

LOCKED ROOM MURDER – SOLUTION

CRUMS 2020 — DECEMBER 12, 2020

WRITTEN BY: ZACH BARNETT, ALEX WALKER, AND SARA WALKER

The information needed to solve this metapuzzle can be found in the six testimonies obtained by solving the puzzles associated to each Clue character. These testimonies follow a consistent structure, describing events with the lights on (three paragraphs), events with the lights off (three paragraphs), and events with the lights restored (three paragraphs for Scarlet, Mustard, and White; two for Green, Peacock, and Plum). If we try to construct a unified timeline for the evening, we see that these testimonies must be read, one paragraph at a time, in Clue turn order: Scarlet, Mustard, White, Green, Peacock, and Plum. Solving the logic puzzle is then more-or-less straightforward:

#	Character	Destination	Testimony (Excerpt)
1.1	Scarlet	Kitchen	I was the first one to arrive at Tudor Hall. . . I came in through the northeast entrance and decided to check the Kitchen.
1.2	Mustard	Dining Room	The party at Boddy’s was supposed to be a dinner party, so I went straight to the site of the main attraction. . .
1.3	White	Hallway	. . . I spent some time in the hallway between the Billiard Room and the Ballroom. . .
1.4	Green	Kitchen	I walk in the southwest door and who do I see? Literally just Mrs. White. . . I [left] and wound up in another room with Miss Scarlet.
1.5	Peacock	Conservatory	. . . when I first walked in and saw Mrs. White in the distance, I noped right through the closest door. . .
1.6	Plum	Hallway	. . . I became enraptured with a cabinet in the hallway containing some exemplary coins, including a rare red FAO Manx half penny. ¹
2.1	Scarlet	Lounge	Not too long after I got to the Kitchen, Mr. Green showed up. . . I walked north, seeing Mrs. White and hearing Professor Plum in the hallway. . . I stopped in the first empty room I passed to avoid talking to anyone else.
2.2	Mustard	Billiard Room	I decided to kill some time in front of my second favorite table while waiting for the dinner gong. I passed Mrs. White en route. . .
2.3	White	Ballroom	. . . I left the hallway to sit down at the piano. . .
2.4	Green	Dining Room	When [Ms. Scarlet] left the room, I decided to as well. . . Mrs. White wasn’t blocking the hallway any more. . . [I headed] into the room next door.
2.5	Peacock	Ballroom	. . . I noticed a [moveable] panel in the corner ² . . . I heard noises from both adjacent rooms, so I went for the one that sounded more melodious.
2.6	Plum	Hallway	. . . I attempted to find [Boddy] so we could further discuss rare coinage, but the first door I tried was locked. . .
3.1	Scarlet	Kitchen	I noticed that I was missing an earring at this point, so I retraced my steps to go find it. Luckily, it was in the last room I’d been in.
3.2	Mustard	Ballroom	. . . I heard some snippets of conversation from a nearby room. . . Upon my arrival, the other two guests in the room began questioning me. . .
3.3	White	Ballroom	It wasn’t long before I had an audience to entertain! I played for a bit longer, then I took a break to chat with the others in the room.
3.4	Green	Hall	I heard noises coming from the hallway, and, hoping it was Miss Scarlet, I. . . headed northwest. . . the voice was far too low to belong to her and [I ducked into the room on my right just before I reached the speaker.

¹The coin depicts a red herring.

²The moveable panel alludes to the secret passage running between the Conservatory and Lounge.

#	Character	Destination	Testimony (Excerpt)
3.5	Peacock	Dining Room	Mrs. White was in the room I entered. . . another guest barged in. . . he mentioned finding some hors d'oeuvres in a room he had visited previously. . . I went off in search of them myself.
3.6	Plum	Dining Room	. . . I headed into one of the rooms, where I. . . met one of the other guests.
4.1	Scarlet	Ballroom / Dining Room?	. . . I went to an adjacent room to see if I could find [a flashlight].
4.2	Mustard	Conservatory	Mrs. Peacock had mentioned seeing a panel in the corner of a room she had been in earlier in the day. . . I made a beeline there to see if I could restore the lights.
4.3	White	Library	The only other guest in the room when the lights went out had left. . . I decided to see if I could find any of the other guests. . . I [wound] up in an empty room. . . [that] hadn't been entered in quite some time. . . ³
4.4	Green	Kitchen	. . . I heard Mr. Boddy scream from the room next to me. I figured that the other guests would be freaked out and gather as far away from that room as possible. . . I must have beat them there, since the room was empty. . .
4.5	Peacock	Hall	. . . I'd been joined by Professor Plum. . . We agreed to split up and meet back in the same place later. I tried to find the source of the footsteps but. . . ended up in an empty room.
4.6	Plum	Hallway	. . . My companion rushed to see what was the matter. I followed her out of the room, but was too nervous to follow her around the staircase.
5.1	Scarlet	Ballroom / Dining Room?	. . . I stayed in the room for some time looking for a spare set of batteries.
5.2	Mustard	Conservatory	. . . I spent quite some time searching. . . but I found [the panel] in the end.
5.3	White	Hall	I continued my search, moving clockwise around the mansion. The next room I checked was locked, but I met another guest in the room after.
5.4	Green	Hall	. . . I heard a creaking sound behind me. I called out, but no one responded . . . I passed someone else in the hallway, but I didn't see who. . . I didn't stop until I found a room with multiple people in it.
5.5	Peacock	Dining Room	I was soon joined [in the Hall] by two other party guests. . . I headed back to the room I'd just left to relay their information to Professor Plum. I passed him in the hallway. . . and he followed me into the empty room. ⁴
5.6	Plum	Dining Room	A figure ran past me, though I wasn't sure who it was. Soon after, my companion returned, and I followed her inside the Dining Room.
6.1	Scarlet	Hallway?	. . . I went into the hallway to try to find some of the other guests, but I didn't see anyone.
6.2	Mustard	Conservatory	Once I found the circuit breaker, I got to work on restoring the mansion's electricity. . . it took awhile. . .
6.3	White	Hallway	A third joined us and relayed some gossip I thought the other guests should hear. I did a full circuit of the ground floor but didn't see or hear anyone at that point. I stopped in the hallway to catch my breath. ⁵
6.4	Green	Lounge	. . . [Mrs. Peacock] said she wasn't going far. I thought she went into a neighboring room, but there was no one there when I arrived.
6.5	Peacock	Hallway	. . . I told Professor Plum what I'd learned. . . He said that he was too scared to leave the hallway! . . . I just walked right back into the hallway. I saw another guest nearby [who hadn't learned anything either].
6.6	Plum	Dining Room	. . . I considered helping her by checking one of the adjacent rooms, since I could hear noises coming from both directions. In the end. . . I stayed put. ⁶

³Mrs. White mentions the presence of exactly one other guest in the Ballroom when the lights went out, which suggests that Miss Scarlet did not head to the Ballroom during the fourth round. Col. Mustard is less helpful but corroborates Mrs. White insofar as he does not mention Scarlet's arrival.

⁴Mrs. Peacock and Professor corroborate each other's story many times but neither mentions Miss Scarlet. This clue specifically mentions that Scarlet is not in the Dining Room during round five.

⁵Mrs. White claims that no one was in the hallway and again contradicts Scarlet's testimony.

⁶Professor Plum hears noise from the Kitchen; since no one admits to being in the Kitchen at that time, these noises must come from the murderer.

#	Character	Destination	Testimony (Excerpt)
7.1	Scarlet	Conservatory	When the lights came on, I heard someone yell, “Huzzah!” from the corner of the mansion. I went into the room and found Col. Mustard...
7.2	Mustard	Hall	...After dazzling one guest with my prowess, I headed to the Hall... Unfortunately, while I saw people nearby, no one was in the room... ⁷
7.3	White	Hall	Mrs. Peacock joined me in the hallway...Then I saw Col. Mustard enter the room I had just left, so I followed him in...
7.4	Green	Kitchen	...I heard footsteps in the hallway outside the room after the lights came on [and] saw Mrs. Peacock standing there. She had some more questions about the mysterious noises I heard, so I...led the way back to that room.
7.5	Peacock	Kitchen	After...she left, Mr. Green came by and I asked him...about the noises he’d said he heard prior. I followed him back into that room for a reenactment.
7.6	Plum	Dining Room	[I waited] a long time. There were a lot of rooms that I hadn’t visited, so I expected that it would take her quite awhile to look at all of them.
8.1	Scarlet	Conservatory	...I decided to stay put while Col. Mustard went off to brag.
8.2	Mustard	Billiard Room	After telling Mrs. White about my mechanical ingenuity, I decided to celebrate in a familiar room...no one else had been there all night.
8.3	White	Kitchen	...Mr. Green had mentioned hearing strange noises in another part of the house. I headed to that room and found him and Mrs. Peacock...
8.4	Green	Kitchen	We were joined by another guest, and the three of us tried to replicate the sound I’d heard during the blackout...
8.5	Peacock	Hallway	I talked with Mr. Green and Mrs. White for awhile, but eventually...I stepped into the hallway to clear my head.
8.6	Plum	Kitchen	... [I] left the room. I saw Mrs. Peacock in the hallway outside the Kitchen, and she let me know that Mrs. White and Mr. Green were inside discussing the source of a mysterious noise he had heard. I joined them...
9.1	Scarlet	Library	...[I] walked north until I found an empty room in which to relax.
9.2	Mustard	Hall	...no one came to congratulate me...I returned to the Hall. By the time I arrived, though, my former audience had left.
9.3	White	Conservatory	...I eventually decided that Mrs. Peacock had had the right idea in leaving, so I left the gentlemen to continue their efforts. I thought I should look at the circuit breaker myself...

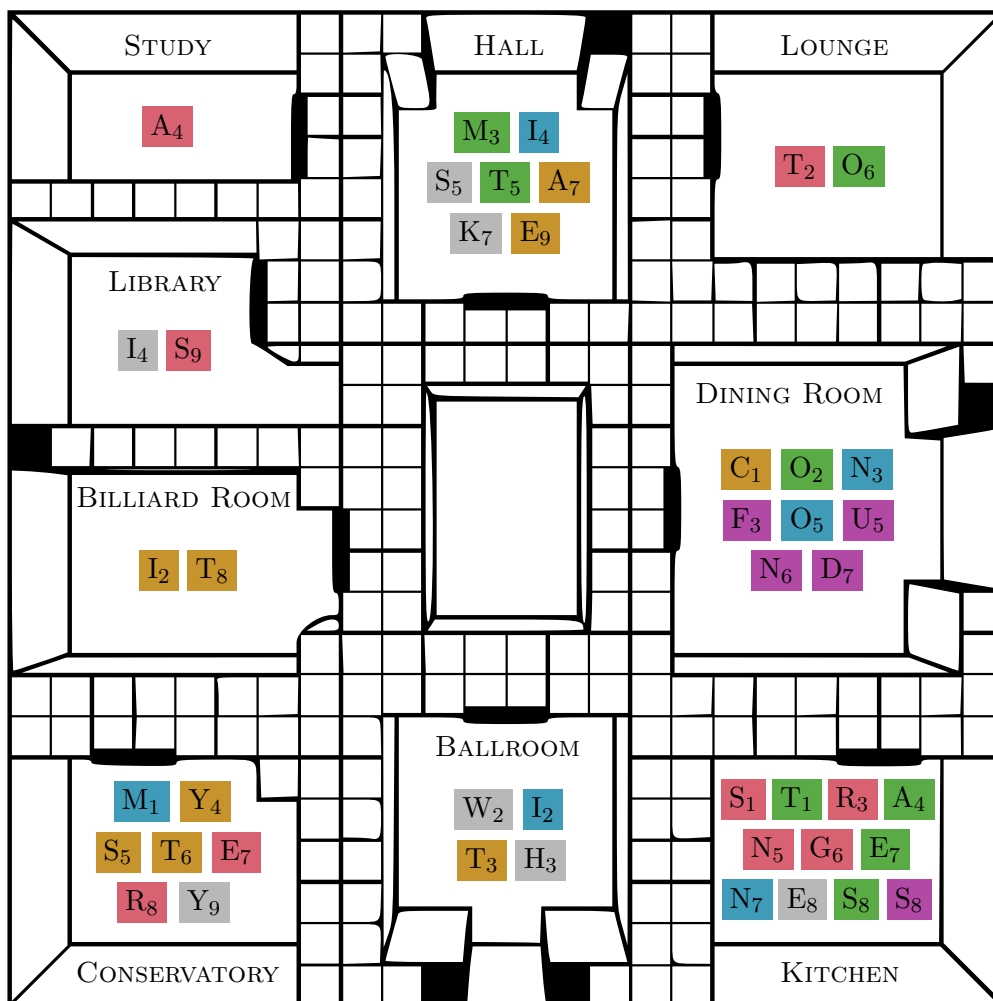
As indicated in the footnotes which accompany the chain of events above, Scarlet’s testimony contradicts the collective testimony of the other five suspects during rounds four through six. Instead, we conjecture that Scarlet used the secret passage between the Kitchen and the (locked) Study during round four, killed Mr. Boddy and returned to the Kitchen in round five, where she is overheard by Mr. Green. Scarlet then stays in the Kitchen until she visits Col. Mustard in the Conservatory in round seven, during which time she is overheard by Professor Plum in the Dining Room.

With the evening reconstructed, we address the rest of the meta. The meta intro text states that “each of the nine rooms of Tudor Hall contained at least one piece of evidence...with the most highly-trafficked rooms containing the most” and that “the hallways were remarkably clean, with no clues to be found.” Since the number of turn cycles a character spends in rooms (i.e. not in the hallway) exactly matches the length of their puzzle answer, we suppose that “evidence” refers to letters in the suspects’ puzzle answers.⁸

The diagram on the following page indicates the letters dropped by each suspect and the round in which those letters were dropped (indicated as a subscript). The letters in each room form words, and reading these words clockwise around the board beginning (arbitrarily) with the Billiard Room gives a quote which is the final answer to this puzzle, **IT IS A MISTAKE TO CONFOUND STRANGENESS WITH MYSTERY**.

⁷The corroboration of Scarlet and Mustard’s testimonies in round seven signals that Scarlet’s deception ends when the lights are turned back on.

⁸This mechanic exactly mirrors the rules of Clue: players may only make suggestions on turns they end in rooms.



CONSTRUCTION NOTES

The construction of this metapuzzle began with the realization that Sherlock Holmes’ mystery *A Study in Scarlet* could be rearranged to form A SCARLET IN STUDY, which could be interpreted as (two-thirds of) an accusation in the board game Clue. This led to the idea of testimony metapieces which, when combined, would reveal the murderer and location of the crime.

The current letter-drop mechanic came later, because we felt that the meta construction should necessarily constrain its feeder answers in interesting ways. We found the 9-word quote “it is a mistake to confound strangeness with mystery” from *A Study in Scarlet* and liked that the word “a” could be dropped in the Study on the turn of Mr. Boddy’s death. The search for feeder answers was afoot.

Our six feeder answers needed to give an anagram for our 44-letter extract, which was a relatively minor constraint. A far larger constraint was the fact that letters must be dropped in round order; this rules out feeders like FICTION (which drops F before C) and constrains the answer pool in subtle ways. We also wanted to avoid really long feeder answers and had to make sure that Scarlet’s answer placed the A in the Study.

The first viable selection of feeder answers took 85 character turns to execute, though we soon had solutions in fewer than 60 moves.⁹ In two weeks of searching, we found three solutions with under 50 moves,

{CITATION, MONSTERS, SIGNOUT, MYSTIFY, TRASHES, WAKENED} (48 moves)

{MISSTATED, CITATION, SYRINGE, MONSTARS, FUNKY, TOWHEES} (49 moves),

{MONSTARS, CITATION, FUNKY, MISSTATE, TOWHEES, SYRINGED} (49 moves),

and called it quits on the dream of finding a “perfect” 44-turn game. By this time, we had compiled around 600 feeder combinations running in 60 or fewer moves. We selected the current six-tuple from this list based on answer quality and the happy coincidence that Scarlet’s movement in and out of the Study could be ascribed to the Study-Kitchen secret passage. We also enjoyed the fact that Scarlet ends the game in the Library.¹⁰

We then wrote the testimony metapieces and adjusted the difficulty so that the logic puzzle could be approximately solved with any five testimonies and remained ambiguous with any four. The “lights out” mechanic was introduced to explain why Green fails to notice Scarlet in the Kitchen, but the general subdivision of “lights on,” “lights off,” and “lights restored” also offers a nice structure to the evening.

⁹The first proof-of-concept was {IMITATORS, SNAKEEYES, TOWNSMEN, STUDY, FIGHT, CASTIRON}, though we disliked the idea of including STUDY as an answer.

¹⁰The single letter found in the Study is dropped by Scarlet and can therefore be called *The Scarlet Letter*. This coincidence becomes particularly striking when we recall that the titular letter in Nathaniel Hawthorne’s *The Scarlet Letter* was also an A. We tried to repackage this into a secret bonus meta, but it never worked out. In the end, it became an in-joke – why does Scarlet end the game in the Library? To read *The Scarlet Letter*, of course!