

WHY WE GET OUR FORECASTS WRONG

Barbara J. Heinzen, PhD

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Introduction

For much of the past 15 years I have been working with a variety of organisations who need to think about the future, usually the long-term future. Scenario planning has been at the core of this practice and is usually presented as an alternative to forecasting. However, even scenario planning involves a kind of forecasting as it is an attempt to see the future in advance, albeit a future that is described with stories rather than numerical extrapolations from past trends.

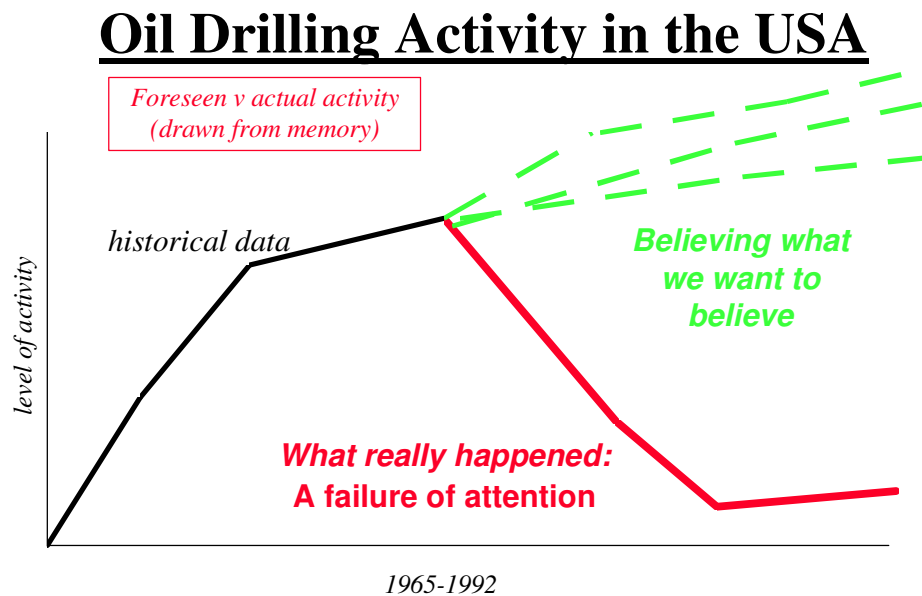
Scenario planners often use the failures of numerical forecasts to show why scenarios are a better tool for thinking about the future. But scenarios stories can also fail, not so much because what they describe does not happen – which is a normal risk in scenario planning – but because things do happen that were not described in the stories although they might have been anticipated through deep understanding of existing information.

As these misses occurred in my own practice, I made mental notes of what happened and speculated on why we missed what we missed. I hoped we could at least avoid repeating our mistakes, but beyond these mental notes I did not think seriously about the failures of our scenario stories. However, about a year ago I was asked to give a talk on why we get our forecasts wrong and found myself jotting down on the back of an envelope 13 different examples of failed foresight. These were largely personal reflections from my own experience, but others recognised many similarities from their own work and a useful discussion followed. It is, therefore, in the spirit of shared learning that this casual list is offered here and, with it, an invitation for others to add their observations on “Why We Get Our Forecasts Wrong.”

13 Reasons for Getting Our Forecasts Wrong

Reason 1: Believing what we want to believe

Reasons 2: A failure of attention



B.J. Heinzen, 1997, slide 16

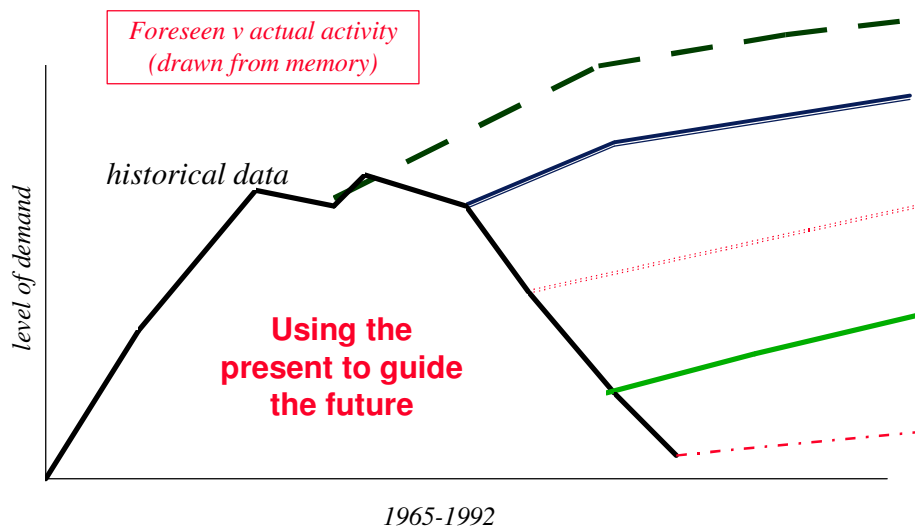
The historical data in this graph shows how oil drilling activity had been growing for a number of years and, naturally, oil drilling business had expanded in that time. When forecasts of the future were made, including “high”, “medium” and “low” activity, they simply reflected the belief that growth would continue. The forecasters *believed what they wanted to believe*. However, in fact oil drilling collapsed soon after this forecast, because there was a change in the US tax laws which effectively weakened the financial incentives to drill. Could the forecasters have foreseen this change in the law? Given the number of lobbyists who inhabit Washington, D.C., early signs of a changing law were probably visible, but there was a clear *failure of attention*.

This graph therefore illustrates two failures:

- *believing what we want to believe*
- *a failure of attention*

Reason 3: The tyranny of the present

Estimates of Oil Demand for IIEE



B.J. Heinzen, 1997, slide 17

Another reason we have trouble foreseeing what will happen in the future is that our views of the future are always coloured by our most recent experience. This is well illustrated in this graph, but was also apparent during consultancy work in Asia in 1996 when I repeatedly asked workshop participants: “What could go wrong in Asia? What will cause growth to slow? Could we have a financial crisis in Asia?” After 20 years of growth and stability, the universal answer in 1996 was “that is not possible.” This 1996 attitude is prime example of *the tyranny of the present* which, in the Asian case, proved to be deeply misleading..

Reason 4. Asking the right question

One of the ways to get around the tyranny of the present is to ask a contrarian question – something that forces us to think differently about the present. Right questions, though, are often hard to find, since they often appear only when we look away from what everyone is saying about a subject and find some empty space we cannot explain. These empty spaces are fruitful sources of *right questions* which need to be asked if we want a good view of the future. But contrarian questions and exploring empty spaces exposes us to possible ridicule, as it means swimming against the tide. So why should anyone bother to ask the right question? And yet, the failure to ask the risk question often leads to a subsequent failure in forecasting.

Reason 5. Overestimating our ability to control the future - “*We can handle it*”

Another reason we get our forecasts wrong is that we assume our organisations are strong enough to cope with change. In two assignments with two very different but confident companies, the working groups wrote descriptions of the world their companies would be facing. They were complacent views – worlds in which the companies were bound to succeed and overcome any obstacles. When asked what name they would give to this future, each group responded: “*We can handle it.*” This belief that “*We can handle it*” in fact makes forecasts unnecessary;

therefore, only a very quick and superficial look at the future is likely to be undertaken. As we all know, the forecasts resulting from such an exercise may be very complacent and very wrong.

Reason 6. The need to present a point of view - the example of HIV/AIDS

When the AIDS epidemic was first discovered, doctors and epidemiologists realised that they were facing an incurable disease that could spread for many years, infecting many people long before illness was visible. They also knew that there are many uncertainties around the spread of the disease that make it genuinely difficult to know how far the virus will spread through any particular population. Equally, the experts quickly learned that the spread of HIV could be slowed down by using condoms, practising safe sex, sterilising needles and blood supplies, etc. However, this meant persuading people to alter their behaviour. To help convince people to change their behaviour, the uncertainties about the spread of the disease were underplayed and the risks were highlighted. Later, when the disease did not spread as anticipated in several cultures (like the UK, for example), the risks remained, but the over-dramatisation of the spread of the epidemic made many people question whether the epidemiologists were right about the need to change their behaviour. In this case, the very real public health *need to present a point of view* forced the forecasters to develop a highly dramatic case that minimised the equally relevant uncertainties in their forecasts. The end result was a misleading and ultimately unhelpful prediction.

Reason 7. The unreliability of experts - or the value of innocent eyes

In the mid-late 1980s I was working with a company on the future of Japan. At the time, I was struck by the mindless repetition from business people I interviewed that “Japan is different” – a cultural explanation for difficulties my Western business clients were discovering. The two aspects of difference that were most frequently cited were:

- a) “consensus is important in Japan”
- b) “the Japanese take the long term point of view”

As the project proceeded, I began to wonder what the basis of consensus was and why it was upheld. I also wondered how the Japanese paid for the long term view, and discovered a number of very interesting rules in the financial system that made it possible to support long term business strategies. I then organised 2 meetings of experts. In one meeting I asked people to discuss the question: “When will the consensus in Japan break down” and in the other meeting I asked “What will happen as the Japanese financial system opens to the outside world?” I was given two clear answers: “The consensus won’t break down, Japan is different,” and “There will be a smooth convergence of the Japanese and international financial systems.” Neither conclusions has been supported by events since the late 1980s. So why were the experts wrong? My own view is that experts become captured by their subject. When they are experts in another culture, they can take on the myths and beliefs of that culture, making it more difficult for them to see the weaknesses that are there. As a non-expert, I did not question their conclusions, but it has since turned out that my ignorant questions were closer to the future than the expert views. While expert views are incredibly valuable, this kind of experience has led me to rethink “*the value of innocent eyes*”. Such eyes force us to question the automatic conclusions experts often offer.

Reason 8. Time to do a good analysis

One of the reasons we rely on experts is that very few organisations take the time or devote the resources needed to collect and understand the relevant facts. Deadlines are tight, staff are already overworked and there is no budget for commissioning outside research. Even when the budget is there, research that helps us to understand the future tends to ask different questions than those asked either by operational people or by academics. As a result, ordinary research skills are often not enough, while the skills involved in researching what will happen in the future are scarce and undervalued. As a result, good analysis is just not done. The strongest example of this came during 1996 when there was a clear need to gain a better understanding of Asian financial systems, but none of my clients that year had the budget, time or skills to undertake such work. They simply lacked the *time to do a good analysis*.

Reason 9. Assumptions and the illusion of certainty

Assumptions about the future are intrinsically necessary. We must be able to assume that the ground will be under our feet before we take a single step. And yet, assumptions can cause trouble because they lie deeply hidden in our beliefs and behaviours. Where the assumptions are smuggled into our views of the future, they can distort the forecasts we make. They can also conceal ignorance. In one training exercise where I was working on the future of rural Scotland, the group assumed for two days that people in rural Scotland worked as fishermen, farmers, foresters and in other rural activities. However, when we looked at employment and government expenditures, we discovered that in fact over 50% of the population was directly dependent on government money – either as unemployment insurance, pensions or salaries. It is examples like this one that show how our *assumptions and their illusion of certainty* can lead forecasts astray.

Reason 10. A question of timing

Another frequent source of error is to make an accurate prediction about what will happen in the future, but to get the timing wrong. For many people the Club of Rome's Limits to Growth¹ was completely wrong. This book had argued in the early 1970s that we were over-consuming raw materials and seriously polluting the air, sea, rivers and soils. The authors predicted that soon we would run out of raw materials or ruin the Earth's capacity to absorb waste materials. Because these predictions were not fulfilled when the authors said they would be fulfilled, many people believed that the basic conclusions were wrong. But are those predictions wrong? I doubt it. Instead, it is a *question of timing*.²

“Reason 11: “It takes 30 years to get a good idea accepted”

Even when we get everything right – the right question, good analysis, right timing – our forecasts may still not be good because they cannot get accepted. They simply do not penetrate. One of the interesting things about working in this field for the past 15 years is seeing how long it takes for ideas to take hold among groups. There seems to be an instinctive rejection of a novel view of the future. This came home to me during a talk about importing wheat into the Middle East, which was described as “virtual water”, since the water needed to grow wheat is embodied in the wheat imports. Thirty years ago, the very idea of importing wheat in the Middle East was rejected because countries believed they needed to be self-sufficient in food production, even though they did not have enough water to meet this objective. Now importing wheat is

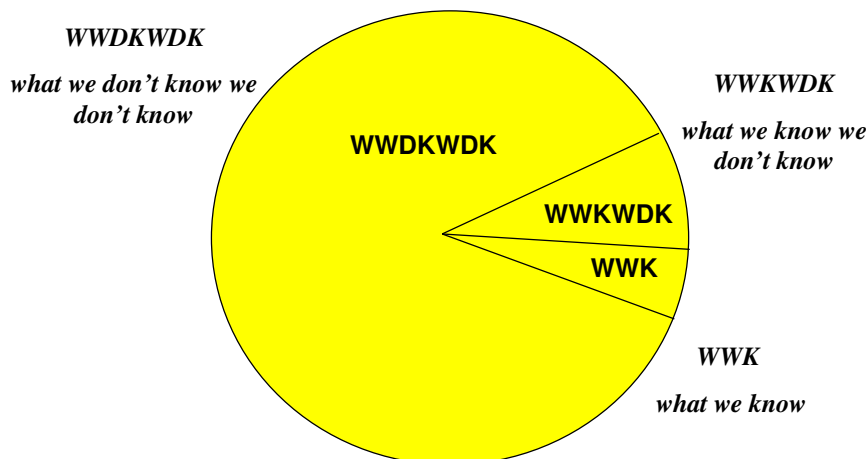
accepted practice, hence the speaker, Tony Allan's, conclusion that "it takes 30 years for a good idea to be accepted."³

Reason 12: Obedience versus curiosity

Another reason our forecasts go wrong, is that we want to write a good diagnostic view of how the world works and where it might be going, but we worry that such an analysis will not be accepted by our bosses. We therefore water down and temper our conclusions. I was particularly aware of this tension while working in Asia where there is a strong culture of obedience and conformity. In this culture, curiosity can be confused with disloyalty. This is not, however, a problem limited to Asian cultures – it exists in many Western corporations where people are promoted based on their ability to echo, rather than question, the views at the top. Hence, many of our forecasts are wrong because of this tension between *obedience versus curiosity*.

Reason 13. What we don't know we don't know

What We Don't Know



B.J. Heinzen, 1997, slide 6

Finally, there is a very good reason we get our forecasts wrong – our knowledge is very limited. I am indebted to Don Michael, the author of Planning to Learn and Learning to Plan⁴, for understanding the importance of this circle of knowledge and ignorance. The fact is we are constitutionally unable to know all that it would be useful to know. Even if we include our knowledge of what we don't know, most of what we need to know is outside our apprehension. We don't even know it is there. That means that we are always making forecasts in a state of ignorance and uncertainty. So long as that is true, it is only to be expected that our forecasts will go wrong, even if we have done everything else on this list in a completely right way.

Conclusion

Wallace Stevens wrote a poem in the 1920s titled “Thirteen Ways of Looking at a Blackbird”. Why are there thirteen ways? asked the professor who introduced us to this poem when I was in university. The students in the class offered a number of tentatively clever and often arcane answers. None of them was the answer being sought. Thirteen, said the professor, was an arbitrary number. Wallace Stevens gives us thirteen ways of looking at a blackbird, but there could be many more.

As I was writing up these notes, I began thinking of other failures of forecasting I have known or – as it is still too early to tell – suspected. I debated whether I should add these new examples to the list, but decided to follow the example of Wallace Stevens and stick to the beautifully superstitious and arbitrary number of “13”. So, here are thirteen reasons for the failures of forecasting but, as my old professor suggested, there could be many more.

Barbara J. Heinzen, PhD

Barbara Heinzen is a geographer from New York who is now based in London where she has a freelance practice in long range scenario planning, corporate strategy and public policy. She has specialised in working with organisations who need to understand the driving forces of change in societies experiencing the pressures of development, of post-communist transition or of economic restructuring. She is a Network member of Global Business Network and a Senior Research Associate at the School of Oriental and African Studies, University of London.

¹ Donella H. Meadows et al., *The Limits to Growth* (Universe Books, New York, 1972)

² For a more recent discussion of these same issues see *Beyond the Limits: Confronting Global Collapse, Envisioning a Sustainable Future* by Donella H. Meadows, et al., (Chelsea Green Publishing Company, Post Mills, Vermont, 1992) ISBN: 0-9330031-62-8

³ J.A. Allan, “The political economy of water”, in Allan, J. A., *Water and peace in the Middle East: the negotiation of resources in the Jordan Basin*, London: Tauris Academic Publications, 1996. A graph on page 91 illustrates this point particularly well.

⁴ Don Michael’s book has recently been reissued after being out of print for some time. Donald N. Michael, *Learning to Plan and Planning to Learn, 2nd edition* (Miles River Press, Alexandria, Virginia, 1997) ISBN: 0-917917-08-1