

# CUT TO THE CHASE

This murder would have been infinitely more difficult to unravel had the body of the victim been simply found lying in the roadway without any of those outré and sensational accompaniments which have rendered it remarkable. These strange details, far from making the case more difficult, have really had the effect of making it less so.

Arthur Conan Doyle (1887)

Physics is becoming difficult to understand. First relativity theory, then quantum theory, then wave mechanics have transformed the universe, making it ever more fantastic to our minds.

Arthur Eddington (1932)

The scientist must ... commit his own crime, as well as carry out the investigation. Moreover, his task is not to explain just one case, but all phenomena which have happened or may still happen.

Albert Einstein & Leopold Infeld (1938)

She shows you where to look  
Among the garbage and the flowers...

Leonard Cohen (1967)

Very likely, we are still confused beginners with very wrong mental pictures, and ultimate reality remains far beyond our grasp. The old cartographer's term *terra incognita* comes to mind. The more we discover, the less we seem to know.

Leonard Susskind (2008)

Algiers, she says. When I check out physics+research+algiers it's a blank. Well, not exactly blank but mostly trivia. Like Soviet refusenik physicist Kapitsa got an honorary doctorate—the second of eleven—from Algiers University in 1944. So why's she going there? I have no idea and she doesn't say. Via Paris, she does specify, which momentarily I think might be a clue. Then, checking booking options, it turns out to be the way to get to there from here.

Our options are more open-ended, method being what is on my mind. I recall her ex-cop saying, back when he and I were still pretending, how he would choose among the many theories that cast light on the quest. Cop-wise, he says that there are three ways they can go:

One of them is right. Our job is: Spot it.

They're all wrong. Our job is: Start from scratch.

Some are partly right. Our job is: Fix the picture.

I never said he's stupid; he prefers the third way. He says that way we might have a chance; *we* is his word. After all, if one of them is right then physicists will find it. No way we can come up with our own. But he's used to different stories, many of them wrong. Maybe all we have to do, he says, is pick and choose and string some things together. It's a question of selection. 'All' we have to do? It's more than a tall order. Yet what he said made sense then and it makes sense to me now.

We have all these clues. Every one of them's well known. Well, well known in its field that is and real in its own way. But each is also only an idea. A real detective's used to solving real problems. This *isn't* one of those. It's just a problem in our heads, a problem made for fictional detection. This gives my guy an advantage or it would if I could find him.

I'll give her this: She really hit it on the head. She asks me for this clue list the first day I meet her. I think she's clueless but I start a file. The list soon lengthens; now it's an embarrassment of riches. To a fictional detective they're 'strange details', as Holmes would have it. Like he says, their strangeness makes it easier to solve the case. But now I see this case will not succumb to Holmes' deductive *modus operandi*. What we need here is a *modus* like Maigret's. Simenon says: 'He was not following through an idea. One might say he was rather like a sponge.' No doubt the clues could also use some heavy-duty thinking. Each is a gap or inconsistency in what we know—or think we know. But the first thing jumping off my page is the sheer number of them. Peebles sees some virtue in this: 'Cosmology is in an exciting state because we have a rich and growing list of problems and a growing observational base that may allow us to find a few solutions.' Fine for him; not good enough for her. A few solutions is not what she wants to find. She's after all or nothing. So she says. And as I write these three sarcastic words I realize it's what I'm after too.

Forty-seven has a soupy sound. No, that was fifty-seven, Heinz. Of course it's not a real number; some Problems aren't distinct. Well, neither were the soups. But more than forty? That there are so many is itself a Problem. It cries out for a different kind of thought. It's not at all like working on a problem on its own, as texts like Peebles' tend to do, or even taking two together. Texts don't ask why is it in the midst of so much knowledge we know squat. That this question is not seen as physical cosmology explains why Peebles doesn't ask.

Much of the economy is based on fundamental physics. Can it be we really understand not much? All my reading yields a simple answer: Yes. Comparing now with 1900 tells us fundamental physics is in shoddy shape. In 1900 physics explained almost everything. It had only two small problems. Physics now works wonders but, by all accounts, accounts for no coherent picture of the world at all.

More than forty problems! And it is, as Peebles says, a ‘growing list.’ None small and many monumental. I recall again that line from—maybe—Twain: ‘It ain’t what you don’t know that gets you into trouble. It’s what you know for sure that just ain’t so.’ Einstein warns of this same hazard. Shortly after publishing GR he says:

Concepts that have proven useful in ordering things easily achieve such authority over us that we forget their earthly origins and accept them as unalterable givens.... The path of scientific progress is often made impassable for a long time by such errors.

This is where I need my fictional detective. He doesn’t know a single thing for sure. He has no real-world shackles on his mind. Here he’s looking at the same old situation at the heart of pulp detection: Something happens; there’s no witness; there are clues and maybe some red herrings in the book. He’s supposed to figure what went on. But each book is different so each fictional detective needs a new approach. Yet at bottom it’s an old one: The detective—with the reader—grasps the cumulative import of the clues so the answer suddenly seems obvious. It works every time.

Now in *this* story each clue starts out as a mystery all its own. Experts probe all aspects over many years. Collectively they are the best-investigated clues in history but for one cavil: Nobody investigates them all together. But my fictional detective sees a single scene. They’re all in it together—all the clues, that is. Seen this way they may make sense not of but *with* each other. He has a single question: Can he bundle them all up into a *single* mystery with forty-seven clues? I too have questions: What if, far from making it more complex, all those clues could somehow make the case more simple? What if, from the right perspective, they all point to the same answer? That would be so beautiful it could be true.

The way I think of him, he isn’t focused on the problems. His instincts tell him that they are not problems. They’re the evidence he needs to solve the case. I’m tempted to add number forty-eight: The Problem of So Many Problems. Could this be the biggest clue of all? Closing my eyes, thinking on this, I almost hear Holmes say that the solution’s elementary. Maybe it is. But can we find it?

“Maybe.”

He’s here! And his ‘maybe’ sounds like it’s addressed to me.

“There’s a lot to explain,” the voice goes on. “But maybe we can explain it with a little.”

Maybe for a while it *was* the money. It’s not now.