

WHEN I'M FIFTY-FOUR
or,
“WHAT DO YOU GET
IF YOU MULTIPLY
SIX BY NINE?”

As I turn 54, I realize what a wonderful number that is. There are so many ways 54 turns up, and we'll be exploring some of them in these puzzles!

Although this is a set of puzzles with a thematic relationship, there is no meta. If you feel like creating one, spaghetti-style, I'd love to see what you invent.

THANK YOU

Thanks to Yossi Fendel for test-solving and providing extremely helpful suggestions for improvements, to Scott Weiss for test-solving, and for Nathan Curtis for advice on constructing a Pathfinder.

IF YOU ARE PRINTING THIS

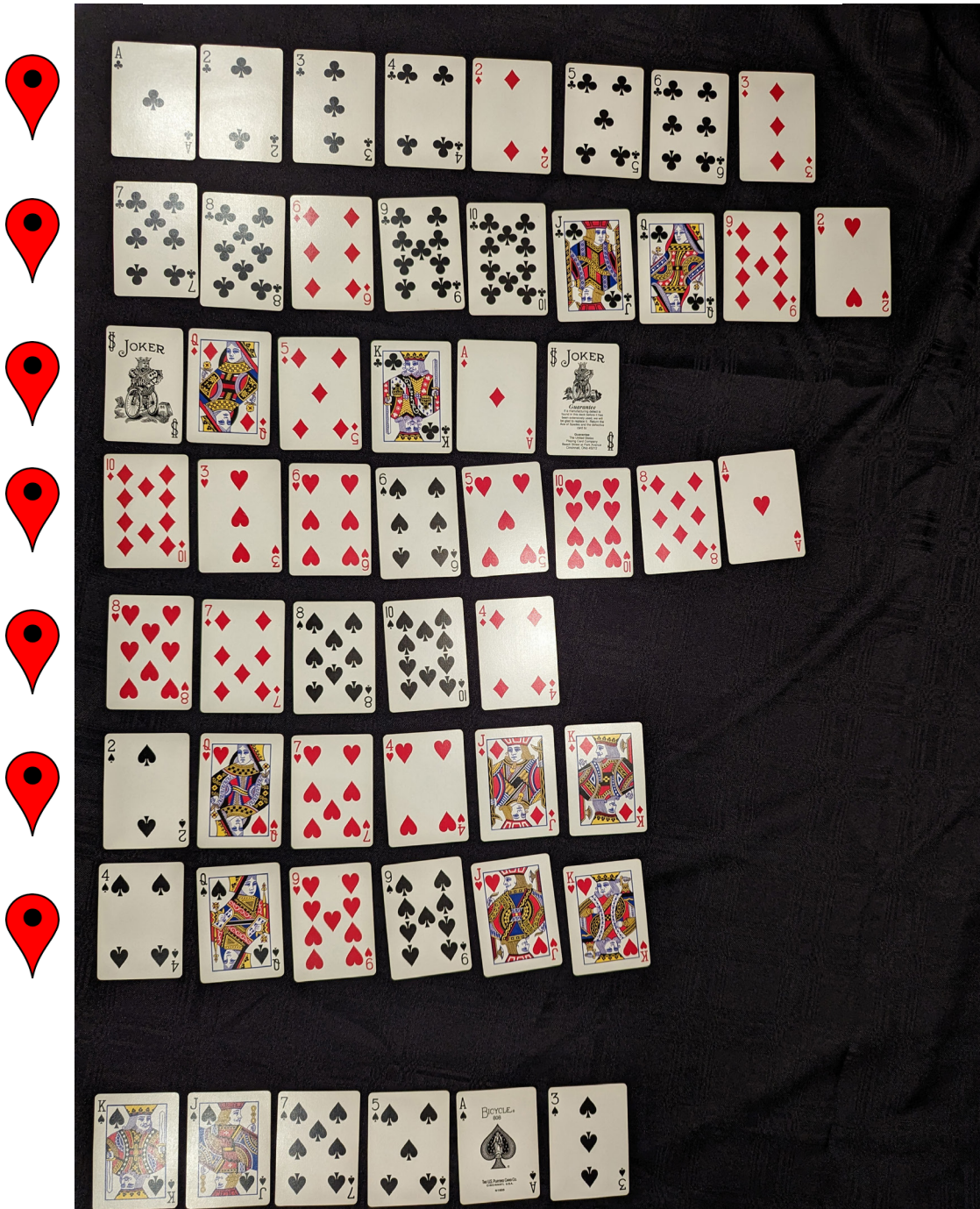
I suggest you start printing on page 2. You don't need this cover page, and if you skip it, then the two 2-page puzzles end up on facing pages instead of on opposite sides of the same sheet.

TO CHECK YOUR ANSWERS ONLINE

There are links from my blog to an online answer-checker:
<https://nmhz.wordpress.com/2023/03/10/birthday-puzzles/>

A DECK OF CARDS

Even if I won the lottery, would I change where I call home?

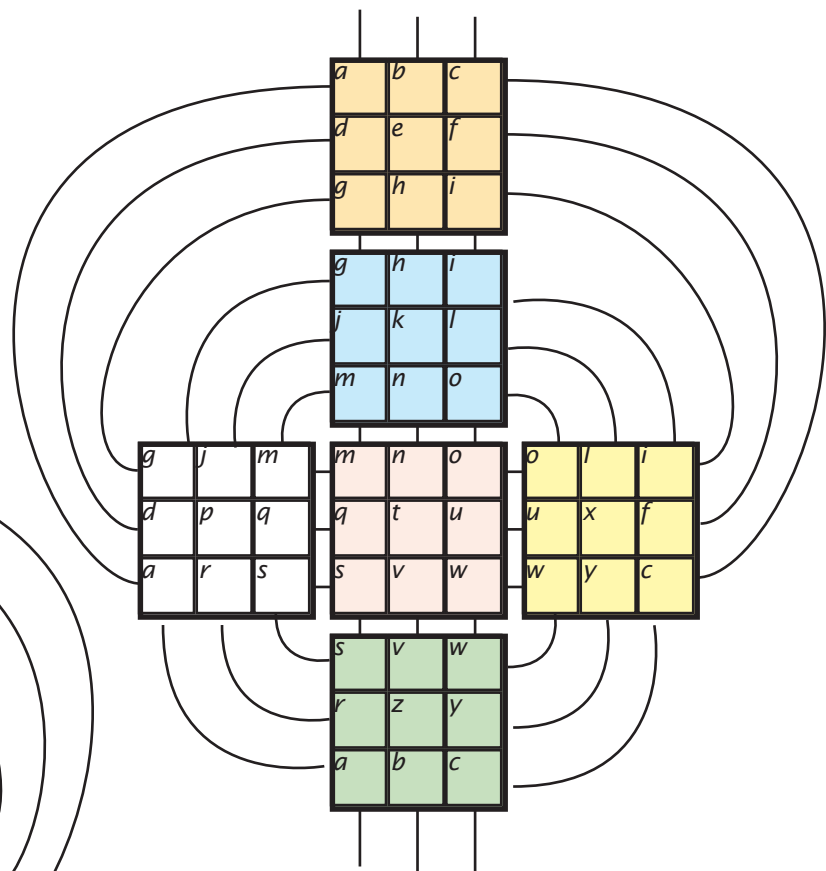
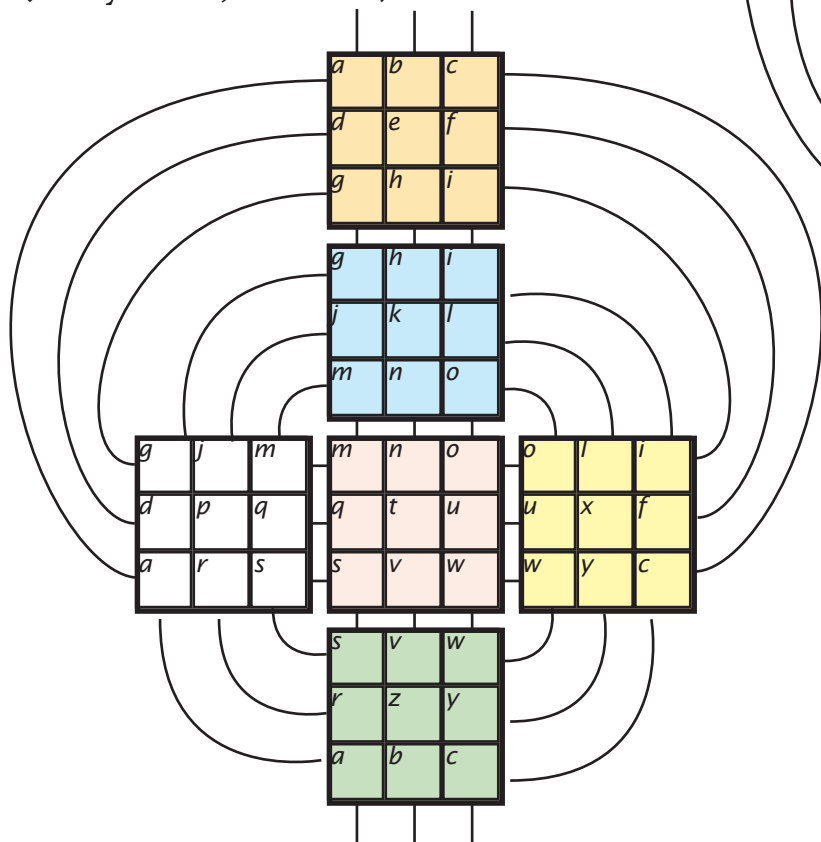


Note: For accessibility and for solving convenience, you can select the hidden text behind the image for a transcription of the cards.

TWO RUBIK'S CUBES

These cubes are entangled; you must resolve which parts of each clue are spin up, which are spin down, and which will help you determine:

If I assert that $54=27*2$ and $27=3^3$, then what (in my world, of course) are 8 and 21?



Your answer will contain four words.

ORANGE (4)

- abc* Canine facial feature
- def* Norma ____, originally
- ghi* Give ace a gun to space between two items
- adg* Unit of energy for genetic material
- beh* To poets, example above club for motorists
- cfi* Be a sales agent for jewel

BLUE (3)

- ghi* Body part clothing retailer
- jkl* Spy group snake men
- mno* Pigpen delivery company ____
- gjm* Wildebeest muscles
- hkn* Snake decomposition
- ilo* Is permitted to tub fathers

WHITE (4)

- gjm* Polaroid organization that supports open-source math function
- dpq* Matrix character crater's edge
- ars* Alien's condensate
- gda* Along with standardized test inventor
- jpr* Insect egg "Edwin"
- mqs* Plant disfluencies

RED (4)

- mno* Dump things that are going well
- qtu* Need to pay 'o Sole 'Tute ____
- svw* President was victorious in instrument
- mqs* Er, y'know, Pig Paul
- ntv* Zadora II
- ouw* Desire Boston team's nickname

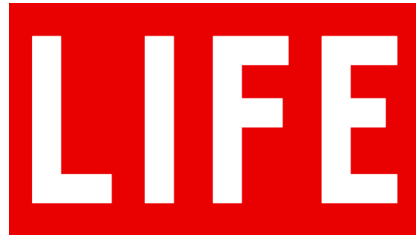
YELLOW (4)

- oli* Root vegetable fluid
- uxf* "Unfeeling First Lady" homage
- wyc* Either, but not both, less than zero
- ouw* Sulphur or oxide cash in Japan
- lxy* Hail indifferent excitement
- ifc* Once, a lot of memory for each

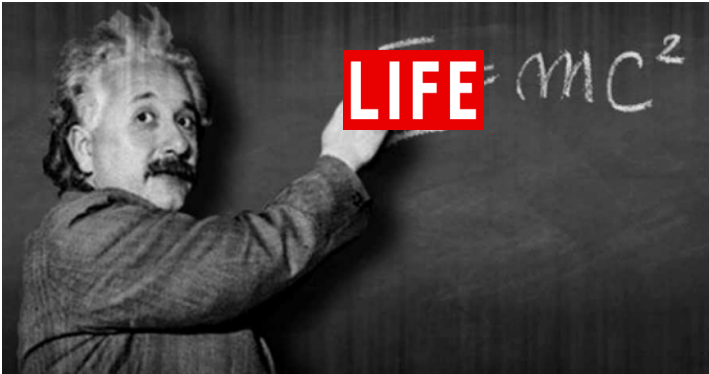
GREEN (3)

- svw* Wind player was awarded wards as a prize
- rzy* Poetic before receiving poetic but
- abc* Attention: Persistently follow ambulances
- sra* Married holy woman in France
- vzb* Eureka! Italian gold!
- wyc* Logic function starting with a minus sign

TRIPLE CHAI, PART 1



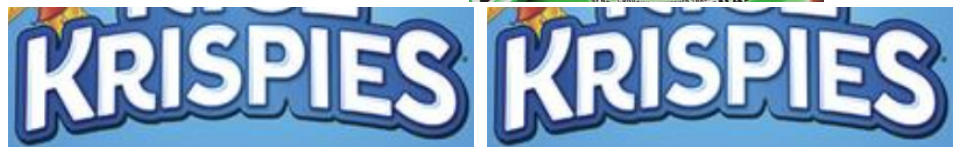
What would I need to be published in LIFE?



TRIPLE CHAI, PART 2



How does someone like me
handle his commute?

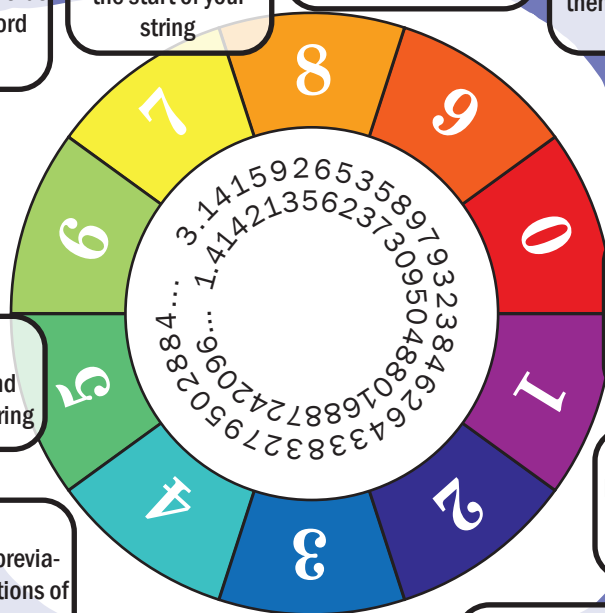


TRIPLE CHAI, PART 3



What could have been my alternate career? And what name would I have picked?

A FAMILY GAME



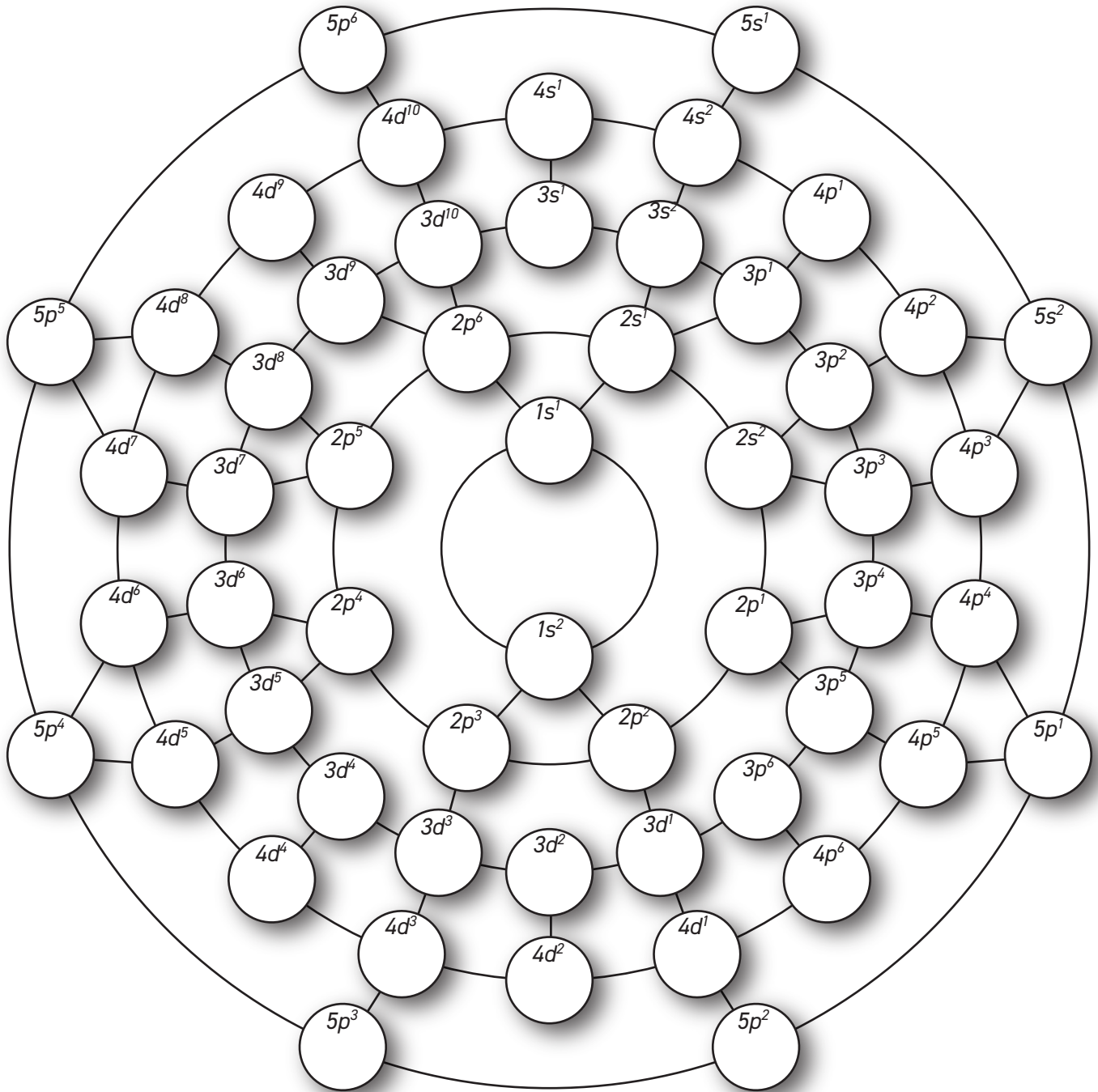
1. **READY, SET...**
Your string is the word **START**
2. **OR NOT**
Replace the last two letters with the same letter to get a pause
3. **EDUCATION**
Delete any letters that are not in the word **SCHOOL**
4. **E-COMMERCE**
Add the letter **E** to the start of your string
5. **IDLE**
Prepend three consecutive letters so your string starts with a decline
6. **SPIN CYCLE**
Append your next spin as a word to the end of your string, then use that spin as usual to take your turn
7. **FOR SHORT**
Replace your string with a well-known nickname
8. **EIGHT IS ENOUGH**
Truncate your string after the eighth letter
9. **MIXED UP**
Reposition the first letter of your string to make a pair of synonyms
10. **DOUBLE TIME**
Copy the start of your substring up to but not including the first **S**
11. **HOW LONG?**
How many letters are in your string? Add the spelled-out number to the start of your string
12. **GO WEST!**
Replace two USPS abbreviations with the abbreviations of the states to their immediate west
13. **DO-SI-DO**
Exchange the third and fourth letters of your string
14. **GO HALFSIES**
Jump back to square 7 (but do not follow its instructions)
15. **MORSE INVERSION**
Replace the last letter of your string with what you'd get in Morse code if dashes became dots and vice versa
16. **DON'T BE ODD, GET EVEN!**
Delete all the characters in odd-numbered positions
17. **GRADUATION DAY**
Replace **ml** with **cc** in your string
18. **BONUS!**
Take another turn
19. **BECOMING DEFINITE**
Replace every "a" with "the"
20. **REVERSE GEAR**
Take the substring between two "0"s and reverse it
21. **SWING SHIFT**
Shift the first letter three places in the alphabet
22. **OOOPS**
Undo the last thing you did to your string
23. **INTERNATIONAL RELATIONS**
A four-letter English word can be found twice in your string. Insert the Spanish for that word before the last pair of letters
24. **SWAP MEET**
Exchange the third and fifth vowels
25. **LAST-MINUTE CRISIS**
Go back to square 13
26. **SUCCESS!**
Enjoy your four-word answer!

Note: intermediate strings will usually not form valid words or phrases

XENON

(page 1 of 2)

What is a major part of my job as a Data Scientist?



XENON

(page 2 of 2)

What is a major part of my job as a Data Scientist?

Clues list where each entry begins, what direction it starts in, how many letters it contains, and where it ends. The starting directions are “inward”, “outward”, “clockwise”, or “counter-clockwise.” Every answer (except one, because I made a mistake in constructing) will change direction at least once and maybe more.

Lines and arcs show legal transitions from one electron to another, but not all connections are used, and some may be used more than once. When you are done, every electron will have been used exactly twice.

Start Dir	End Dir	Clue	Start Dir	End Dir	Clue
1s ¹	Out	1s ² The answer (21, 5 words)	4d ⁵	Out	3d ² In a wicked way (6)
2p ¹	Out	4p ¹ Lizard, such as Quincy in <i>Foxtrot</i> (6)	4d ⁶	In	3d ³ The month in which my birthday falls (5)
2s ²	CW	3p ⁶ Fractions, such as 45° of a circle (7)	4d ⁷	CW	2p ⁶ Liturgical poem in the Hebrew Bible (5)
3d ⁷	CCW	4d ⁸ Bivouacs (5)	4d ⁹	In	3d ² The science that studies reactions involving atoms (9)
3d ⁷	CW	3d ³ Islamic leader (6)	4p ⁴	CCW	4d ¹⁰ Embiggen (7)
3p ³	Out	5p ⁵ Foolish or ill-considered (6)	4p ⁴	Out	3d ¹ Down, in a way (5)
3s ¹	CCW	3d ⁹ To bleed, literally or figuratively (5)	4s ¹	In	2s ¹ Organ that secretes, e.g., the pituitary (5)
3s ²	CW	5p ⁵ Wake up or move up (5)	5p ²	CW	4d ⁴ Goes down abruptly (5)

LIV LONG AND PROSPER

NOTE: The certificates used in this puzzle are not actually from my family research.

As more and more old genealogical records have been digitized, they have illuminated connections between matching DNA segments.

What do the results of my research deliver?

#1

#2

#3

#4

#5

#6

#7

#8

#9

#10

#XV

STATE OF NEW YORK. Form 1. 1806
 County of New York. City of New York.
CERTIFICATE OF BIRTH.
 1. Name of Child *Wm. Mc Carthy*
 2. Sex *male* Date of Birth *January 13 1888*
 3. Place of Birth (Street and Number) *163 W 24 St.*
 4. Name of Father *Martin M. Carthy*
 5. Full Name of Mother *Mary O. Rooney*
 6. Maiden Name of Mother *Do*
 7. Birthplace (Country or State) of Mother *Ireland* Age *25* years.
 8. " " of Father *do* Age *30* years. Occupation *Jeweler*
 9. Number of Child of Mother (whether 1, 2, 3, &c.) *3* How many of them now living *2*
 10. Name and address of Medical Attendant or other authorized person, in own handwriting Address *66 Lexington*
 11. Date of this Return

#MCLVI

STATE OF NEW YORK. Form 1. 1616
 County of New York. City of New York.
CERTIFICATE OF BIRTH.
 1. Name of Child *Robert Herman Nast*
 2. Sex *Boy* Date of Birth *January 12 1889*
 3. Place of Birth (Street and Number) *1455 Ave. C.*
 4. Name of Father *Robert B. Nast*
 5. Full Name of Mother *Henriette M. Hechmann*
 6. Maiden Name of Mother *" Hechmann*
 7. Birthplace (Country or State) of Mother *N York* Age *24* years.
 8. " " of Father *Chicago* Age *25* years. Occupation *Litho. Printer*
 9. Number of Child of Mother (whether 1, 2, 3, &c.) *2* How many of them now living *2*
 10. Name and address of Medical Attendant or other authorized person, in own handwriting Address *Lora Schroeder 235 E. 75 St.*
 11. Date of this Return *January 14 1889*

#MLXVI

STATE OF NEW YORK. Form 1. 1404
 County of New York. City of New York.
CERTIFICATE OF BIRTH.
 1. Name of Child *Conigha*
 2. Sex *girl* Date of Birth *January 7 1890*
 3. Place of Birth (Street and Number) *528 East 48 St*
 4. Name of Father *Abraham Berry*
 5. Full Name of Mother *James J. Berry*
 6. Maiden Name of Mother *James J. Farrell*
 7. Birthplace (Country or State) of Mother *Ireland* Age *23* years.
 8. " " of Father *do* Age *27* years. Occupation *Pub.*
 9. Number of Child of Mother (whether 1, 2, 3, &c.) *First* How many of them now living *four*
 10. Name and address of Medical Attendant or other authorized person, in own handwriting Address *Mr. Nealey 226 East 56 St*
 11. Date of this Return *Jan 12 90*

#MDXV

STATE OF NEW YORK. Form 1. 1651
 County of New York. City of New York.
CERTIFICATE AND RECORD OF BIRTH
 Received and Recorded JAN 14 1891
 Name and address of person making this report Signature *Ana Sofia Bergman*
 Residence *457 West 27 St*
 DATE OF REPORT, *12 January 1891*

Name	Sex	Color	Place of Birth	Place of Residence	Residence	Birthplace	Age	Occupation	Mother's Name	Mother's Name before Marriage	Residence	Birthplace	Age	Number of Children Living (to date)	Date of Record
<i>Frank George</i>	<i>Boy</i>	<i>White</i>	<i>Sweden</i>	<i>Sweden</i>	<i>Sweden</i>	<i>Sweden</i>	<i>91 year</i>	<i>same place</i>	<i>Carlina Bergman</i>	<i>Carlina Bergman</i>	<i>Sweden</i>	<i>Sweden</i>	<i>91 year</i>	<i>5</i>	<i>14 years</i>

LIV LONG AND PROSPER (page 2 of 2)

#MDLXI

COUNTY OF NEW YORK. STATE OF NEW YORK. CITY OF NEW YORK.
 No. of Certificate, 1100
CERTIFICATE AND RECORD OF BIRTH
 OF
 Name of Child, Kate Shive
 Name and address of person making this report, Signature, Joseph L. delectoria
 Residence, 322 E. 69
 DATE OF REPORT, January 5 1892

Name	Sex	Color	Date of Birth	Place of Birth	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation
Kate Shive	Female	White	January 1 1892	Brooklyn, N.Y.	Brooklyn, N.Y.	Brooklyn, N.Y.	34 years	Maçon	Edward Shive Margaret Shive	Brooklyn, N.Y.	Brooklyn, N.Y.	36 years	Maçon	Edward Shive Margaret Shive	Brooklyn, N.Y.	Brooklyn, N.Y.	36 years	Maçon	Edward Shive Margaret Shive	Brooklyn, N.Y.	Brooklyn, N.Y.	36 years	Maçon

#MDCLXI

COUNTY OF NEW YORK. STATE OF NEW YORK. CITY OF NEW YORK.
 No. of Certificate, 900
CERTIFICATE AND RECORD OF BIRTH
 OF
 Name of Child, Eileen Treacy
 Name and address of person making this report, Signature, Edward Hummigham
 Residence, 1773 Ex. Ave
 DATE OF REPORT, Jan 5 1893

Name	Sex	Color	Date of Birth	Place of Birth	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation
Eileen Treacy	Female	White	Jan 5/93	1440 Park Ave.	1440 Park Ave.	Brooklyn	30	P.O. Clerk.	John Treacy Julia Treacy	1440 Park Ave.	Brooklyn	31	Maçon	John Treacy Julia Treacy	1440 Park Ave.	Brooklyn	31	Maçon	John Treacy Julia Treacy	1440 Park Ave.	Brooklyn	31	Maçon

#XVI

COUNTY OF NEW YORK. STATE OF NEW YORK. CITY OF NEW YORK.
 No. of Certificate, 1160
CERTIFICATE AND RECORD OF BIRTH
 OF
 Name of Child, Margaret M. Hagan
 Name and address of person making this report, Signature, The Rev. J. M. Hagan
 Residence, 175 E. 2 St
 DATE OF REPORT, 6 January 1894

Name	Sex	Color	Date of Birth	Place of Birth	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation
Margaret M. Hagan	Female	White	2 January 1894	Brooklyn, N.Y.	Brooklyn, N.Y.	Brooklyn, N.Y.	34	Maçon	John Hagan Margaret Hagan	Brooklyn, N.Y.	Brooklyn, N.Y.	34	Maçon	John Hagan Margaret Hagan	Brooklyn, N.Y.	Brooklyn, N.Y.	34	Maçon	John Hagan Margaret Hagan	Brooklyn, N.Y.	Brooklyn, N.Y.	34	Maçon

#MDCLXVI

COUNTY OF NEW YORK. STATE OF NEW YORK. CITY OF NEW YORK.
 No. of Certificate, 960
CERTIFICATE AND RECORD OF BIRTH
 OF
 Name of Child, Edward G. Wilson
 Name and address of person making this report, Signature, Ed. G. Wilson
 Residence, 159 W 17 St
 DATE OF REPORT, Dec 29 1894

Name	Sex	Color	Date of Birth	Place of Birth	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation
Ed. G. Wilson	Male	White	Dec 29 1894	Brooklyn, N.Y.	Brooklyn, N.Y.	Brooklyn, N.Y.	29	Maçon	Ed. G. Wilson Margaret Wilson	Brooklyn, N.Y.	Brooklyn, N.Y.	29	Maçon	Ed. G. Wilson Margaret Wilson	Brooklyn, N.Y.	Brooklyn, N.Y.	29	Maçon	Ed. G. Wilson Margaret Wilson	Brooklyn, N.Y.	Brooklyn, N.Y.	29	Maçon

#MDLXVI

COUNTY OF NEW YORK. STATE OF NEW YORK. CITY OF NEW YORK.
 No. of Certificate, 1450
CERTIFICATE AND RECORD OF BIRTH
 OF
 Name of Child, Luigi Spin
 Name and address of person making this report, Signature, Matteo Battista
 Residence, 47 Clinton
 DATE OF REPORT, Jan 10 1899

Name	Sex	Color	Date of Birth	Place of Birth	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation
Luigi Spin	Male	White	Jan 10 1899	Brooklyn, N.Y.	Brooklyn, N.Y.	Brooklyn, N.Y.	31	Maçon	Matteo Spin Maria Spin	Brooklyn, N.Y.	Brooklyn, N.Y.	31	Maçon	Matteo Spin Maria Spin	Brooklyn, N.Y.	Brooklyn, N.Y.	31	Maçon	Matteo Spin Maria Spin	Brooklyn, N.Y.	Brooklyn, N.Y.	31	Maçon

#XV DCLXVI

COUNTY OF NEW YORK. STATE OF NEW YORK. CITY OF NEW YORK.
 No. of Certificate, 1561
CERTIFICATE AND RECORD OF BIRTH
 OF
 Name of Child, August Clemens
 Name and address of person making this report, Signature, Jim Ball MD
 Residence, 365 W 28
 DATE OF REPORT, Jan 7 1897

Name	Sex	Color	Date of Birth	Place of Birth	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation	Parents' Names	Residence	Birthplace	Age	Occupation
August Clemens	Male	White	Jan 1 1897	Brooklyn, N.Y.	Brooklyn, N.Y.	Brooklyn, N.Y.	28	Maçon	August Clemens Anna Clemens	Brooklyn, N.Y.	Brooklyn, N.Y.	28	Maçon	August Clemens Anna Clemens	Brooklyn, N.Y.	Brooklyn, N.Y.	28	Maçon	August Clemens Anna Clemens	Brooklyn, N.Y.	Brooklyn, N.Y.	28	Maçon