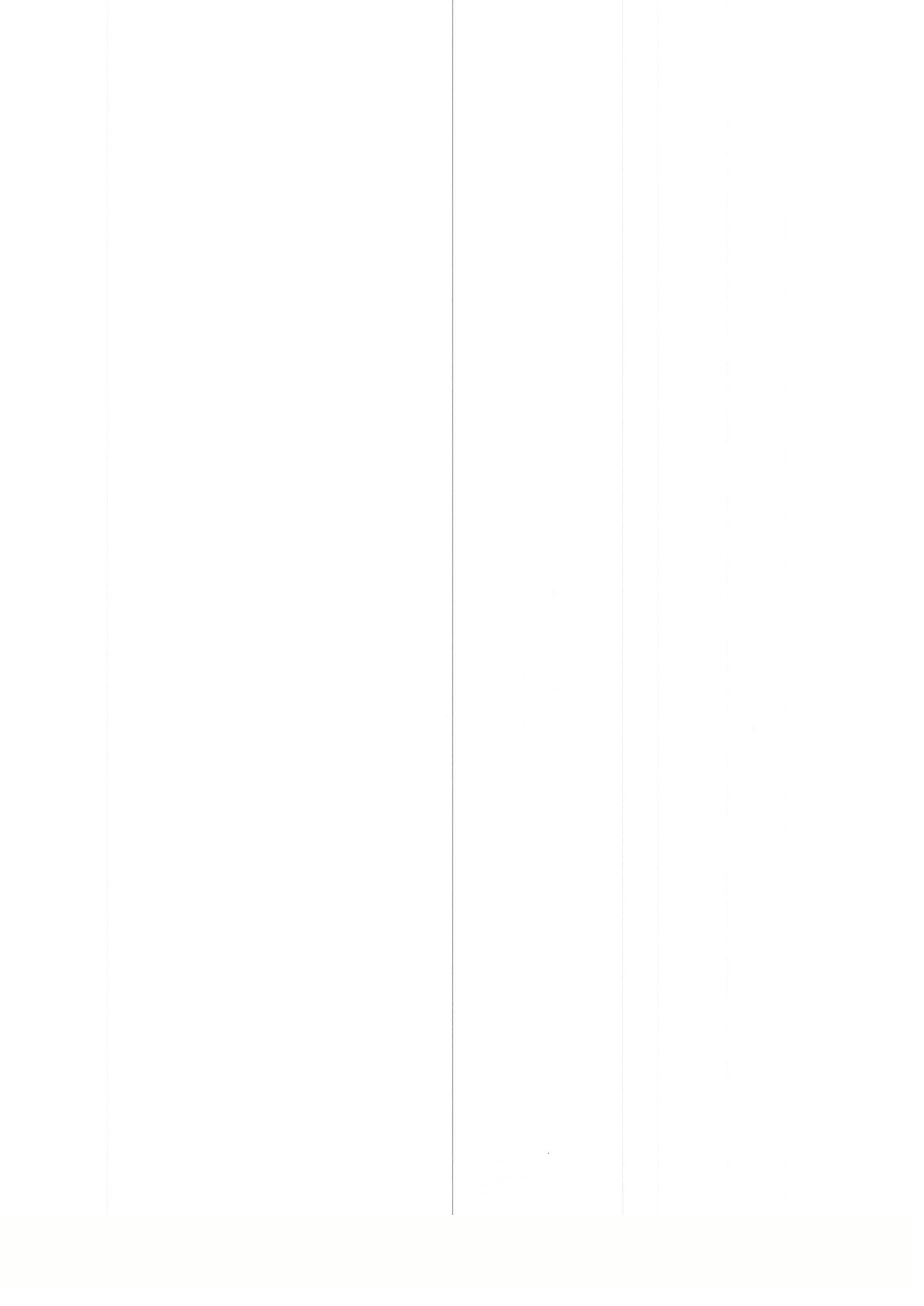


An Instance of the Fingerpost

Synopsis

The year is 1663, and a murder has occurred in London. The protagonist, Marco de Cola, suspects that the victim, "Grove", has been poisoned--there is a suspicious sediment at the bottom of Grove's brandy bottle.

With his friend Lower, Cola consults an alchemist, Stahl, who uses a new investigatory method to determine the nature of sediment. The following pages describe the encounter with Stahl, and include a close description of Stahl's beliefs, manners, and appearance, and Stahl's analytic method.



Pears, Iain (1998). *An Instance of the
Fingerpost*. New York (Penguin-Putnam)

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*T*his man Peter Stahl whom Lower wished to consult was a German, and known to be something of a magician, having a fine knowledge of alchemy. When in drink he could talk fascinatingly about the philosopher's stone, eternal life and how to turn base elements into gold. For myself, I always think that talk is very fine, but not as good as demonstration, and Stahl, for all his claims and obscure phrases, never conferred eternal life on even a spider. As he was not noticeably rich, I assume that he never succeeded in turning anything into gold either. However, as he once said, the simple fact that something has not been done, is no proof that it cannot be; he would accept that such things were impossible only when convinced that matter was immutably imprinted with unique form. All the evidence so far, he said, suggested that it was possible to change base materials into primary elements. If you could change aqua fortis into salt—a simple enough proposition—by what reason did someone like myself scoff at the proposition that, given the right method, it was possible to turn stone into gold? Similarly, all medicine aimed at fending off illness and age and decay; some medicines even worked. Could I then swear—and give reasons for my belief—that there was no ultimate potion which might fend off illness forever? After all, the best minds of antiquity believed it, and there was even Biblical testimony. Did not Adam live for 930 years and Seth 912 years and Methuselah 969 years, as Genesis said?

Lower had warned me that he was a difficult character and that only Boyle could keep him under control. His abilities were matched by equal vices, as he was a sodomite of the most flagrant variety, who delighted in disgusting those who conversed with him. He was in his forties at this period, and showed the signs of decrepitude that vice brings in its train, with heavy lines around a tight mouth full of foully decayed teeth, and a hunched-over deportment indicating the suspicion and distaste in which he held all the world. He was one of those who considered everybody to be his inferior, no matter what their station, attainments or quality. No monarch was as adept as he at ruling kingdoms, no bishop as well versed in theology, no lawyer as subtle at preparing a case. Oddly, the one area where his arrogance did not rule was the one where it might have been justifiable, which was in his skill at chemical experimentation.

The other curiosity about him was that, although he treated everybody with scorn, he gave tirelessly of his time and effort once his curiosity was engaged. Human beings he could not deal with, but set him a problem and he would work to exhaustion. Although he should have aroused little but disgust, I nonetheless developed a cautious regard for the man.

It was hard to persuade him to assist, even though he knew that Lower was an intimate of Boyle, who was at that time paying his wages. As we explained the situation, he sprawled in a chair and looked contemptuously at us.

"So? He is dead," he said in his thick accented Latin, which he pronounced with the old-fashioned weighting and value, quite discredited amongst the *cognoscenti* of Italy, although the English and others (I understand) still become passionately heated on the subject. "Does it matter what happened precisely?"

"Of course," Lower replied.

"Why?"

"Because it is always important to establish the truth."

"And you think that can be done, do you?"

"Yes."

Stahl snorted. "Then you are more optimistic than I am."

"What do you spend your time doing, then?" I asked.

"I amuse my masters," he replied in a disagreeable tone. "They want to

find out what happens if you mix verdigris with oil of niter, so I mix it for them. What happens if you heat it, so I heat it."

"And then try to work out why it happens."

He waved his hand airily. "Pfaf. No. We try to work out how it happens. Not why."

"There is a difference?"

"Of course. A dangerous difference. The gap between how and why troubles me greatly, as it should you. It is a difference that will bring the world down on our heads." He blew his nose and looked at me with distaste.

"Look," he continued, "I am a busy man. You have come here with a problem. It must be a problem of chemistry, otherwise you wouldn't have demeaned yourself by asking me a favor. Correct?"

"I have a very high opinion of your abilities," Lower protested. "I've given you evidence enough of that, surely. I have been paying you for lessons for long enough."

"Yes, yes. But I haven't been overburdened by social calls. Not that I mind, as I have better things to do than talk. So if you want a favor of me, tell me what it is, then go away."

Lower seemed quite used to this performance. I probably would have walked out by this stage, but he very placidly took the brandy bottle out of his satchel, and put it on the table. Stahl peered at it closely—I could see that he was short-sighted, and probably could have done with a pair of spectacles.

"So? What's this?"

"It's a bottle of brandy, with a strange slurry at the bottom, which you can see as well as I can, despite your pretense of being blind. We want to know what it is."

"Aha. Was Dr. Grove killed by Spirits or by spirits? That's the problem, is it? Is their wine the poison of dragons and the cruel venom of asps?"

Lower sighed. "Deuteronomy 32:33," he responded. "Just so." And then stood patiently as Stahl went through an elaborate display of apparent thought.

"So, how do we test this substance, even though it is corrupted by the liquid?" The German thought some more. "Why don't you offer that tease of a servant of yours a glass of this brandy one evening, eh? Solve two problems in one go?"

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Lower said he didn't think this was a very good idea. It would, after all, be hard to repeat the experiment even if it were successful. "Now, will you help us, or not?"

Stahl grinned, showing a range of blackened, yellowing stumps that passed for teeth and which might well have accounted for his ugly temper. "Of course," he said. "This is a fascinating problem. We need a series of tests that can be repeated, and be sufficiently numerous so that it will identify this sediment. But first I have to extract this sediment in a usable form." He pointed at the bottle. "I suggest you go away and come back in a few days. I will not be rushed."

"Perhaps we might start, though?"

Stahl sighed, then shrugged and stood up. "Oh, very well. If it will rid me of your company." He went over to a shelf and selected a flexible tube with a piece of thin glass on the end, and inserted this into the open end of the bottle, which he placed on the table. Then, crouching down, he sucked on the other end of the tubing, and stood back as the liquid ran swiftly into a receptacle which he had placed underneath.

"An interesting and useful exercise," he observed. "Common enough, of course, but fascinating nonetheless. As long as the second part of the tube is longer than the first, the liquid will continue to flow out, because the liquid falling downward weighs more than the liquid being required to flow upward. If it didn't, a vacuum would form in the tube, which is impossible to sustain. Now, the really interesting question is, what happens if . . ."

"You don't want to suck all the sediment out as well, do you?" Lower interrupted anxiously as the level of brandy fell toward the bottom of the bottle.

"I saw it, I saw it." And Stahl quickly whipped the glass tube out.

"And now?"

"And now I remove the sediment, which must be washed and dried. This will take time, and there is no reason at all for you to be here."

"Just tell us what you plan."

"Simple enough. This is a mixture of brandy and sediment. I shall heat it gently to evaporate the liquid, then wash it in fresh rainwater, allow it to settle once more, again decant the liquid off and wash and dry it a second time.

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It should be fairly pure by then. Three days, if you please. Not a moment ear-
lier, and if you do turn up before then, I won't talk to you."

out even a thin Lower rolled over—taking the one thin blanket with him and leaving me shivering—and fell fast asleep. I thought aimlessly for some time, and did not even notice when I similarly succumbed to the embrace of Lower.

Neither of us had woken when the messenger came from Stahl to say that his preparations were complete and if we wished to attend on him at our earliest convenience we could witness his experiment. I cannot say that I felt up to a meeting with the irascible German in my drugged and shaky state, but Lower reluctantly concluded that it was our duty to do our best.

“God knows I don’t feel like it,” he said as he washed his mouth out and straightened his clothes before attacking a piece of bread and a glass of wine for his breakfast. “But if this has become a magistrate’s matter, then we will need to present our findings properly. Not that he is likely to pay us much attention.”

“Why not?” I asked with some curiosity. “In Venice physicians are regularly called to give their opinion.”

“In England as well. ‘Your honor, in my opinion this man is dead. The presence of a knife in his back indicates an unnatural death.’ As long as it is kept simple, there is no problem. Shall we go?” He stuffed more bread in his coat pocket and held open the door. “I’m sure you do not really want to miss it.”

Much to my surprise, Stahl seemed almost happy to see us when we dragged ourselves up his stairs and walked into his cramped and smelly lodging off Turl Street a quarter of an hour later. The prospect of demonstrating his ingenuity and skill to an appreciative audience was too much to resist, although he did his best to be churlish. Everything was ready: candles, bowls, bottles of various liquids, six little piles of powder—the stuff which he had extracted from the bottle—and chemicals Lower had purchased and sent round to him.

“Now, I hope you’re going to behave yourself, and not waste my time prattling.” He glared at us while Lower assured him that we would observe as quietly as possible—a statement which neither he nor Stahl believed for a moment.

The preliminaries done, Stahl settled down to work. As an example of chemical technique, it was fascinating to watch; and while he talked, I found my distaste slipping away in admiration at his ingenuity and methodical approach. The problem, he said, waving at the piles of powder, was perfectly simple. How do we determine what this sediment drawn from the brandy bottle is? We can look at it, but that demonstrates nothing, as many substances are white and can be reduced to powder. We can weigh it, but considering the amount of impurities present, that would prove little. We can taste it, and compare the taste to other things, but that operation—quite apart from the fact that it might be dangerous—would help little unless it had a unique and recognizable taste. From mere visual evidence we cannot say more than that the sediment is a whitish powder.

So, he said, warming to his theme, we must test it a little further: if, for example, we dissolved it in a little sal ammoniack, the mixture might respond in several ways: it might change color, or it might give off heat, or it might effervesce. The powder might dissolve, or float, or sink, still solid, to the bottom of the liquid. If we repeated the experiment with another substance, and it reacted in a similar fashion, could we then say that the two were the same?

I was about to reply in the affirmative, when he waved his finger at us. No, he said. Of course not. If they reacted differently, then indeed we might conclude that the two substances were not identical. But if they reacted in the same fashion, all we could say was that they were two substances which, when mixed with sal ammoniack, responded in the same way.

He paused while we digested this, then resumed once more. Now, you are thinking, he said, how can we possibly ascertain what this material is? And the answer is simple: we cannot. I told you this last week. Whatever you may think there can be no certainty. We can only say that accumulated evidence indicates the strong likelihood that it is such and such a substance.

I had not yet had much experience of law courts in England, but I knew that, if someone like Stahl went into a Venetian trial and spoke like that, the side he was supporting might as well abandon all hope.

“So, how do we do this?” he was asking rhetorically, waving his finger in the air. “We repeat the experimentation again and again and if, after every repeated experiment, the two substances match in their reaction, then we can

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conclude that the chances of their not being the same shrink to the point where to maintain they are different is unreasonable. Are you with me?"

I nodded. Lower didn't bother.

"Good," he said. "Now, I have in the last few days performed my experiments on a dozen or more substances, and have reached my conclusions. I am prepared here only to demonstrate them: I have not the time to go through the whole process with you. I have here glasses containing five different substances, and we will add our powder one by one to all five, then begin the process of comparison. Now, the first is a little spirit of sal ammoniack,"—he poured a small amount of powder in as he spoke—"the second contains lixivium of tartar, then spirit of vitriol, spirit of salt and lastly, syrup of violets. I also have here a piece of hot iron. I hope you see the logic of this, Dr. Lower?"

Lower nodded.

"Perhaps, then, you would explain to our friend, here?"

Lower sighed. "This isn't a lesson, you know."

"I like people to understand the experimental method. Too many doctors do not; they merely prescribe potions without the slightest reason to think they might work."

Lower groaned, then gave way. "What he is doing," he said, "is subjecting the powders to all variants of matter. As you know, the essential principles of natural things are salt and earth, which are passive, and water, spirit and oil, which are active. The combination of ingredients he has chosen consequently covers all of these, and should provide an overall picture of every variety of matter. He is also testing heat, which is quite illogical of him, as he does not believe that fire is a natural element."

Stahl grinned. "No, I do not. The idea that all matter contains a quantity of fire which can be released on heating I find unlikely. However, this is quite enough chatter. If your friend has got that into his pretty little head, we might begin."

He peered at us closely to see he had our attention, then rubbed his hands together and picked up the first bowl, holding it to the light so we could see clearly.

"The sal ammoniack first of all. You see it has produced particles of a pale sediment with no other apparent movement. Hmm?"

He handed it over for our inspection and we agreed that the other substance he was showing us produced the same result.

"Now, lixivium of tartar. A white cloud in the middle of the liquid, suspended equidistantly between the surface and the bottom."

Again, the other substance behaved in the same fashion.

"Vitriol. A precipitation producing hard crystals forming on the side of the glass. A matching result again."

"Salt." He paused and examined the bowl carefully. "A slight creamy precipitation, but so slight you might miss it entirely."

"Violets. How pretty. A tincture of pale green. Most attractive. Two of them, in fact, as my chosen substance has produced the same result. I hope you are beginning to be convinced."

He grunted at us in a satisfied fashion, then picked up a pinch of each powder and threw them separately onto the red-hot iron. We watched as they hissed, and gave off thick white fumes. Stahl sniffed at them, then grunted again. "No flame in either case. Slight smell of—what would you say?—garlic."

He poured some water on the iron to cool it down, then casually tossed it out of the window, so it could lie on the ground and not poison us. "And there we are. We needn't waste any more time. We have now run a total of six separate tests, and in each case the material you brought me in the brandy bottle reacts in the same way as this substance here. As an experimentalist of chemistry, gentlemen, I offer you my opinion that the material in the bottle is indeed unlikely not to be the same."

"Yes, yes," said Lower, finally losing patience. "But what is this other substance of yours?"

"Ah," said Stahl. "The crucial point. My apologies for my little piece of drama. It is called white arsenic. Formerly used as a face powder by the more foolish and vanitous of women, and quite deadly in large quantities. I can prove that as well, for I did one other test."

"I have notes on all this, by the way," he said, as he opened up two paper packages. "Two cats," he said, picking the creatures up by the tails. "One white, one black. Both perfectly healthy last night when I caught them. I fed one two grains of the powder from the bottle, and the other the same amount of arsenic, both dissolved in a little milk. Both beasts are, as you see, quite dead."

"You'd better take both of them," Stahl continued. "As you appear to have been delving into Dr. Grove's intestines, you may want to have a look at theirs as well. You never know."

We thanked him profusely for his kindness and Lower, gripping a tail in each hand, wandered off to the laboratory to anatomize the beasts.

"And what is your opinion of that?" he asked as we strolled along the High Street in the direction of Christ Church once more. Having established that the substance in the bottle was indeed arsenic—or, to be correct, that it consistently behaved like arsenic and never behaved unlike arsenic, so that it could reasonably be said to be arsenic-like—and, moreover, that a cat, when fed the substance, died in a manner very similar to the way that a cat fed with arsenic died, we were but one step away from an alarming conclusion.

"Fascinating," I said. "Ingenious, and thoroughly satisfying in both method and execution. But I must reserve my final opinion until we have seen inside those cats. The syllogism you obviously have in mind is as yet incomplete."

"Arsenic in the bottle, and Grove dead. But did arsenic kill Grove? You are quite right. But you suspect as well as I what conclusions the cats' intestines will indicate."

I nodded.

"We have everything to suggest Grove was murdered except for the one necessary factor."

"Which is?" I asked as we trailed through the unfinished and unworthy entrance to the college and walked through the vast but equally unfinished quadrangle.

"We don't have a reason, and that is the most important thing. It is Stahl's problem with the why and the how, if you like. There is no point working out how it was done if we cannot say why. Fact of crime, and motive for committing it, are all that is needed: the rest is unimportant detail. *Cui prodest scelus, is fecit*. He who profits by villainy, has perpetrated it."

"Ovid?"

"Seneca."

"I believe," I said a little impatiently, "that you are trying to say something."

"I am. Just as Stahl can work out how chemicals mix with each other but has no idea why, so it is with us. We now know how Grove died, but we do

not know why. Who might possibly have wanted to take so much trouble to kill him?"

"*Causa latet, vis est notissima,*" I quoted back, and was pleased for once to have foxed him.

"The cause is hidden . . . ? Suetonius?"

"But the effect is clear.' Ovid again. You should know that one. We have at least established fact—if the cats are as we suspect. The rest is not in our field."

He nodded. "Considering your method of reasoning about your blood, I find that strange. You have completely reversed yourself. In one case, you had a hypothesis and saw no need for prior evidence. In this case, you have the evidence and see no need for a hypothesis."

"I could just as easily say that you have done the same. Besides, I do not dismiss the need for explanation. I merely say that it is not our job to formulate it."

"That is true," he conceded, "and maybe my discontent is vanity. But I feel that unless our philosophy can also answer the important questions as well, it is unlikely to change much. Both why and how. If science confines itself to how, then I doubt it will ever be taken seriously. Do you wish to attend the cats?"

I shook my head. "I would love to. But I should go and see my patient."

"Very well. Perhaps you will join me at Boyle's when you have finished? And this evening I have a great treat. We must not allow ourselves to become overburdened by experiment. Diversion is also necessary, I think. By the way, I wish to ask you something."

"And that is?"

"Periodically, I make a circuit of the countryside; Boyle mentioned it when you arrived, if you remember. As I can't practice in the town, I have to go outside to earn a little money, and I am very short at the moment. It is a Christian charity, and quite profitable, which is a fine combination. I set up a room on market days, hang out a sign and wait for the pennies to roll in. I was going to leave tomorrow. There is to be a hanging out Aylesbury way, and I want to bid for the corpse. Would you like to come? There will be more than enough work for both of us. You can rent a horse for a week, see the country. Can you pull teeth?"

