6502opcodes.htm#DEC .

C6 stands for the six of clubs. All abbreviations of this form in the quiz give suit then rank, as is conventional (albeit the convention is not universal).

(7) What was the world's first purpose-built film studio, containing a 500lb camera?

It was Thomas Edison's *Black Maria*, which produced its first motion picture in 1893. You can read about it at http://memory.loc.gov/ammem/edhtml/edmvhist1.html and http://history.sandiego.edu/gen/filmnotes/birthmovies.html

The Black Maria is the Queen of Spades, as in the card game of that name. I don't know how exactly the name got attached to that card.

Pictures etc.

The Cheat with the Ace of Clubs, painted by Georges de La Tour in the 1620s. You can see it in the Kimbell art museum in Fort Worth, Texas. The similar *The Cheat with the Ace of Diamonds* is in the Louvre.

A map of postcode areas, with S6 highlighted. The Sheffield *S* areas are coloured in yellow.

Picasso's *Reine Isabeau*, painted in 1909. You can see it in the Pushkin Fine Arts Museum in Moscow. Queen Isabeau was the mother of Charles VII; she is thought to have been the model for the portrait of the queen of clubs. Picasso seems to have painted a playing card rather than a queen.

A chord, C,E,G,B-flat. (You can work this out easily enough using the "every good boy deserves football" mnemonic.)   The first three notes make up the C-major triad, adding B-flat gives you a C7 chord. It might look odd to include a note that is not part of the C-major scale, but it sounds right because the frequencies are (ignoring the errors introduced by equi-tempered tuning) 1, 1.25, 1.5 and 1.75 times the frequency of C.

"I am very sorry I have not learned to play at cards." Samuel Johnson continued "…It is very useful in life: it generates kindness and consolidates society." I abbreviate his name to "SJ", conveniently enough.

Boswell recorded this remark as being made at Sir John Dalrymple's house at Cranston, on their way back from their *Tour to the Hebrides*. This John Dalrymple is the grandson of the brother of the John Dalrymple on page seven.

A film poster for *Sthree* taken from http://www.hindu.com/thehindu/mp/2003/06/02/stories/2003060201820400.htm . At that site, the film is called *The Downside of Greed* or *Stree*. It shouldn't be impossible to identify, since the word *Stri* (meaning *woman* in several Indian languages) is written on it in Telugu: you can study Telugu script at http://tdil.mit.gov.in/TelugulScriptDetailsApr02.pdf , which includes this word. Telugu is written left to right, but syllables within it can be written top to bottom; they are formed from a consonant or consonant cluster followed by a vowel, with the vowel being written first, so that the syllable seems to be *istr*. The choice of English spelling is arbitrary, the form *Sthree* is used in the review at http://www.idlebrain.com/movie/archive/mrg-sthree.html

Playing Card Gallery

I have chosen these cards from a wide variety of packs, for your enjoyment, but there is no hidden meaning in the pack design. The cards make a simple code – on a card with a digit rank indicator, or none, the rank is an index into the letters of the suit name, so that the two of diamonds indicates 'i', the five of clubs indicates 's', and so on. On a card with a letter rank indicator, the suit is irrelevant and the letter should be taken as it stands. So these cards spell out "ishall".

The 1 of hearts is a Latvian design, as are all the other examples of this card. A few countries sometimes use '1' for an ace, but apart from Latvia they leave it off the ace

of hearts, which might have created some ambiguity between 1 and Ace. The 'L' of diamonds is a jack; it's Irish and the L stands for 'Laoch'.

Page Three

A picture of 'the incredible crash dummies': this is a clue for "double dummy".

A formula for the number of possible bridge deals: this also hints at what's going on, and might help you interpret "hands + n" on page 10.

A picture of two women with giant playing cards: they are the 'Dolly Dealers' from the television game show *Play your cards right*. I've never watched it, but the title seems like good advice. I do not of course mean to suggest that the ladies themselves are dummies.

A picture of Oliver North: this is to tell you that you're still working on the North hand.

Questions

(8) Which minnow feeds on flying insects?

The Redside Dace. You can read about it at
http://web.onramp.ca/rivernen/redside.htm

This is to be read as "D Ace" – the ace of diamonds. Or perhaps even as "red-sided ace", with the same result.

(9) With what relationship did Woody Allen explain an embarrassing find in his apartment?

In *The Curse of the Jade Scorpion*, Helen Hunt finds a Allen's apartment a deck of playing cards decorated with pictures of naked women. He has an explanation - "I used to date the six of spades."

(10) What group joined Thora Hird to launch a millennial charity appeal?

The poppy fund appeal for the year 2000 was launched by S Club 7 with Thora Hird. You can read about it at http://news.bbc.co.uk/1/hi/entertainment/992252.stm

I hope the 'S' isn't confusing; you are intended to ignore it and treat this as the seven of clubs. (Apparently the band is now called just "S Club", perhaps after a recount of its members.)

(11) A member of what Russian group exhibited in 1914 a picture of an airman with a fish holding an ace of clubs?

The painter was Kasimir Malevich, who was born in the Ukraine but worked mostly in Russia. The painting was *The Aviator*: you can see it at

. Malevich showed many of his paintings between 1910 and 1916 at exhibitions organized by a group called "The knave of diamonds". He's best known as the inventor of 'Suprematist' painting, but *The Aviator* comes from his preceding 'Illogical' period.

In 1927 Malevich exhibited in Berlin at the *First Russian Art* Exhibition of 1922 and the *Great Berlin Art Exhibition* in 1927, which he visited in person.

(12) Which Minneapolis bar was transported to North Dakota by two brothers?

The king of clubs, in the Coen brothers' film *Fargo*.

(13) Istanbul, Dhaka, Cairo, not Jakarta, Tehran. What?

Summit meetings of the D-8 group of developing Islamic nations - Pakistan, Iran, Turkey, Bangladesh, Indonesia, Malaysia, Egypt, and Nigeria. The group was founded at a meeting in Istanbul in June 1997 as a counterpart to the G7 group: subsequent meetings have taken place in Dhaka in March 1999, in Cairo in February 2001, and in Tehran in February 2004. A meeting was planned for Jakarta in 2003, but it was very quietly cancelled, possibly as a result of the Bali bombing.

(14) How did Colonel Grace reject an ignoble offer?

He was invited by an emissary to betray James II and go over to William of Orange, in return for various favours; according to the story he wrote his refusal on a six of hearts "Tell your master I despise his offer, and that honour and conscience are dearer to a gentleman, than all the wealth and titles a prince can bestow". The six of hearts is known in Kilkenny as "Grace's card".

So the questions give us S3, SJ, CA, CQ, C6, SQ, DA, S6, C7, DJ, KC, D8, H6.

Converting this to text using the letters from the front page gives us "NS sans thrills", which, while it doesn't mean very much, might persuade you that you're onto something.

We can set out the hand more readably thus:

♠: Q J 6 3
♥: 6
♦: A J 8
♣: A K Q 7 6

The suit lengths are 4, 1, 3, 5 as promised.

Pictures etc.

A benzene molecule. Benzene is C_6H_6.

A set of eight-sided poker dice. Eight-sided dice are referred to as "D8"

A picture of a card game. Note that there are two nines of spades on view, and that the scoring refers to 'Meld', 'Trump', and 'Bid'. This can only be Pinochle. A particular meld in this game, of the queen of spades and the jack of diamonds, is itself called 'pinochle'.

A picture of Dack Rambo. I hope you found him during your research into the *Sword of Justice*. He later played Jack Ewing in *Dallas*, but died at the age of 52 of AIDS.

So this is another clue for the three of spades? No, of course not. 'Dack' is DA and CK.

The pictures over the two North pages give us:

CA, S6, QC, C7, SJ, S3, C6, H6, D8, SQ, DJ, DA, CK. Sort them out and you get the same hand again.

Playing Card Gallery

"notlookupon". The 'O's come from German decks, which use two sorts of knave – "Ober Knabe" and "Unter Knabe" but no queens.

Page Four

<u>Double-headed eagle</u>: this is the coat of arms of Austria, whose English name comes from the German *Österreich*, meaning "eastern kingdom". We are now forming the East hand.

<u>Chinese (and Japanese) characters meaning "eastern capital"</u>, pronounced "Tokyo" in Japanese. (Dongjing in Mandarin, Đông-Kinh (or Tonkin) in Vietnamese). The character for east is said to represent the sun rising behind a tree.

Questions

(15) When did a diamond, later allegedly poisoned by a heart, become the first official mistress of a French king?

Agnes Sorel was the mistress of Charles VII from 1444 until her death in 1450. Jacques Cœur, Charles' treasurer was later acquitted of her poisoning (he was almost certainly innocent). Her likeness was used for the Queen of Diamonds – she is said to have been the first woman to wear diamonds in public.

So the East hand contains one spade and four each of diamonds, hearts and spades.

(16) What radiant monarch defeated Belinda's broken troops?

The queen of diamonds. This comes from the game of ombre described in Alexander Pope's *Rape of the Lock*, written around 1711:

> The baron now his diamonds pours apace;
> Th' embroider'd King who shows but half his face,
> And his refulgent Queen, with pow'rs combin'd
> Of broken troops an easy conquest find.

The 'Rape' of the title is the old meaning – 'seizure', and the 'Lock' is a lock of Belinda's hair. Pope is making light of a dispute between two families over the theft of a lock of hair.

(17) Whose tips for success included keeping Beethoven and frogs away from his underwear?

CJ, in *The Fall and Rise of Reginald Perrin*. His catchphrase was "I didn't get where I am today by…" Two examples are "…wearing underpants that look like Beethoven" and "…having green frogs thrust down my crotch".

Well it was funny at the time. You can read a much longer list of these at http://www.mgnet.karoo.net/cjphrases.htm

(18) Of what did a clergyman want only a tenth, suggestion that the rest be burnt?

The ten of hearts:

TO A LADY, WHO SENT HER COMPLIMENTS
TO A CLERGYMAN ON THE TEN OF HEARTS

Your compliments, dear lady, pray forbear,
Old English services are more sincere;
You send ten hearts the tithe is only mine,
Give me but one, and burn the other nine.'

This ditty was published in *A Select Collection of Poems, from the Most Approved Authors* in 1772.

(19) A star and her lover. How many sonnets, classically?

108, or rather CVIII. This is *Astrophel and Stella* by Philip Sidney. *Stella* is Latin for *star*, *Astrophil* would be Greek for *star-lover*. Note the author's name; *sidus* is another Latin word for *star*.

Astrophel and Stella is a (very readable) sonnet sequence. The 108 sonnets are usually numbered in Roman, so there are CVIII of them. You are supposed to read this as C8.

Philip Sidney was another English poet who died inconsequentially in an overseas war. His femur was broken by a musket ball at Zutphen in Holland in 1586; medical science at that time could not stop the infection from killing him.

(20) How might you recognise a house in Lahore whose owner slept on the roof and sought news from one of his tenants of his sick son near the Khyber Pass?

By five red hand-prints arranged like the five of diamonds. From *In the House of Suddhoo*, by Rudyard Kipling.

THE house of Suddhoo, near the Taksali Gate, is two-storied, with four carved windows of old brown wood, and a flat roof. You may recognise it by five red hand-prints arranged like the Five of Diamonds on the whitewash between the upper windows.

You can read the story at
http://www.4literature.net/Rudyard_Kipling/In_the_House_of_Suddhoo/
The Taksali Gate in Lahore appears also in *Kim*

(21) What is the most widely-used export of Christmas Island?

The .cx internet domain. If you don't believe me, try searching for 'cx'.

You won't be surprised to learn that it's to be read as "the ten of clubs".

Pictures etc.

Madonna and Child, by Jean Fouquet, painted around 1450: the left panel of the *Diptych de Melun*, commissioned by Etienne Chevalier, treasurer to King Charles VII of France, for his own tomb. The model is thought to have been Agnes Sorel. So this is the queen of diamonds. The panel is now in the Royal Museum in Antwerp.

A telescope. To be specific, a Celestron C8-N. The picture comes from http://www.celestron.com/prod_pgs/tel/c8n.htm

A pink clock, not entirely in good taste, with the time showing ten to seven. I think this can fairly be described as "ten to seven in hearts".

754.51, 302.0, 345.1 : These numbers come from the International Classification of Diseases. However, you won't find 302.0 in the current, tenth edition. The ninth edition can be found on the web at various sites, including http://www.tpmm.com/solutions/professional/ICD9/1TABULAR.htm

754.51 is Talipes equinovarus, or club foot.
302.0 is homosexuality
345.1 is convulsive epilepsy

These are all conditions from which Byron is reputed to have suffered, but may not have done.

Byron's father, in a letter, described him as club-footed, but his affliction may well have been a different dysplasia. Strangely, people who knew him well differ over whether he was lame in his left or his right leg; it seems to me that it must have been both.

There is little doubt that Byron had many sexual relationships with men, or rather, for the most part, with adolescent boys. But he was even more promiscuous with women. Whether he was primarily homosexual or not, there is little sign that there was any suffering involved on his part. His exile on the continent may have been the result of sexual scandal, but if so his relationship with his half-sister, and the unspecified beastliness being alleged by his estranged wife were a large part of it.

Rupert Brooke's sexuality was similarly ambivalent, albeit he was much less promiscuous. He described himself as a quarter homosexual and a half heterosexual.

Byron often appears in lists of famous epileptics, but this is highly uncertain. He had a convulsive fit two months before his death, the nature of which is unclear. A single fit would not usually justify such a diagnosis.

Playing Card Gallery

"hislikeagain". The 'G' of hearts is Icelandic of course, it comes from the same pack as the cards on page one. *Jólaköttur* is the Christmas cat, who catches those who did not help their village to finish work on the autumn wool by Yuletide. 'G' stands for 'Gosi', meaning 'Jack'.

Page Five

Two pictures of war memorials. You may be able to make out on the first "a la memoire des philhellenes, morts pour l'independance" You can see another picture of this towards the bottom of the page at http://www.miti3000.it/mito/grecia/grecia.htm?http://www.miti3000.it/mito/grecia/regine_ita.htm , together with a close up of the column of names, showing "BYRON" in a larger font than the names of his fallen comrades. This is the little known war memorial in the Church of the Metamorphosis, next to the Hotel Byron in Nauplia; you can read more about it in David Crane's *Lord Byron's Jackal*.

Les morts can be translated not only as *the dead* but also as *the (bridge) dummies.*

The second picture is of the war memorial in the churchyard in Grantchester. It's not easy to recognize, so I've given you a clue in the form of a bridge hand. The first three cards spell out 'men' using the playing card gallery code; the rest of the hand is a particularly splendid heart suit. "Men with splendid hearts", a quotation from *The Old Vicarage, Grantchester*, is inscribed on the memorial. Joseph Blogg is there too, a few places above Rupert Brooke. You can read more about these men and their sacrifice at http://www.roll-of-honour.com/Cambridgeshire/Granchester.html

Both Byron and Brooke went off to war in Greece, but both died of fever without seeing significant action. Brooke was buried on Skyros, whereas Byron, an exile while alive, was brought back to England and buried in his family vault at Hucknall Torkard in Nottinghamshire.

On the cross originally erected over Brooke's tomb were written in Greek the words "Here lies the servant of God, Sub-lieutenant in the English Navy, who died for the deliverance of Constantinople from the Turks" (the cross is now on the Brooke family plot in Rugby) – an epitaph strangely similar to that on Byron's memorial above.

Theme from Eastenders: we'll discover the rest of the East cards here.

Questions

(22) What, according to Plum, did Eve play after Peter had had a square meal?

The nine of spades. She had just concealed the ace of clubs in a cheese sandwich, obligingly eaten by Peter. This is from *The Best Sauce* by P.G.Wodehouse. You can read the story at http://www.gutenberg.net/etext05/7dexc10.txt

(23) What was tested by the Red Baron and flown in combat by a future commander-in-chief?

The Fokker D7.   Richthofen was killed before the D7 entered service, but it was flown with much success by Hermann Göring, later Commander-in-Chief of the Luftwaffe.

(24) What was formed in 1991 and agreed to the free exchange of traffic?

Commercial Internet eXchange – CIX for short. This was a key step in making the Internet what it is today.

Needless to say, 'CIX' is the nine of clubs.

(25) Where did Alice learn about unbirthday presents?

In chapter six of *Through the Looking Glass*, in conversation with Humpty Dumpty. The chess moves at the beginning of the book record that this happens at "Q's 6th" – d6 in algebraic notation.

(26) On what was 800 staked in the English Hotel?

The seven of hearts. By Nikolai Rostov, in *War and Peace*. Eventually he loses forty-three thousand roubles. I am resisting the temptation to write an essay on the consequences; you should read the book.

(27) You asked for it - what beat the cipher?

The nine of hearts. *You asked for it* was the title of the first american paperback edition of *Casino Royale*, the first James Bond book. Bond's enemy in the book is LeChiffre – the cipher. In the decisive hand of Baccarat, Bond draws the nine of hearts. Fortunately, his hole cards are both queens, which count as zero, so his total is nine, the best possible score.

(28) Who has spent 67 years carrying out an exhortation in Mary Bethune's Last Will and Testament?

Dorothy Height. Mary Bethune died in 1955 aged 79; her *Last Will and Testament*, written for *Ebony* magazine shortly before her death, ends with the line "The Freedom Gates are half ajar. We must pry them fully open." Dorothy Height, now in her nineties, tells in her memoir *Open Wide the Freedom Gates* of meeting Mary Bethune in 1937 and hearing the same words. Both women made admirable contributions to the emancipation of African Americans.

 "Half ajar" is a strange description – perhaps she needed a 26-letter sentence for something. Anyway, "Height" is a useful way of writing "H8".

Putting all this together, the questions from this page and the previous one give DQ, CJ, H10, C8, D5, C10, S9, D7, C9, D6, H7, H9, H8.

Converting this to text using the letters from the front page gives us "sow west plight", which is not in itself meaningful.

We can set out the hand more readably thus:

♠: 9
♥: 10 9 8 7
♦: Q 7 6 5
♣: J 10 9 8

The suit lengths are 1, 4, 4, 4 as promised.

Pictures etc.

Scene from *Pride and Prejudice*, with Pam Grier as *Jackie Brown* superimposed. Jackie Brown sounds like a black jack, but to make real sense of this you need to work out what the scene is:

> On entering the drawing-room she found the whole party at loo,
> and was immediately invited to join them; but suspecting them to
> be playing high she declined it, and making her sister the excuse,
> said she would amuse herself for the short time she could stay
> below with a book.

The significant information is that they are playing loo. At loo, the jack of clubs is the highest trump; it's known as the Pam. You can see this usage in *The Rape of the Lock* and *The King and Queen of Hearts*, two poems referred to elsewhere in these answers.

So this picture is a clue for the jack of clubs.

Guitar chords. To work out what these are, you have to know that the standard tuning is (low to high, left to right) E, A, D, G, B, E (each string five semitones above the previous one, except that G to B is four semitones). In the diagram, 'x' means the string should not be sounded, and 'o' means it should be sounded 'open'. Each fret raises the pitch by half a semitone.

The first chord is D, A, C, F#. Here D, F#, A is the D-major triad, and C is a tone below D, so this chord is D7.

The second chord is D, A, B, F#. This time the note added to the triad is the sixth note of the scale, so this chord is D6.

Timetable for line S-9 on the Berlin S-Bahn. The S-Bahn, short for Stadtbahn, is an overground city railway, complementing the U-bahn, short for Untergrundbahn. You can see this timetable at http://www.s-bahn-berlin.de/fahrplanundnetz/pdf_linien/s9.pdf

Why is Zoologischer Garten circled? Because it's a few yards from the site of the *Café des Westens* at the junction of Kurfürstendamm (Ku'damm) and Joachimstaler Straße, where Rupert Brooke wrote *The Old Vicarage, Grantchester*.

The station is also on the U-2 line, in recognition of which the pop group *U2* wrote a song *Zoo Station* which includes the lines:

> I'm ready for the shuffle
> Ready for the deal

CM-IM: no doubt you recognize the font as being *Theo Van Doesburg*, devised by the painter of *Composition IX, Card Players*. This is a very small hint that these are roman numerals, representing 900-999, which is the tenth century, C10.

Illustration of the multiplication table for the dihedral group D5. See http://mathworld.wolfram.com/DihedralGroupD5.html for more about this.

Illustration of the multiplication table for the cyclical group C9. Read about it at http://mathworld.wolfram.com/CyclicGroupC9.html

Pulling together the clues from the two East pages, we have: DQ, C8, H10, H9, H8, H7, CJ, D7, D6, S9, C10, D5, C9. It's the same hand again.

Page Six

<u>Picture of Rebecca West</u>: this is the West hand.

I was hoping to find an interesting link between West and Brooke, but I can't. Both were active in the Fabian Society, but not at the same time. Perhaps West's novel *The Return of the Soldier* could be seen as a sort of counterpoint to Brooke's *The Soldier* – "if I should not die…"

West's views on Byron were withering – she despised the way he trampled on the women in his life: "…dreary caddishness, his meanness about money, his pet incivilities and his disloyalties."

West started life with the name Cicely Fairfield. She took her pen name from Ibsen's play *Rosmersholm*.

Questions

(29) IIIVirRPC - when?

43-33 B.C. This is the period when Rome was ruled by the second triumvirate, known officially as *Triumviri Rei Publicae Constituendae*. Its members were Marc Antony, Octavian (later the emperor Augustus) and (until he was forced into exile in 36 B.C.) Marcus Aemilius Lepidus.

The shape of the West hand is 4-3-3-3.

(30) What, according to Auden, could the character he played at school see clearly to the north?

The Devil's Bedposts. This is from *The Sea and the Mirror*, a commentary on *The Tempest*; you can read about it at books.guardian.co.uk/reviews/poetry/0,6121,1050291,00.html , which quotes Auden's Caliban:

> to the north, beyond a forest inhabited by charcoal burners, one can
> see the Devil's Bedposts quite distinctly, to the east the museum
> where for sixpence one can touch the ivory chessmen

or at http://pup.princeton.edu/chapters/i7506.html .

The Devil's Bedposts is the four of clubs, albeit perhaps not in this context, where it seems to be Auden's renaming of the Devil's Arrows, three standing stones at Boroughbridge. Caliban's description of a northern landscape as a sort of Eden is a development of the similar panegyric in his earlier *Letter to Lord Byron:*
> Tramlines and slagheaps, pieces of machinery,
> That was, and still is, my ideal scenery

One might also link Auden thematically to Iceland and Berlin.

(31) What representation of rice was censored by an auctioneer?

The ten of spades. In July 2003 EBay removed John Steins' posting of his "Axis of Weasels" Art Cards, comprising George Bush as the ace of spades, Paul Wolfowitz as the king of spades, Donald Rumsfeld as the queen of spades, Ari Fleischer as the jack of spades, Condoleezza Rice as the ten of spades, Richard Perle as the nine of spades, Tommy Franks as the eight of spades, and Dick Cheney as the two of spades.

EBay relented a few weeks later: ""We probably made a mistake on this one."

(32) At what were Emily and Snodgrass partners?

Pope Joan. This is from *Pickwick Papers*:

> The lethargic youth contrived without any additional rousing to set out two card-tables; the one for Pope Joan, and the other for whist. The whist-players were Mr. Pickwick and the old lady; Mr. Miller and the fat gentleman. The round game comprised the rest of the company… the round game proceeded right merrily. Isabella Wardle and Mr. Trundle "went partners," and Emily Wardle and Mr. Snodgrass did the same…

Our partners get married at the end of the book.

In the game of Pope Joan, the nine of diamonds is the pope.

Pope Joan is supposed to have ruled, as Pope John, from 853 to 855, until her sex was found out when she gave birth. There is no reason to think that this actually happened.

(33) What does Tony Bergdorf want his doctor to tell him about straight?

The Big Casino. This is from the original, rat pack, *Ocean's Eleven*. ""Look, doc, give it to me straight, is it the Big Casino?" (It's not clear to me what's meant by this; cancer you would think, but he dies of a heart attack.)

In the card game 'casino', "big casino" is the ten of diamonds.

(34) The inferior processes of what part of the body might be described as the "sacred horns"?

These are the *sacral cornua* on the fifth sacral vertabra, S5.

(35) The second king of an ancient kingdom, he figures as what will be the second of the last five kings, according to the second last king of a neighbouring country. Who?

King David of Israel. He is portrayed on the king of spades in early French playing cards. The question refers to a remark made by King Farouk of Egypt in 1948:

> The whole world is in revolt. Soon there will be only five Kings left – the King of England, the King of Spades, The King of Clubs, the King of Hearts, and the King of Diamonds.

Farouk was deposed in 1952 by a military coup led by Gamal Nasser. His infant son briefly succeeded him before the Egyptian monarchy was formally abolished in 1953.

Pictures etc.

Roman coin with a portrait of Julius Caesar. This is a denarius issued by Publius Sepullius Macer in 44 B.C. The king of diamonds was represented as Julius Caesar on early French decks. (This isn't the jack of clubs, which is CJ not JC in this quiz.)

Chess problem. This comes from http://www.xs4all.be/~marcsmet/ebbs/sol01.html

The solution is knight from D3 to C5 (using the algebraic notation whereby the files are labelled A to H and the ranks are labelled 1 to 8). This would be written in English N(3)C5. However, this problem is in French, where a knight is a *un cavalier*, and so this becomes C3C5.

Note that moving the other knight to C5 doesn't work – which is the point of the composition. Black plays e5, defending against Be4 since the d pawn is suddenly unprotected.

The problem was composed by Byron Zappas. I don't know how he got his name, but it seems likely to be in honour of the poet and his sacrifice for Greek independence.

0954 370805: I've formatted this misleadingly as a telephone number, but in fact it's an ISBN. The book is *Ten of Diamonds: The Story of Rushden and Diamonds Football Club* by Anthony Charles Jones. 0954 used to be the dialling code for Madingley and some other villages around Cambridge (it's now 01954).

A Pentax Optio S4 camera. It's advertised as fitting inside an Altoids tin, and here's a picture, from http://www.geek.com/news/geeknews/2003Sep/bpd20030916021780.htm, that shows the claim is true. Altoids are a brand of mints, see http://www.altoids.com/ if you care.

Sachin Tenkulkar, arguably the best batsman in the world. As you can very nearly see, he wears a number 10 shirt, and he's known to his many fans as 'S10'. Fiat has named a limited edition car, the 'Palio S10', after him.

Playing Cards Gallery

"wscto". The 'W' is a polish jack, standing for 'Walet', the same word as 'Valet'.

Page Seven

<u>Film poster for *The Scarlet and the Black*</u>: this is a hint for the code next to it.

<u>78532A75A37966♠2Q62878</u>: Red cards A23…JQK represent letters A to M; black cards represent letters N to Z. This says "The contract is 6♠ by south" – you have to work out that '6♠' should be taken literally.

<u>♦8T9A6785QA677593J9AJ5QQ9A5</u>: "♦8 wins the last trick in key line"

<u>3QAQQ2T652K728389A73A546</u>: "Play low from touching cards"

These are all directions for the double dummy problem, giving you the contract, the particular line to analyse, and directions for how to choose a card in cases where two or more cards would do equally well.

<u>"Burlington Route" train</u>. It's the celebrated, stainless steel 'zephyr'. Zephyr is the west wind, and this page has the rest of the West hand.

Questions

(36) What can be found on the gravestone of two magicians in Burbank?

The three of clubs. As part of an elaborate, and expensive, magic trick, Penn and Teller purchased a plot in the Forest Lawn cemetery and erected a gravestone saying "Penn and Teller…Is this your card?" with a picture of the three of clubs. You can read the story at http://www.harrisonline.com/intvws/Penn.htm

(37) What acronym is used for a refusal to recognize a trade?

DK. For "Don't Know". In financial markets, trades are often agreed verbally. When one party subsequently confirms the trade in writing, the other may 'DK' it, claiming that no such trade took place. Both sides may then start listening to the tapes they keep of their telephone conversations.

(38) What travelled a long way before breaking up in July 2000?

Comet C/1999 S4 Linear, having come from the Oort cloud. Observations of its explosion provided rare insights into cometary composition. You can find out more at http://www.astro.umd.edu/~farnham/linear/

(39) What came between Lily and the man whose ring she had?

The Jack of Hearts, in Bob Dylan's *Lily, Rosemary and the Jack of Hearts.*
> The hangin' judge came in unnoticed and was being wined and dined,
> The drillin' in the wall kept up but no one seemed to pay it any mind.
> It was known all around that Lily had Jim's ring
> And nothing would ever come between Lily and the king.
> No, nothin' ever would except maybe the Jack of Hearts

(40) What game is named after a man with a beard?

Barbu, which is an elaborate card game for four players. You can find out a lot about this fascinating game, including how to play it online, at http://www.barbu.co.uk/ . Or in can read about it in *Card Games for Dummies* by Barry Rigal.

Barbu is French for 'bearded'. It's a description of the king of hearts, which features prominently in the game.

(41) What claimed a top speed of 15mph and was ruled unsuitable for Dutch roads?

The Sinclair C5. According to an AA report its true top speed was more like 12.5mph. Unable to sell many of them in the UK, Clive Sinclair decided to "seek export markets, particularly in Holland". But the Dutch National Transport Service ruled that the C5 was not suitable for use on the road in The Netherlands. You can read a full account of the C5 debacle at http://www.nvg.ntnu.no/sinclair/vehicles/c5_sst.htm . On the other hand, if you own one in good condition you should be able to sell it on eBay for about the £399 they originally cost.

(42) Whose stance did Anna Bullen's resemble?

The queen of hearts'. This is a reference to Charles Lamb's *The King and Queen of Hearts*.

> When our eighth Harry rul'd this land,
> Just like this King did Harry stand;
> And just so amorous, sweet, and willing,
> As this Queen stands stood Anna Bullen

'Anna Bullen' is Anne Boleyn.

The questions from this page and the previous one give C4, S10, D9, D10, S5, SK, C3, DK, S4, HJ, HK, C5, HQ

Converting this to text using the letters from the front page gives us "Typhoidal doom", inauspiciously enough.

Setting out the hand more readably, it is:

♠: K 10 5 4
♥: K Q J
♦: K 10 9
♣: 5 4 3

The suit lengths are 4, 3, 3, 3 as promised.

Pictures etc.

An Austrian 5 Schilling coin. The coin features a Lipizzaner horse from the Spanish Riding School in Vienna. This design was minted from 1961 to 1999 (when the Schilling was replaced by the Euro). Sparing no expense, I have used a silver coin – they were minted in silver until 1968 – as you can tell from the ribbed edge. Naturally 5 Schillings was abbreviated to *S5*.

The Coat of Arms of the Dalrymple family. The nine lozenges on these arms are the most plausible explanation for the naming of the nine of diamonds as the 'Curse of Scotland'. John Dalrymple was Secretary of State for Scotland from 1691 until 1695, when he was forced to resign after taking the blame for the Massacre of Glencoe. The government seems to have been grateful; he became a privy councilor in 1702 and was made 'Earl of Stair' the next year

A picture of Camp 4 on the south route up Everest. You can tell it's Everest not only by the shape but also because of the snow being blown off the top by the jet stream. You can tell it's a camp by the tent, and you can tell it's camp 4 (the last one), known as C4 or C IV by comparing the topography with Everest route maps, for example at http://classic.mountainzone.com/everest/2000/south/maps.html

Drawing of a Hairstreak Butterfly, "for Vera from VN". VN is that famous lepidopterist Vladimir Nabokov, Vera was his wife for 52 years (Stacy Schiff's biography of her won the Pulitzer Prize). Nabokov drew the butterfly in a copy of his book *King, Queen, Knave* – he used to present Vera with a copy of each of his books, inscribed with such an illustration. You can see these drawings in *Vera's Butterflies* by Sarah Funke.

In the novel, the three main characters are represented as the king, queen and knave of hearts. Vladimir Nabokov clears up any doubt about the suit in his forward to the Penguin edition "Finally, the question of the title. The three court cards, all hearts, I have retained…" (You may not have this forward to hand, but reputable online booksellers will show you the cover illustration, which should be sufficient.) Incidentally, the story is set in Berlin, where it was written.

A rear view of Michelangelo's David, in the Galleria dell'Accademia in Florence. The sculpture was completed in 1504, and spent 369 years outdoors before being moved to its current home. As you know from the question 35, David is represented on the king of spades.

The picture clues together give us: DK, C3, C5, D10, S4, S10, S5, D9, C4, HK, HQ, HJ, SK. Which of course is the same hand as given by the questions.

Playing card Gallery

The cards spell out "hisbrother". The 'H' is for 'Heer', used in Dutch for King.

Page Eight

An Australian flag, comprising the union flag, the Southern Cross constellation and the Australian 'Federation Star' or 'Commonwealth Star'. The name 'Australia' was suggested by Matthew Flinders, who circumnavigated it in 1802-3, from the Latin 'Terra Australis' – 'Southern Land'. Also on Flinders' voyage of circumnavigation was Robert Brown, the discoverer of Brownian Motion.

This is to tell you that you are now working on the South hand.

Questions

(43) In what year in China was a monopoly ended, leading to rapid growth in the import of illegal drugs?

By an act of parliament introduced by Earl Grey's government in 1833 the British East India Company's monopoly of trade with China was ended. This trade consisted mainly of the import to England of tea and the export from India of opium. The sale of opium had long been illegal under Chinese law, but the law was laxly enforced and merchants including Jardine and Matheson now flooded the Chinese market with the drug.

The result was a rapid growth in opium consumption in China, with debilitating effects on the population. In 1839 the Chinese government adopted drastic new measures against the drug, including confiscating British opium. Britain wasn't standing for that, and the result was the so-called Opium War of 1839-42, in which British armed might was deployed to force China to accept imports of this harmful and addictive drug (another result of it was the cession of Hong Kong to Britain). Britain's case was that they were fighting for free trade, rather than the opium trade as such, and that without access to Chinese import markets they would be running a huge trade deficit on tea. It was true that China did not welcome imports in general, but that hardly lessens the shameful immorality of this war. In fact the costs of the tea trade fell from 1838 when Indian tea cultivation started to supply the British market.

Earl Grey tea was named after the prime minister. It is said that it first arrived as a gift from a Chinese mandarin; the recipe was developed by Twinings to reproduce the flavour of that gift. It's the favourite tea of James Bond among others.

The answer to this question is not of course 1833. 2004 is 4702 according to the Chinese reckoning, which is said to start its count from the time of Emperor Huangdi. (Actually the Chinese do not often use a continuous year count, preferring to start again with each new emperor. And in so far as they do, they don't all agree what year it was. But the count I have given seems to have the plurality vote – see http://en.wikipedia.org/wiki/Chinese_Calendar for the background.) So 1833 was 4531 in China.

(44) What was wrongly blamed for the Hindenburg disaster?

Hydrogen, H_2. At the time (1936) the Hindenburg went into service only the US was able to produce Helium in large quantities, and they had no interest in supplying Nazi Germany with the gas, so the designers were forced to go back on their plans and float the airship with hydrogen instead. After it crashed in flames as it moored in New York in May 1937, an inquiry concluded that leaking hydrogen had been ignited by a spark of static electricity. For decades, text books mocked the folly of using hydrogen to float a dirigible. However, in the last few years research has argued very persuasively that the real problem was with the flammable coating of the airship's skin, and that it would have burned even had helium been used.

(45) What second guess did Tom make thanks to a noise in a graveyard?

The two of spades. This is from Stravinski's *The Rake's Progress*. Nick Shadow, the devil, takes Tom Rakewell to a graveyard and demands his soul as payment for services rendered. But he agrees to give Tom a chance – if Tom can guess Nick's choice of playing card three times running. Nick's second choice is the two of spades; Tom hears a spade fall, and lets out an oath – "the deuce", leading himself to the right guess.

(46) Which secret society, with its own china, is thought to have written a satire about Senator Clinton?

The five of hearts. You can read about them at http://www.brownmagazine.org/storydetail.cfm?ID=2087 , or at greater length in Patricia O'Toole's book *The Five of Hearts*. The satire was called *Democracy*, its text is available on the internet (often attributed to Henry Adams, one of the five). By chance, characters in the book include Mr. and Mrs. Clinton and Mr. Gore.

(47) What ranks third in Nuuk when death is equal first?

The eight of spades, in the card game 'Vorms', which is popular in Greenland (capital city Nuuk). The two highest cards are the jack of clubs, called 'Toqu', meaning 'death', and the king of hearts, called 'Voormsi'. You can read about the game at http://www.pagat.com/karnoeff/vorms.html

(48) For what mark of good fortune would a young man have given a million pounds, having eaten thirty six cream tarts?

The ace of spades. This is from *The Suicide Club* in *The New Arabian Nights* by Robert Louis Stevenson. The anonymous young man first announces to the hero that he has eaten "two dozen and three" of the tarts, which he is trying to give away, and later eats the last nine. They join the Suicide Club; at each of its meetings cards are dealt to select one member to be killed by another. The recipient of the ace of spades is the victim; the young man wants to die and when the hero of the stories draws that card he tells him "I would give a million, if I had it, for your luck."

(49) What name was proposed for 105 and 108 and is still used in California?

Hahnium, abbreviated Ha. This came out of cold war competition between scientists in the USA and the Soviet Union to be the first to produce new chemical elements. By convention the discoverer of an element has the right to name it; scientists in Berkeley who still dispute the Soviet claim to have identified element number 105 persist in using their choice of name. You can read an outline of events at http://www.yourencyclopedia.net/Hahnium

Pictures etc.

A Westfield SEight. A ludicrously impractical car, featuring a 200bhp V8 engine in a lightweight body. Petrol-heads love it.

Sadaam Husayn. This picture is used on the ace of spades in that famous pack of playing cards.

Arnold Schwarzenegger, with his beloved Hummer H2. (We use suit then rank in these abbreviations, so this isn't the ace of spades – that's Sadaam.)

A poster for *The Ace of Hearts*, starring Lon Chaney. The playing card theme is not unlike that in *The Suicide Club* – this time the ace of hearts selects an assassin.

The Harrison H3 clock. So much has been written about Harrison's clocks in the last few years that I expect everyone to recognize this one. You can see it the Royal Observatory at Greenwich.

Byron recognized the Harrison's work in *Don Juan*, writing of Don Juan's mother:
> Even her minutest motions went as well
> As those of the best time-piece made by Harrison:

A Saleen S7 car. This is a sort of American equivalent of the Westfield. It's much more expensive, much heavier, much more comfortable, and just as fast. It's recently been seen in a television commercial being crushed to make Heinekin beer cans (perhaps it was chosen because it contains a lot of aluminium).

Playing Card Gallery

"hhingerman". The H and the G you've seen before; the R is for 'Roi', a French king.

The complete text is:

> ishall
> notlookupon
> hislikeagain
> wscto
> hisbrother
> hhingerman

which should be parsed:

> I shall not look upon his like again
> WSC to his brother
> HH in German

"I shall not look upon his like again" is from Hamlet Act 1 Scene II. Hamlet is talking to Horatio about his father:

> He was a man, take him for all in all,
> I shall not look upon his like again.

WSC is Winston Churchill. On 23rd April 1925, the day Rupert Brooke died, he sent a telegram to his brother Major John Churchill "endeavour if your duties allow, to attend Rupert Brooke's funeral on my behalf. We shall not see his like again." Churchill also wrote an obituary of Brooke for *The Times*. You can read it at http://www.lib.byu.edu/~english/WWI/poets/rbobituary.html , together with some remarks about Churchill's motives.

HH is Heinrich Heine – or Harry Heine if you prefer – the German poet who was nine years Byron's junior. (He changed his name from Harry to appear more German and less Jewish, in the vain hope of getting a job in the German civil service.) A month after Byron's death Heine wrote of him in a letter, in a mixture of English and German "take him al in al, he was a man. Wir werden sobald nicht mehr seines Gleichen sehen." – "he was a man, take him all in all. We shall not see his like again". You can read more about this at http://212.158.3.83/pdf_files/greek_poems.pdf

The phrase gets used all too often in eulogies, but it's an odd coincidence that they should both misquote Shakespeare in the same way, despite the fact that Heine was evidently familiar with the source. Perhaps Heine had been hitting the Heinekin.

Page Nine

This page contains complete directions to the treasure, albeit they're not easy, and the rest of the questions and pictures for the South hand.

A picture of men playing Faro. The quotation beneath should help you work it out, It's Byron on gambling "I was very fond of it when young, that is to say, of 'Hazard'; for I hate all *Card* Games, even Faro."

A picture of a shuffleboard court. Shuffleboard is similar to curling, but without the ice or the brooms.

These two pictures together are intended to give you the idea of a "Faro shuffle", or "riffle shuffle" as it's more commonly known. To solve the code at the bottom of the page you have to apply this sort of shuffle repeatedly to the 'pack' of letters.

A block of suit symbols. These show the effect of riffle shuffling a 'pack' of four suit symbols. The effect of the shuffle is to interleave the bottom half of the 'pack' – the third and fourth symbols – with the top half, so that ABCD becomes CADB.

A 'Yugophone', one of the exhibits at the "Yugo Next" exhibition at the 1997 Greater St. Louis Auto Show. You can find more of them on the internet, for example at http://www.avatarmoving.com/pu-yugo.htm . But the point of this is that 'Yugo' means 'South' in Slavic languages.

Questions

(50) What overture takes as its subject the demonic nature of Ctesibius' invention?

"Der Teufel als Hydraulicus", D4 in the Deutsch catalogue. Ctesibius of Alexandria invented the water organ, or hydraulicus, in about 250 B.C.

(51) Of what can you buy about 1.4kg in a red cylinder weighing about 65kg??

Deuterium, D2. A steel K-size gas cylinder weighs about 65kg. It would typically be pressurized to about 2400psi, containing the equivalent of about 8000 litres of gas at atmospheric pressure, which corresponds to about 350 moles (the *mole volume* at Standard Temperature and Pressure is 22.4 litres). If that weighs 1.4kg, then 1 mole weighs 4g, i.e. the molecular weight of the gas is 4. The red colour of the cylinder tells you that the gas is flammable, so it must be deuterium not helium. (No, you can't buy that much tritium hydride.)

http://www.biofuels.fsnet.co.uk/sustain.htm gives a similar calculation for hydrogen (but its numbers are inaccurate). Many gas suppliers give accurate figures, including http://www.airproducts.com/specgases/pure/16015.htm

(52) Why did Homer want a poets' corner?

Because he had no use for a card room "I do not know a trey of diamonds from a silver salver." This comes from John Kendrick Bangs' *A House-Boat on the Styx*.

(53) What came between Backdraft and Sliver?

The Three of Hearts. They are films starring William Baldwin. I've taken the order from www.imdb.com

(54) What was described as a fine monument by a commentator who had called its creator a tadpole?

Keats' poem Hyperion, by Byron. Byron and Keats exchanged many insults – Byron called Keats a 'tadpole of the lakes'- but after Keats' death in Rome, three years before his own, Byron found some approving words, particularly for this poem "His Hyperion is a fine monument & will keep his name" and "His fragment of Hyperion seems actually inspired by the Titans, and is as sublime as Aeschylus."

Shelley suggested that Keats' death had been brought on by a severe critique in the *Quarterly Review*. Byron mocked this:
> Who killed John Keats?
> 'I,' says the Quarterly,
> So savage and Tartarly;
> ''Twas one of my feats.'

Later, he added a canto about Keats to *Don Juan*:
> John Keats, who was killed off by one critique,
> Just as he really promised something great,
> If not intelligible, - without Greek
>   Contrived to talk about the Gods of late,
> Much as they might have been supposed to speak.
>   Poor fellow! His was an untoward fate: -
> 'Tis strange the mind, that very fiery particle,
> Should let itself be snuffed out by an Article.

The moons of Saturn are named after Saturn's brothers and sisters, the Titans and Titanesses. Hyperion, the Titan sun-god, is overthrown in the poem by Apollo.

According to the standard count, Hyperion is Saturn's seventh moon – S7. (It's also listed as 'S IV' by some sources, but I think you can sort this out easily enough.)

(55) What is E/m?

According to Einstein's theory of Special Relativity it's c^2. We'll read that as C2.

(56) In what did Van Dine combine with Christie?

The Four of Hearts, by Ellery Queen. (I've done the pictures of cars, so it seems only fair to do the obscure Ellery Queen novel too, in honour of previous years' treasure hunts.) At the end of the first chapter Queen and his new friend the film-producer drunkenly create a detective "Ellery Van Christie". You can read a lot about the connexions between Ellery Queen, S.S. Van Dine and Agatha Christie at http://members.aol.com/MG4273/queen1.htm

We now have the 13 cards making up the South hand: H2, S2, H5, S8, SA, HA, D4, D2, D3, H3, S7, C2, H4. They spell out a fourth meaningless message: "hooch is wilier"

Setting out the hand more readably, it is:

♠: A 8 7 2
♥: A 5 4 3 2
♦: 4 3 2
♣: 2

The suit lengths are 4, 5, 3, 1 as promised.

Two columns of numbers. Labelling the columns m and n, the n are the smallest solutions to the equation $2^n \bmod (m+1) = 1$ for n a positive integer. n is the number of 'in shuffles' which leaves a pack of m cards in its original order. An in shuffle is a riffle shuffle in which the first card from the bottom half of the pack becomes the top card, the first card becomes the second card, and so on until the last card from the top half of the pack becomes the bottom card. The effect is that in each shuffle the card in position k moves to position $2k \bmod (m+1)$.

To a mathematician, the right-hand column is called the "multiplicative order" of 2 (mod $2n+1$) for $n=1,2,3,…$ See for example http://mathworld.wolfram.com/MultiplicativeOrder.html which refers you on to a page on the same site about riffle shuffles.

As mentioned above, this sort of shuffle is needed to solve the cipher at the bottom of the page.

Pictures etc.

An expression from the *Journal of Political Economy*. It's from the 1973 paper *The pricing of options and corporate liabilities* for which Fischer Black and Myron Scholes were awarded the Nobel prize for economics, together with Robert Merton, in 1997. In the paper, a variable called d_2 is shown to be equal to this expression, and the same variable name has been used conventionally in the literature ever since.

A picture of a knot, with symmetry group D3. ('D' is for 'dihedral'.) To a mathematician, a knot is not something you tie in a length of string, but a loop of string so arranged that it cannot be rearranged into a simple loop (one with no crossings) without cutting it.

"HNK999C". This is the registration number of the powder blue Lotus Elan S2 driven by Emma Peel, played by Diana Rigg, in the fourth series of *The Avengers*. See for example http://calwestray.tripod.com/avengers_dream_cars.htm (I referred originally to
 http://www.animus-web.demon.co.uk/elan/elanS2.htm , hence the error in the quiz as first published. Some sources claim that the car was white; that's a misapprehension caused by watching in black and white.)

"EthenE". The upper case E at the end is misleading, this is simply Ethene, C_2H_4.
(The older name is 'Ethylene'.)

"rnbqkbnr/ppppppp1/8/7p/3P4/8/PPP1PPPP/RNBQKBNR". This is a chess position
in Forsyth notation. It arises after the unlikely opening moves d4 h5.

Putting all the pictures together we have SA, S8, H2, HA, H3, S7, D2, D3, S2, C2,
H4, D4, H5. Which is of course the same hand as given by the questions.

The Way to the Treasure

The rest of page nine tells you where the treasure is. Since this is given only as a
second chance to solvers who have failed to penetrate the double dummy problem, it
is intended to be hard.

A picture of Newstead Abbey: this was Byron's house in Nottinghamshire; it had
been in the family for generations, but he sold it once he'd decided to live on the
continent. Inset is a picture of the (ugly) Byron House at CMGLogica's site in
Leatherhead, which is the starting point for these directions.

33554431: This is 2^{25}-1. Numbers of this form are known as 'Mersenne numbers'
and are written M_n, if the exponent is prime they may be 'Mersenne primes' – forty
such primes are known as I write this, the most recently discovered (in November
2003) being the largest known prime number; you can check the status at
http://www.mersenne.org/status.htm . The Mersenne number with exponent *n* is
written M_n, so this one is M_{25}. I am telling you to take the M25 from Leatherhead.

A picture of the Wild Duck cluster. One galactic cluster looks much like another, so
to help you out I've commented on it "The thirteenth at table". This has nothing to do
with playing cards; it's a reference to the closing lines of Ibsen's *The Wild Duck*:
> Relling: May I inquire, -- what is your destiny?
> Gregers (going) To be the thirteenth at table.
> Relling. The devil it is.

Charles Messier listed 45 astronomic objects in his 1774 catalogue (the final 1781
edition contained 110), starting with the Crab Nebula. Many of these objects are still
known by their 'Messier Number'; the Crab Nebula is M1 and the Wild Duck Cluster
is M11. I am telling you to turn off the M25 at the M11.

A picture of William Shockley and eleven football players. Shockley, John Bardeen
and Walter Brattain were awarded the 1956 Nobel Prize in Physics for the invention
of the transistor. Bardeen and Brattain, working in Shockley's group at Bell labs,
created the first point contact transistor – using gold contacts on germanium – in
December 1947, and Shockley created the first junction transistor – using gallium and
antimony-doped germanium – in April 1950.   To help you recognize him he's drawn
an npn junction transistor symbol on his forehead. The football players come from
http://www.if-selected.demon.co.uk/seasons/s2002_03/ifs_s2002_03_story.html ,
regrettably three of the players there, including Mark Abbott, had to be excluded to
emphasize that it's a football XI. The message you are intended to take from this
composite is 'junction 11', which is the exit you need from the M11.

The war memorial in Trumpington village. You get there by following the road into Cambridge from Junction 11.

(1..4). In the Ada programming language this means the first four elements of an array, or the first four characters of a string. The first four characters of "warmemorial" are "warm". You are getting warm.

A Public Footpath sign. If you turn left at the Trumpington war memorial towards Grantchester (an illegal manoeuvre), this signpost will soon show you the way to Byron's Pool (the words "Byron's Pool" seem by some trick of the light to be invisible in this photograph).

Q72KJQ8K767JK296K3A52997JK79J6Q8J73A6888489K8KAT44Q33T74 4872Q55TQJ65K7J2734J4685AK95534AJ56JQKJ26Q8J36K976K57QK2

This is something like a Vigenere cipher, but instead of rotating the alphabet before ciphering each letter, you shuffle it. And the alphabet has been converted to red and black playing card ranks, as on page seven. A 26-card pack is restored to its original order by 18 successive shuffles, so the substitutions and decryption go like this:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
a	A	A	7	4	9	J	6	T	Q	K	K	7	T	5	3	8	4	2	A
b	2	A	A	7	4	9	J	6	T	Q	K	K	7	T	5	3	8	4	2
c	3	2	8	J	Q	6	3	2	8	J	Q	6	3	2	8	J	Q	6	3
d	4	2	A	A	7	4	9	J	6	T	Q	K	K	7	T	5	3	8	4
e	5	3	8	4	2	A	A	7	4	9	J	6	T	Q	K	K	7	T	5
f	6	3	2	8	J	Q	6	3	2	8	J	Q	6	3	2	8	J	Q	6
g	7	4	9	J	6	T	Q	K	K	7	T	5	3	8	4	2	A	A	7
h	8	4	2	A	A	7	4	9	J	6	T	Q	K	K	7	T	5	3	8
i	9	5	9	5	9	5	9	5	9	5	9	5	9	5	9	5	9	5	9
j	T	5	3	8	4	2	A	A	7	4	9	J	6	T	Q	K	K	7	T
k	J	6	T	Q	K	K	7	T	5	3	8	4	2	A	A	7	4	9	J
l	Q	6	3	2	8	J	Q	6	3	2	8	J	Q	6	3	2	8	J	Q
m	K	7	T	5	3	8	4	2	A	A	7	4	9	J	6	T	Q	K	K
n	A	7	4	9	J	6	T	Q	K	K	7	T	5	3	8	4	2	A	A
o	2	8	J	Q	6	3	2	8	J	Q	6	3	2	8	J	Q	6	3	2
p	3	8	4	2	A	A	7	4	9	J	6	T	Q	K	K	7	T	5	3
q	4	9	J	6	T	Q	K	K	7	T	5	3	8	4	2	A	A	7	4
r	5	9	5	9	5	9	5	9	5	9	5	9	5	9	5	9	5	9	5
s	6	T	Q	K	K	7	T	5	3	8	4	2	A	A	7	4	9	J	6
t	7	T	5	3	8	4	2	A	A	7	4	9	J	6	T	Q	K	K	7
u	8	J	Q	6	3	2	8	J	Q	6	3	2	8	J	Q	6	3	2	8
v	9	J	6	T	Q	K	K	7	T	5	3	8	4	2	A	A	7	4	9
w	T	Q	K	K	7	T	5	3	8	4	2	A	A	7	4	9	J	6	T
x	J	Q	6	3	2	8	J	Q	6	3	2	8	J	Q	6	3	2	8	J
y	Q	K	K	7	T	5	3	8	4	2	A	A	7	4	9	J	6	T	Q
z	K	K	7	T	5	3	8	4	2	A	A	7	4	9	J	6	T	Q	K
		Q	7	2	K	J	Q	8	K	7	6	7	J	K	2	9	6	K	3

		w	a	l	k	a	l	o	n	g	p	a	t	h	f	r	o	m	c
		A	5	2	9	9	7	J	K	7	9	J	6	Q	8	J	7	3	A
		a	r	p	a	r	k	u	n	t	i	l	f	e	n	c	e	o	n
		6	8	8	8	4	2	K	3	9	T	2	T	7	3	J	A	3	4
		l	e	f	t	d	o	g	l	e	g	s	a	w	a	y	g	o	d
		8	K	9	A	J	2	9	J	K	5	5	3	K	T	Q	5	T	5
		o	w	n	p	a	t	h	o	n	r	i	g	h	t	t	r	e	e
		T	J	9	8	A	6	A	2	Q	5	4	T	6	5	5	4	A	7
		s	o	n	l	e	f	t	f	o	r	m	a	t	r	i	a	n	g
		6	8	2	6	3	7	T	A	Q	K	2	T	8	2	T	6	5	2
		l	e	l	o	o	k	a	t	b	a	s	e	o	f	h	y	p	o
		T	8	9	3	7	A												
		t	e	n	u	s	e												

Page Ten

Most of this page is concerned with a code which gives you an additional suggestion for solving the double dummy problem. There are also three more questions related to one of the themes, and two thematic pictures.

Code 1131373669: This tells you how the four characters 'Code' are encrypted. In hexadecimal, 1131373669 is 43 6F 64 65 which is 'Code' in ASCII.

Picture of a springbok and a protea, emblem of the rugby team of the Republic of South Africa, RSA. RSA is also the acronym for a popular public key encryption algorithm, named for its inventors, Ron Rivest, Adi Shamir and Leonard Adleman. You can read about it at http://world.std.com/~franl/crypto/rsa-guts.html

hands + n.   The number of possible thirteen-card hands is $52!/(39!13!) = 635013559600$. n we'll come back to…

Mn suggests the nth Mersenne number…

Part of a playing card showing Ada Lovelace as the 'Queen of Bytes'. These unusual playing cards are available from http://www.zbyte.com/ (if you have a US checking account and delivery address). Ada Lovelace proposed a method by which calculations might be set up in Charles Babbage's "Analytical Engine", making her by some reckonings the world's first computer programmer. The Ada computer language is named after her. She was the daughter of Byron the poet: like him she died aged 36.

A gnat. The suggestion is that you download the Gnu Ada compiler, known as 'GNAT', for 'GNU Ada Toolkit'. That's what I used.

Two rows of thirteen cards each. The number of cards is thematic but not significant; it's a message using the substitution code from page one. It reads:
      Soldiers' prime
      H-H-H-Hardcastle

This is a reference to Paul Hardcastle's surprise number one hit single "19", memorable for the stuttering use of its title in the refrain, about the Vietnam war. It includes the lines:

> Destruction of men in their prime
> whose average was nineteen

It's to tell you that n is 19. So the two numbers I gave you are 635013559619 and 2^{19}-1 = 524287. They are both prime.

An Ada function 'Encrypt'. This is the implementation of the RSA algorithm which I used to create the cipher text at the bottom of the page, having first divided my plain text into blocks of four characters each and converted them into numbers in the same way as 'Code' above. RSA encryption is not as complicated as this looks; the Ada code is almost all tricks for doing the calculations without getting numerical overflow.

There's only one comment in the Ada code, in the line `E : Integer := 67;   -- Pn`
This tells you that 67 is the nth prime number, which implies that n must be 19.

Thirteen integers. These are the result of my RSA encryption – the count of thirteen integers corresponding to 52 characters is thematic but not significant. To decrypt them, you need to factorize the public key PQ. It's small enough to do it by brute force; the factors are the two prime numbers above. Having worked this out, it's straightforward to follow the recipe on the RSA site I referred to, get the number D – it's 288206950878167155 – and by replacing 67 with this value in my code you can reuse it for your decryption. The result is:

> See deepfinesse.com if your cardplay isn't up to it.

This website tells you about double dummy analysis in general and the *DeepFinesse* program in particular. For $39.95 you can acquire this program and be well on your way to ATH success. (The compilers of this quiz have no financial interest in the program.)

A picture of the Three Horseshoes at Madingley, with the benediction "Good luck on C6 18". This is a reference to the lines from *The Old Vicarage, Grantchester*:

> And things are done you'd not believe
> At Madingley on Christmas Eve

If you understood question six you should be able to decipher *C6 18* which is the hexadecimal coding of the assembly language instruction *DEC 24*.

Appropriately enough, the Three Horseshoes is part of the Huntsbridge chain.

A picture of a ship, labelled '1592'. This is the *Madre de Dios* in the Brooke Bond Tea cards series *The Saga of Ships*; you can see the whole series at http://www.whom.co.uk/squelch/bbships.htm . The *Madre de Dios* was the richest 'treasure ship' to be captured during England's campaign under Queen Elizabeth of state-sponsored piracy against Spanish shipping (actually Portuguese shipping in this case, but Portugal was at that time ruled by Spain). The squadron of ships that captured her was largely organized and financed by Walter Raleigh, who at the time was imprisoned in the Tower for the offence of seducing and perhaps secretly marrying Elizabeth Throckmorton, one of the queen's maids of honour. Raleigh was released to arrange the distribution of the spoils, most of which went to the Queen; he was rewarded with his freedom and permission openly to marry his beloved.

You can read about the capture of the *Madre de Dios* at
http://college.hmco.com/history/readerscomp/ships/html/sh_057800_madrededios.htm

The Brooke Bond Tea company is not directly connected to Rupert Brooke the poet, but one of his earliest and closest Cambridge friends, Justin Brooke, was the son of Arthur Brooke, founder of the tea company. They were initially brought together by the coincidence that one of Justin's brothers was also called Rupert Brooke.

This clue is intended to reinforce the link between Brooke, tea and the treasure.

"With thanks to Alexandre Deschapelles, Tom Robinson, Jacques Bertillon, John Bardeen, Ron Barden and the proud poets".

These acknowledgments contain several gentle hints. Alexandre Deschapelles gave his name to the *Deschapelles Coup* at whist – the lead of an unsupported king, originally to create an entry to partner's hand; this is supposed to help you with the opening lead. Tom Robinson, who was born in Cambridge, drew my attention to the code for homosexuality in the International Classification of Diseases in the preamble to his live recording of *Glad to be Gay*: he is now married with two children. His other memorable song is *2-4-6-8* Motorway, which is no help at all with the shuffle code, but might help you with the M25 and M11 directions. Jacques Bertillon devised a precursor of the ICD. John Bardeen, with Walter H. Brattain, invented the point-contact transistor, inspiring Shockley to create the junction transistor. He won two Nobel Prizes for Physics: for the transistor and for the theory of superconductivity. Ron Barden is of course my dad.

The Proud Poet is a poem by Joyce Kilmer, an American poet and another victim of the first world war. (His poem *Trees* contains the much-quoted couplet *I think that I shall never see/A poem lovely as a tree). The Proud Poet* includes the verse:
> When you say of the making of ballads and songs that it is woman's work
> You forget all the fighting poets that have been in every land.
> There was Byron who left all his lady-loves to fight against the Turk,
> And David, the Singing King of the Jews, who was born with a sword in his hand.
> It was yesterday that Rupert Brooke went out to the Wars and died,
> And Sir Philip Sidney's lyric voice was as sweet as his arm was strong;
> And Sir Walter Raleigh met the axe as a lover meets his bride,
> Because he carried in his soul the courage of his song.

He also reminds us:
> There was the poet Homer had the sorrow to be blind,
> Yet a hundred people with good eyes would listen to him all night;
> For they took great enjoyment in the heaven of his mind,
> And were glad when the old blind poet let them share his powers of sight.
> And there was Heine lying on his mattress all day long,
> He had no wealth, he had no friends, he had no joy at all,
> Except to pour his sorrow into little cups of song,
> And the world finds in them the magic wine that his broken heart let fall.

All the poets mentioned in the poem appear in this quiz too.

Kilmer wrote also *In Memory of Rupert Brooke*, comparing Brooke with King David.

The Double Dummy Problem

Putting together the four hands, and the information from page four, we have:

The contract is 6♠ by south
♦8 wins the last trick in key line
Play low from touching cards

<div align="center">

♠: Q J 6 3
♥: 6
♦: A J 8
♣: A K Q 7 6

</div>

♠: K 10 5 4	♠: 9
♥: K Q J	♥: 10 9 8 7
♦: K 10 9	♦: Q 7 6 5
♣: 5 4 3	♣: J 10 9 8

<div align="center">

♠: A 8 7 2
♥: A 5 4 3 2
♦: 4 3 2
♣: 2

</div>

The first step is to interpret "6♠ by south". In bridge, the lowest level contracts are an undertaking to make seven tricks – just more than half of the thirteen available – and these are named "one club" etc. To fulfill a contract at the six level one is obliged to take twelve tricks. The players sitting opposite each other are in partnership, so on this hand North and South will attempt to take twelve tricks between them, East and West to defeat them need two tricks. The trump suit in a contract of "six spades" is of course spades. The rules of trick taking are standard to many card games: each player contributes one card to each trick in clockwise rotation; a player must follow suit if he can, but otherwise can play any card from his hand. The trick is won by the highest trump played, if any, or otherwise by the highest card played of the suit led. Cards from other suits cannot win the trick. The winner of a trick makes the lead to the following trick. The ace is the highest ranking card and the two is the lowest. The lead to the first trick is made by the player on the declarer's left; the declarer has been named here as South, so West leads. In a real bridge game, declarer controls his partner's cards which are placed face up on the table. In a double dummy problem all the cards are face up and the solver controls them all.

Solving this sort of problem is a specialized skill, perhaps beyond the not inconsiderable talents of some ATH solvers, albeit that knowing which card wins the last trick should help. So I present here three different methods of solution.

Solution by Double Dummy Analysis

Let's try following a plausible line of play. West leads the jack of hearts, South wins with the ace. Drawing trumps looks hopeless in view of West's strong holding;

instead declarer should try cashing his winners and making some trumps by trumping his losers. At trick two North trumps a heart, then cashes the Queen, King, and Ace of clubs, South discarding diamonds, followed by the Ace of diamonds and South trumping a diamond. North trumps another heart and South trumps another diamond, leaving these cards remaining with North-South having made nine tricks:

```
                    ♠: Q J
                    ♥:
                    ♦:
                    ♣: 7 6

♠: K 10 5 4                              ♠: 9
♥:                                       ♥: 10
♦:                                       ♦: Q
♣:                                       ♣: J

                    ♠: A 8
                    ♥: 5 4
                    ♦:
                    ♣:
```

South leads another heart. If West trumps with the king then North will discard a club. North then wins West's trump lead with the jack, South trumps a club with the ace of spades, and North wins the last trick with the queen of spades. Twelve tricks made. Or if West plays a low trump on the heart lead, North overtrumps with the Jack, then South trumps a club with the Ace of spades and leads his last heart. If West trumps low, North makes his side's twelfth trick by overtrumping, or if West trumps with the King of spades North discards a club and his queen of spades wins the thirteenth trick. Either way North-South have made their twelve. But the eight of diamonds has had no chance to take the last trick.

It's easy to see that an opening diamond or club lead by West makes little difference, affecting only the order of the first few tricks.   But perhaps a trump lead could make a difference, reducing North-South's ability to make tricks by trumping. Say West leads the Four of spades, and North wins with the jack. Experimentation shows that a similar method still makes twelve tricks, using a slightly different order of play: North takes the Ace, King, Queen of clubs and the Ace of diamonds, South trumps a diamond and takes the Ace of hearts, North trumps a heart, South trumps a diamond, North trumps a heart, and North-South have made ten tricks in this position:

```
                    ♠: Q
                    ♥:
                    ♦:
                    ♣: 7 6

♠: K 10 5                                ♠:
♥:                                       ♥: 10
♦:                                       ♦: Q
♣:                                       ♣: J
```

♠: A
♥: 5 4
♦:
♣:

North leads a club and South trumps with the Ace, then South leads a heart. West can take his King of spades now or on the last trick, but either way the Queen of spades will make the other trick and North-South make their contract.

There's only one possibility we haven't tried – West leads the King of spades at trick one. This looks suicidal, but remarkably it's now impossible to make the contract by following a line similar to the above, since West will be able to overtrump South late in the play. On the other hand, it is now possible for North-South to draw West's trumps by leading through West's Ten of spades. That would give them four trump tricks, and the five top tricks outside, so they need three more. If South trumps one of North's small clubs, then North's fifth club would be a winner – that's one extra trick for the trump and one extra for the club. The twelfth trick will have to be another of South's trumps, which he will have to make by trumping a diamond. So South wins the first trick with the Ace of spades and leads a club to North's Queen, then trumps a club with the Seven of spades (not the Two of spades, which he will need later). Now he leads a diamond from hand, planning to lose a diamond trick and later trump North's third diamond. If West plays the Nine of diamond on this trick, North can play the Jack. East will win with the Queen, but whatever he does South will be able to carry out this plan. Say he leads a heart, South wins with the Ace, leads a diamond to North's ace, cashes North's King of clubs discarding his last diamond, trumps a diamond with the Eight of spades and leads the Two of spades. West plays the Four, but North wins with the Six, draws the rest of West's trumps with his Queen and Jack, then makes the last two tricks in clubs. Note here the importance of South having kept his Two of spades rather than the Eight, so that North can win the Six and draw trumps. But again, there is no possibility that the Eight of diamonds will win the last trick.

However, West can foil this plan by rising with the King on South's diamond lead. It does North-South no good to let the King win this trick, since West can lead a trump removing prematurely the vital entry to the North hand with the Six of spades. So North wins the Ace of diamonds, leaving this position with North-South yet to lose a trick:

♠: Q J 6
♥: 6
♦: J 8
♣: A K 7

♠: 10 5 4   ♠:
♥: K Q J   ♥: 10 9 8 7
♦: 10 9   ♦: Q 7 6
♣: 5   ♣: J 10

♠: 8 2

♥: A 5 4 3 2
♦: 4 3
♣:

(We have of course followed the instruction to play low from touching cards, for example winning the first round of clubs with the Queen not the King or Ace.)

This is the hardest point of the problem, and in practice an ATH solver would probably refer to the anagram at this point. A pure double dummy analyst, without that aid available, would realise that North's gambit with the King of diamonds has foiled the plan to trump a diamond, but that there could be a squeeze – a position where a player is left with no good choice of discard. The first step would be to draw trumps, which needs South on lead; it's good squeeze technique to preserve entries so rather than use the Ace of hearts South enters his hand by trumping a club with the eight of spades, then leads the two of spades, playing dummy's six when West plays law, then continues by cashing dummy's top spades to draw West's trumps, followed by the top clubs. The position as the last club is cashed by North is:

                      ♠:
                      ♥: 6
                      ♦: J 8
                      ♣: A

♠:   ♠:
♥: K Q   ♥: 10 9
♦: 10 9   ♦: Q 7
♣:   ♣:

                      ♠:
                      ♥: A 5
                      ♦: 4 3
                      ♣:

As we hoped, the defenders are faced with difficult discards. If East discards the seven of diamonds, South can throw his small heart, then North leads a the eight of diamonds forcing East to play the queen, and the ace of hearts and jack of diamonds make the last two tricks. So East discards a heart. Now South throws a diamond. West must keep his hearts or South's five will become a winner, so he throws a diamond. South carefully plays a heart to the ace, then leads a diamond to the ten, jack and queen. At trick thirteen East has only the seven of diamonds to lead, West has a useless king of hearts, so North's eight of diamonds wins the last trick!

The tricks in order, playing (or discarding) the lowest possible card when in doubt, have been:

Trick 1: King of spades, Three, Nine, Ace
Trick 2: Two of clubs, Three, Queen, Eight of clubs
Trick 3: Six of clubs, Nine, Seven of spades, Four of clubs
Trick 4: Two of diamonds, King, Ace, Five

Trick 5: Seven of clubs, Ten, Eight of Spades, Five of clubs
Trick 6: Two of spades, Four of spades, Six of spades, Six of diamonds
Trick 7: Jack of spades, Seven of hearts, Two of hearts, Five of spades
Trick 8: Queen of spades, Eight of hearts, Three of hearts, Ten of spades
Trick 9: King of clubs, Jack, Four of hearts, Jack of hearts
Trick 10: Ace of clubs, Nine of hearts, Three of diamonds, Nine of diamonds
Trick 11: Six of hearts, Ten, Ace, Queen
Trick 12: Four of diamonds, Ten, Jack, Queen
Trick 13: Seven of diamonds, Five of hearts, King of hearts, Eight of diamonds

Using the mapping from page one, this gives:
      Inthedawnlitwaterscoolhisghostlylordshipswimshispool

We have revealed the couplet:
      In the dawnlit waters cool
      His ghostly lordship swims his pool

These are most of lines 50 and 51 of *The Old Vicarage, Grantchester*. See for
example http://eir.library.utoronto.ca/rpo/display/poem231.html .   The ghostly
lordship is Byron; the pool is Byron's Pool, the location of this year's treasure.

Solution using Deep Finesse

If card play isn't your bag, you might have chosen to fork out $39.95 to buy a program to do it. In that case, when you set up the problem you will have found that the program tells you that any opening lead by West loses – the program has no idea what seems to a human to be the best of all the unsuccessful choices. However, you know that in the key line the eight of diamonds wins the final trick, so the thing to do is to swap the eight and seven of diamonds and see what West needs to lead for that to affect the outcome. *Deep Finesse* will at once tell you that the king of spades is the winning lead. Now switch back to the original deal, and lead the king of spades. The program advises you to play the three of spades from north, East plays the nine perforce, and South wins with the ace. Going on to the second trick, it tells you that South must lead the two of clubs and North must win the trick – we choose the queen of clubs in accordance with the instruction to play low from touching cards. Now at trick three North must lead a low club (the seven) and South must trump it with a high spade (the seven). At trick four South must lead a diamond (the two). However, the program can't help us with West's choice – any diamond choice is unsuccessful. So again we swap the eight and seven of diamonds, then retrace our steps. Now the program tells us to play the king of diamonds from West. And so we proceed.

Solution by Anagram

First speculate that the 52-letter phrase on page one maps to the 52 playing cards there, and that the key line unravels an anagram. Then with the hint about Deschapelles, try having West lead one of his two kings. The King of diamonds might well be followed by the eight, five and two, spelling out "alew", which while not hopeless is not very promising. The King of spades could be following by the three, nine and ace, making "inth", which looks better. We could be looking for something starting "in this", "in those", "in that", "in three", or "in the". However, since South has no 'a' and West has no 's' or 'e', of those only "in the" is possible. South's only 'e' is the two of clubs, which we might expect to be followed by the three, queen and eight, giving "inthedaw". The next letter will surely be an 'n', which must be the six of clubs, North having played his other 'n' already. East must follow with the nine of clubs, and West with the four, giving "inthedawnl?t", the missing letter obviously being an 'i. (Applying a little card sense, we might assume that South trumps this, evidently with the seven of spades.) Pausing for breath, we google "in the dawnlit" and find Brooke's couplet.

Another Link

There's an album *Northern Lights, Southern Cross* by *The Band*. The violinist on it is Byron Berline, linking the themes of Byron, Berlin and E (which is 67). The 2001 reissue includes a version of *Christmas must be tonight*

Notes on Byron and Brooke

Byron born 22/1/1788
Brooke born 3/8/1887, almost 100 years later

Byron died 19/4/1824 at Missolonghi, Greece
Brooke died 23/4/1915, on a hospital ship off Skyros, Greece

Byron educated Harrow 1801-5. Trinity College Cambridge 1805-7
Brooke educated Rugby 1901-6. King's College Cambridge 1906-9

Byron played cricket for Harrow v. Eton, 2/8/1805 – the first recorded match between them.
Brooke played cricket for Rugby first XI in 1906

Byron had an illegitimate daughter, Allegra, born in January 1817
Brooke had an illegitimate daughter, Arlice Raputo, born in Tahiti in 1915

Both were bisexual
Both swam in Byron's pool
Both went to war to fight against Turkey in Greece, but died of fever
Both were political radicals. Byron supported the Luddites, speaking in their favour in the House of Lords: Brooke campaigned against the Poor Law and was active in the Fabian Society.