

Mind Matters

You are still wasting your time, or, are analysts just overpaid secretaries?

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The meeting of company managements seems to maintain a sacrosanct place in the vast majority of investment processes. I have written before on the psychological hurdles that such meetings must overcome before they add value. These hurdles suggest that meeting managements is likely to be a waste of time. However, the habit (like all bad habits) persists. In this light, the best I can do is try to offer some advice on damage limitation from these encounters. In particular we must learn to look for the evidence that disagrees with us, and seek to disprove our ideas, rather than illustrate them with supportive evidence.

■ Among the many questions asked by the recent Extel survey, fund managers were asked what they valued analysts for. The top answer was access to corporates! Yes, fund managers seem to think that sell side analysts are excellent secretaries! The good news is that the other use of analysts was for thematic research. Strangely enough, earnings forecasts and pre/post earnings notes didn't feature on the list at all!

■ Perhaps the most dangerous pitfall that investors may unwittingly stumble into when meeting company managements is to only look for information that agrees with them (known as confirmatory bias).

■ In fields as diverse as criminal investigations, medical diagnosis and job interviews, confirmatory bias has been shown to be a major problem. For instance, one study took textbook photos of a medical condition, and then gave physicians a case history and a suggested diagnosis. Even when the suggested diagnosis was actually false, the doctors said it was the most likely cause nearly 70% of the time! Only 1.5% of the time did they pick the true diagnosis when given a false suggestion!

■ Job interviews have been widely studied by psychologists (and are often similar to company meetings in their nature). However, they have been found to be very poor predictors of on-the-job performance. Unstructured interviews were particularly bad since most of the time was spent assessing how agreeable the candidate was!

■ Confirmatory bias can be beaten, but it takes effort and practice. Some 95% of fund managers fail the confirmatory bias question in my behavioural test – the highest failure rate out of any question I ask. We need to learn to seek out the information that would disprove our ideas. If you expect margins to grow, probe management for evidence that margins are under pressure. The absence of evidence can itself be useful. What would you expect to see if your hypothesis was correct, is it missing?

■ Of course, confirmatory bias doesn't just show up when you meet company managements. It raises its ugly head in all parts of the investment process, such as view formation and analysis. Try using a technique like the analysis of competing hypothesis to minimise our habit of looking for the information that agrees with us.

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You are still wasting your time! Or, are analysts really just overpaid secretaries?

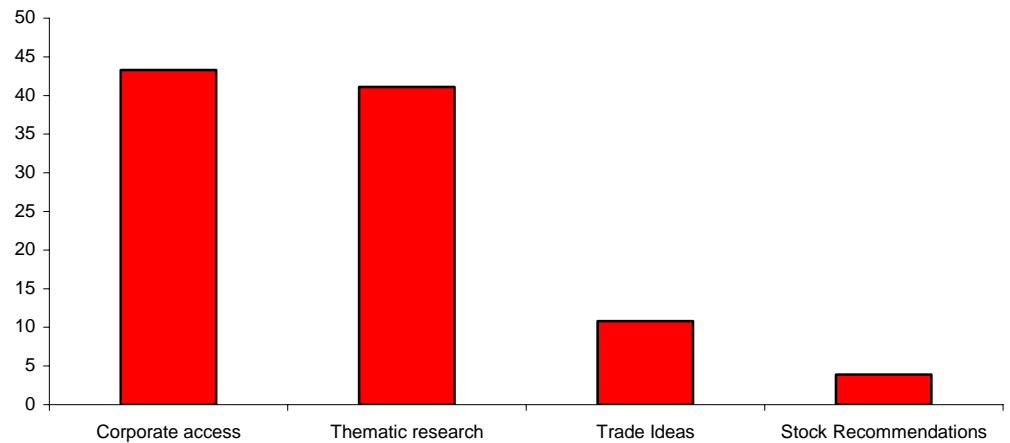
A long time ago I wrote a note questioning why it was that so many investors spent so much time meeting companies. In fact, meeting company managements was one of the Seven Sins of fund management (Lust) (see Chapter 12 of Behavioural Investing for all the gory details). From a psychological perspective there were at least five major hurdles that had to be overcome before company meetings become useful:

- i) Company managements can't forecast the future any better than the rest of us. (see Mind Matters, 18 February 2008)
- ii) We already suffer information deluge, are we really collecting more useful information or just more information to make us feel better? (See Mind Matters, 3 December 2007)
- iii) We tend to focus on information that supports our view rather than information that challenges our view (the subject of this note)
- iv) We have a tendency to accept what we are told by those in authority (see Mind Matters, 5 March 2008)
- v) We are lousy at telling liars from truth-tellers.

Despite these significant problems, the recent Extel survey revealed that over 43% of fund managers rated the access the sell side analysts provided to corporates as very important. In contrast, a mere 3.9% said that analyst stock recommendations were very important. So, it would appear that analysts are really little more than highly paid secretaries¹ (Actually, the situation isn't quite that bad - before my inbox is swamped by complaints from analysts), as 41% of fund managers said they used analysts for their thematic research (however that is defined!). Analysts N.B. earnings forecasts and pre- and post result notes didn't feature in this list at all.

¹ For the record, I would like to make it absolutely clear that nothing is more important than a good PA

What fund managers use analysts for...(%)



Source: SG Equity Research, 2008 Extel Survey

This tendency to rate corporate access may help explain why we see so few sell ratings among analysts (see Mind Matters, 13 May 2008). After all it is going to be pretty hard to run a roadshow if you are rating the stock as a sell.

Given the overwhelming evidence that most fund managers love meeting companies (despite my best efforts to disabuse them of their folly), the best I can do is try to provide some advice on damage limitation from these encounters. From my experience the most dangerous mistake that investors are likely to succumb to when meeting company managements is to only look for information that agrees with them (a problem known as confirmatory bias).

The Case of the Central Park Jogger

Let's take a step back and consider the disturbing events of the case of the central park jogger. In 1989, a woman was brutally raped and bludgeoned while jogging in Central Park. The police quickly arrested five black and Hispanic teenagers who had been 'wilding' (randomly roughing up passers by in the park. The police, not unreasonably, saw them as possible suspects for the attack on the jogger.

The five were aged between 14 and 16. They were interrogated by police for between 14 and 30 hours. They finally confessed, and provided lurid descriptions of the attack, detailing who did what.

However, there was a snag. There wasn't a scrap of physical evidence that these youths were involved at all. None of the blood matched, the semen from the raped jogger didn't match any of the boys, and there wasn't any DNA match either. Despite this massive lack of physical evidence, the police, prosecutor, and jury found the boys guilty. Donald Trump spent \$80,000 on newspaper ads calling for them to get the death sentence!

The five boys were in fact innocent of the crime they were convicted for. Some 13 years after their sentencing a convicted rapist serving time for three rapes and one rape-murder admitted that he and he alone had carried out the terrible crime in Central Park. His DNA was found to be a match for the DNA found on the victim.

The DA's office spent a year looking for any link between the boys and the convicted rapist and couldn't find a shred of evidence. In 2002, the boys' convictions were overturned.

The lead prosecutor still says she is certain of the boys' guilt. A view shared by the one of the senior detectives who worked the case. The lead prosecutor even went as far as to suggest that the convicted rapist who had confessed had simply finished what the boys had started – this despite the lack of evidence, and the fact that none of the boys mentioned a sixth assailant.

When the video tapes of the boys' questioning by the police were examined their supposed confessions were riddled with errors. For instance, one of the boys said "she was hit with a heavy object", the officer asked "was it a brick or a stone? The boy said it was a stone, and then moments later said it was brick. In another example one of the boy's statements said that one of the group had used a knife to cut off the victim's shirt. However, there was no evidence of a knife being used on the shirt at all. In fact, not one of the boys confessed to the act of rape at all. One said he had grabbed her, another talked of holding and fondling her leg, but none said he or any of the others had raped the victim.

In the DA's motion to overturn the conviction they stated "the accounts given by the five defendants differed from one another on the specific details of virtually every major aspect of the crime – who initiated the attack, who knocked the victim down, who undressed her, who struck her, who held her, who raped her, what weapons were used in the course of the assault, and when in the sequence of events the attack took place."

This tragic case is a perfect example of real world confirmatory bias. The investigators started down a path, then simply looked for all the information that agreed with them, and choose to ignore the evidence that disagreed with them, or interpret it as agreeing with them.

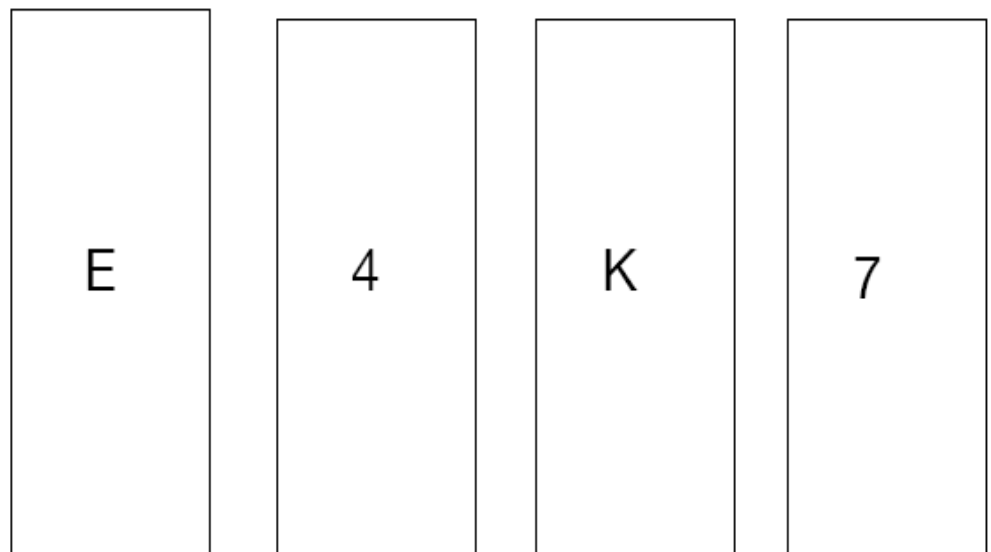
Indeed this tendency to look for the information that agrees with us has been know since at least the time of Francis Bacon:

The human understanding when it has once adopted an opinion (either as being the received opinion or as being agreeable to itself) draws all things else to support and agree with it. And though there be a greater number and weight of instances to be found on the other side, yet these it either neglects and despises, or else by some distinction sets aside and rejects; in order that by this great and pernicious predetermination the authority of its former conclusions may remain inviolate. . . . And such is the way of all superstitions, whether in astrology, dreams, omens, divine judgments, or the like; wherein men, having a delight in such vanities, mark the events where they are fulfilled, but where they fail, although this happened much oftener, neglect and pass them by. (1620)

Confirmatory bias in the lab

Of all the questions I ask when conducting my behavioural teach-ins the one on confirmatory bias has the highest single failure rate. In fact, an amazing 95% of professional fund managers/analysts have managed to get this question wrong. In the general population around 10% come up with the correct answer.

The four cards below each contain a number of one side and a letter on the other (that much is true, you can take my word for it). But I would like you to test the idea that if a card has an E it should have a four on the reverse. Which cards would you like to turn over to see if this idea is correct?



Now the two most common answers are E and 4. The correct answer is that you need to turn over the E and 7. The E is pretty obvious, as if it doesn't have a 4 on the reverse then my statement was clearly false, but it is only a necessary not sufficient condition. In order to be sure, you need to turn the 7 over as well, for if that does indeed have an E on the reverse then I was clearly lying. However, the four can't help you, because you were asked to test if a card has an E it should have four on the reverse, NOT, if a card has a four then it should have an E on the back.

One of the odd things about that particular test is that people find it easy to solve when you label the cards, drinking beer, over 18, under 18, and drinking Coke, and you tell them they are running a club and are responsible for testing to see if underage drinkers are present. Pretty much every body checks the under 18, and the person drinking beer. However, if you then give them an abstract puzzle like the one above, they still can't solve it.

As a further example of confirmatory bias consider the following problem. You are given the following number sequence: 3-5-7 and asked to try to find the rule that generates the outcome. When faced with this kind of problem most people will start by asking whether sequences such as 2-4-6 fit the pattern, or 9-11-13. To which the answer is yes. Very few people will ever get around to asking if 7-5-3 fits the rule, to which the answer is no. In fact the

rule is simply any ascending numbers. So the only way to falsify this rule is to use descending numbers, but this will often never occur to participants.

Evidence from Medicine

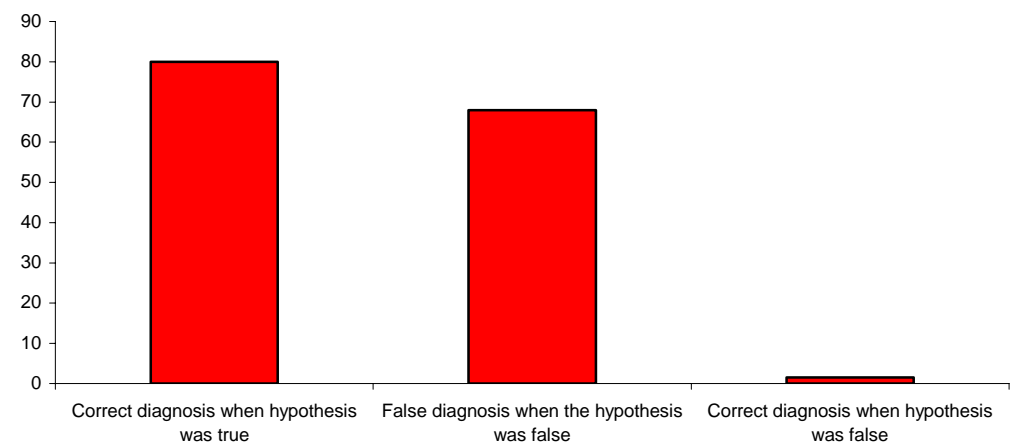
LeBlanc et al² explore the presence of confirmatory bias in the context of medical diagnosis. They use medical students and residents (qualified doctors) as their sample universe (the results are not materially different depending on the group, so they have been amalgamated here).

Participants were shown ten head and shoulder pictures taken from textbooks or physicians slide libraries that were considered prototypical of a particular diagnosis. Case histories biasing to the correct and to the alternative diagnosis were generated. The alternative diagnoses were developed by highlighting a feature in the photograph that could generate a plausible explanation.

Participants saw the photo, a brief case history and then a suggested diagnosis. They were then asked to write down all the clinically important features present in the photograph. Once this was done they were then asked to rate the likelihood (0% to 100%) of the suggested diagnosis being correct, and the likelihood of any self-generated diagnosis being correct.

The chart below summarises the findings that LeBlanc et al uncovered. Strangely enough, the participants' decisions were highly driven by the suggested diagnosis. When given the correct suggested diagnosis over 80% of participants concluded that it was the correct diagnosis. However, when given the alternative diagnosis nearly 70% concluded that it was the correct diagnosis! A mere 1.5% actually chose the true diagnosis when given an alternative despite these being classic/textbook examples of the diagnosis.

% Choosing...



Source: LeBlanc et al

² LeBlanc, Brooks, Norman (2002) Believing is Seeing: The influence of a diagnostic hypothesis on the interpretation of clinical features, Academic Medicine, Vol 77

Evidence from criminal investigations

O'Brien et al explore the use of confirmatory bias in criminal investigations. They give participants a 'police' file to read documenting a non-fatal shooting of a man in his home. Early on in the investigation, a weak circumstantial case emerged against one suspect (Billy Briggs). Briggs had a minor criminal record, had been fired by the victim some months earlier, had no alibi for the night in question and was hesitantly identified by a shop owner as having bought cigarettes near the victim's house just 15 minutes before the shooting occurred. No other suspects looked particularly good, as they had verifiable alibis for the time the shooting was estimated to have occurred.

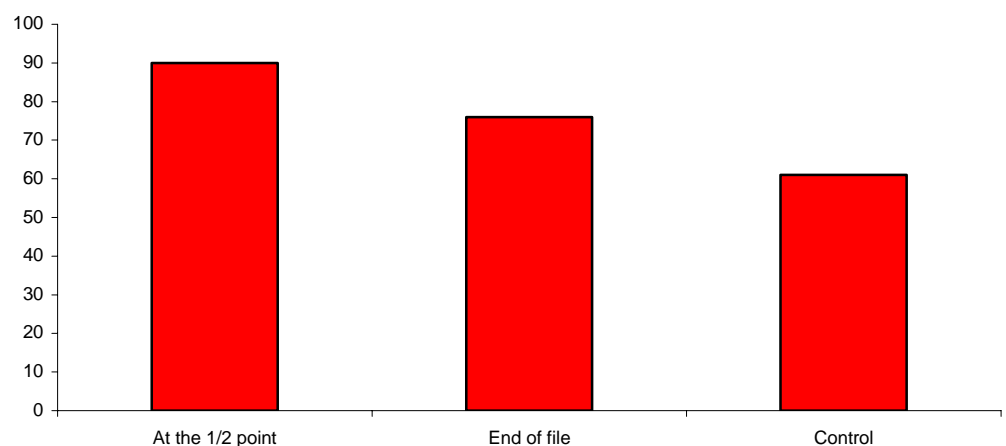
At this point in the file, half of the participants were asked to indicate who they thought had committed the crime, and why they thought so. Over 90% said they thought Briggs was the most likely suspect.

Having done this, they continued reading the file, they found more evidence to incriminate Briggs, such as gun found at his home which matched the calibre used to shoot the victim. However, other evidence was also thrown up. Police learned that the shooting actually occurred an hour later than original thought, which put holes into some of the other suspect's alibis. An ounce of cocaine was found in the victim's bedroom as well. The victim's nephew was discovered to have a major gambling problem, and stood to inherit half the victim's estate. Several items stolen from the house were pawned by a man not matching Briggs description.

After reading the file, all participants completed a 36 item true-false test to gauge whether they remembered facts as they really were stated. Some items were false, such as Briggs fingerprints were found at the crime scene. Then participants were asked to select lines of inquiry that they would like to pursue.

The chart below shows some of the results that O'Brien et al discovered. Of those who had named their favoured suspect at the half way stage, 76% thought he was still the most likely suspect, while only 61% of those who hadn't committed to naming the suspect felt he was the most likely felon.

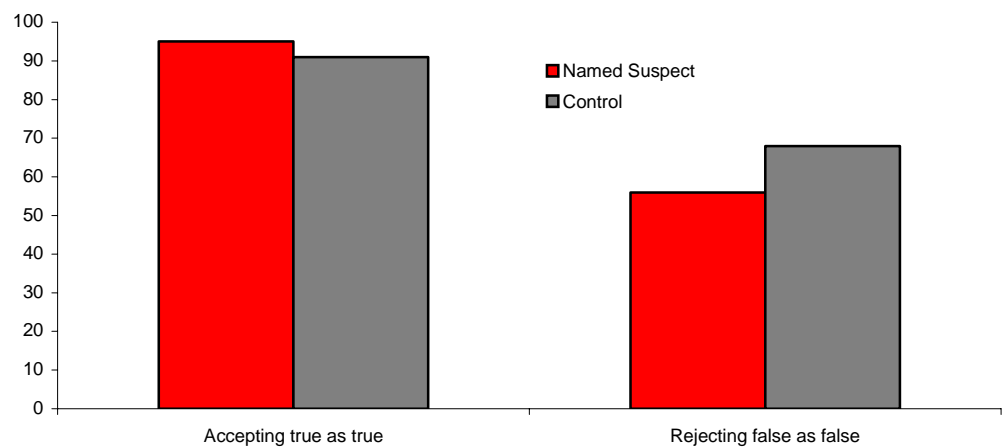
% naming Briggs as most likely suspect



Source: O'Brien et al, SG Equity Research

When it came to recalling true from false, there was a similar recall for true events. However, those who had named a suspect at the halfway point failed to reject false information far more often (56% vs. 68%). They also chose far more lines of investigation to pursue that focused on Briggs rather than on the other suspects. They also interpreted ambiguous or inconsistent evidence as consistent with Brigg's guilt!

% recalling true as true, and rejecting false as false



Source: O'Brien et al, SG Equity Research

Job interviews and confirmatory bias

One of the areas that is perhaps closest to meeting companies and has been carefully studied by psychologists is job interviews. Allen Huffcutt of Bradley University has been studying job interviews for two decades. His list of the top ten most common interview questions is shown below³:

- I. Why should I hire you?
- II. What do you see yourself doing five years from now?
- III. What do you consider to be your greatest strengths and weaknesses?
- IV. How would you describe yourself?
- V. What college subjects did you like the best and least?
- VI. What do you know about our company?
- VII. Why did you decide to seek a job with our company?
- VIII. Why did you leave your last job?

³ Taken from an interview with Allen Huffcutt in Sway by Ori and Rom Brafman

IX. What do you want to earn five years from now?

X. What do you really want to do in life?

In fact only one of these questions has any real power at all. Question 6 can help reveal the level of background research that a candidate has actually done (and it still isn't a great question by any means). The rest of the questions are the likely to have been encountered many times, and generally allow the candidate to preen and display rather than demonstrate anything of use.

After all who is going to say that their worst weakness is going out and drinking all night, and then being late for work. Instead people are likely to say that they sometimes work too hard, or take their work too seriously.

A similar thing happens in company meetings. When was the last time a company turned up at your office and said, they were a dreadful company, that the management didn't have a clue what was going on, and that you should sell their stock! It just doesn't happen.

Of course, we all know these games are going on, but we tend to rely upon the face to face contact to help guide our intuition. However, there is precious little evidence that we have any good intuition in these matters at all.

In one meta-study⁴ (a study of other studies) Huffcutt et al found that interviews tended to focus upon basic personality tendencies such as agreeableness! Yes, interviewers looked for people who were like them, and who they liked.

The good news is that some sorts of interviews work better than others. Those classified as low-structure (i.e. come in for a chat) focused far too much on traits such as agreeableness (four times more) than those classified as high structure. High structure interviews tend to stick to the facts (ala Joe Friday – “The facts ma-am, just the facts”). High structure interviews were twice as likely to spend time on applied mental skills and applied social skills than the unstructured approach. In fact, using structured interviews was six times more effective than unstructured interviews at predicting a candidate's job performance.

Huffcut points out that interviews are actually generally redundant. He argues that “the idea system is to use the higher accuracy techniques up front to make your decision – things like mental ability tests, work samples. Then when you've identified your top candidates, you use an unstructured interview to really sell them on taking the job, get them excited about the company. You can use it for some very useful things, just not for the hiring decision itself”.

This has obvious parallels with my advocacy of using screening (simple rules) and quantitative models for stock selection.

⁴ Huffcutt, Conway, Roth and Stone (2001) Identification and meta-analytic assessment of psychological constructs measured in employment interviews, Journal of Applied Psychology, 86

How can we fight confirmatory bias?

The most obvious way of avoiding plunging headlong into confirmatory bias is, of course, to look for the disconfirming evidence. When you meet companies seek to ask them the complete opposite of what you actually believe. Root out all the information that would show you that you are wrong. So if you expect margins to continue to grow, say, then spend your time probing for evidence that margins are under pressure.

This is easy to say, but actually hard to practice. It doesn't come naturally to us at all. For instance, when I read a bearish piece of research I often find myself nodding in agreement. However, when I read bullish research I find myself, tutting and circling all the points I disagree with, often ending up with large amounts of ink across the page before I throw the note away, dismissing it as typical of the bullish junk produced by our industry. I'm not an unbiased evaluator of evidence (and the chances are that you aren't either).

You should also pay attention to the absence of evidence as well as its presence. This is reminiscent of the Sherlock Holmes story in which the vital clue was that the dog did not bark in the night. One's attention tends to focus on what is reported rather than what is not reported. It requires a conscious effort to think about what is missing but should be present if a given hypothesis were true.

Of course, confirmatory bias tends to raise its ugly head in all parts of the investment process, such as view formation and analysis as well as company meetings. Richard Heuer Jr. in his truly excellent, *Psychology of Intelligence Analysis* suggests the following eight stage process for the analysis of competing hypothesis as a partial defense against confirmatory bias:

1. Identify the possible hypotheses to be considered. Use a group of analysts with different perspectives to brainstorm the possibilities.
2. Make a list of significant evidence and arguments for and against each hypothesis.
3. Prepare a matrix with hypotheses across the top and evidence down the side. Analyze the "diagnosticity" of the evidence and arguments— that is, identify which items are most helpful in judging the relative likelihood of the hypotheses.
4. Refine the matrix. Reconsider the hypotheses and delete evidence and arguments that have no diagnostic value.
5. Draw tentative conclusions about the relative likelihood of each hypothesis. Proceed by trying to disprove the hypotheses rather than prove them.
6. Analyze how sensitive your conclusion is to a few critical items of evidence. Consider the consequences for your analysis if that evidence was wrong, misleading, or subject to a different interpretation.
7. Report conclusions. Discuss the relative likelihood of all the hypotheses, not just the most likely one.
8. Identify milestones for future observation that may indicate events are taking a different course than expected.

Under this approach, the baseline (or maintained) hypothesis should end up being the one with the least disconfirming evidence rather than the most confirming evidence.

Now, just in case there is any doubt at all, I remain of the view that meeting companies is largely a waste of time. However, if you are going to meet companies (as pretty much all of you insist on doing) then it is important that the meeting is sculpted around the hunt for disconfirming evidence. This will likely entail far more time being spent on the preparation for the meeting, as knowing how to ask the company the opposite of what you really believe will take time to set up, as well as thinking about the absence of evidence elements of the meeting as mentioned above.

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