

Incident Analysis
Accidents - An Investigator's View
(An abbreviated version)

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I have a conviction that the best approach to accident investigation is to avoid apportioning blame and, instead, learn the relevant lessons from whatever went wrong. And then put in place measures to prevent the same thing happening again.

The apportionment of blame in a world where society has an obsession with finding fault, will all too often focus on the obvious factors and ignore the underlying reasons. It is among the underlying reasons that the most effective lessons can be found.

Let me give a very simple example.

Suppose a vessel has been involved in a collision and a key finding is that it wasn't keeping a good lookout. The all too typical investigation will inevitably home in on this and apportion blame accordingly.

The ship operators may well decide that their reputation is likely to be adversely affected unless they are seen to do something and sack the skipper or mate involved.

The rest of the maritime world will, meanwhile, make a mental note of the 'lesson' and go happily on its way until it happens all over again.

But the more important question of "Why wasn't a good lookout being kept?" will go unanswered.

The scenario is not uncommon and past underlying reasons have included:

- The sending of the lookout below to have a cup of tea.
- The watch keeper dealing with an alarm or distraction at the crucial moment.
- The watch keeper having his or head stuck in a chart instead of looking out.
- a watch keeper who was so cold he didn't want to move to the leeward side to see beneath the genoa:
- Interpreting, in thick fog, a radar range as 2.5 miles instead of the actual .25.
- and the young man keeping his first night watch and had never been briefed on what to do.

I leave you to draw your own conclusions about the potential lessons.

Let me remind you why accidents happen.

They are never caused by a single event. They are always the result of several things going wrong in a certain sequence.

We call it the causal chain and it can be very long; often days, sometimes weeks, months or even years.

When you think about it, every preparation you make in harbour before sailing is designed to break potential links in an accident chain: being properly secured for sea; ensuring rigging is tensioned correctly, passage planned, and weather forecast taken and absorbed.

Once underway, every safety briefing you give, every check you make, every seamanlike action you take, every sail change you make to ensure the right sails are set for the prevailing conditions, and every replacement or repair of suspect equipment is a specific contribution to the breaking of that chain.

One reason why I stress underlying causes so much is that it amongst these that you will find the most effective areas to address to prevent similar accidents happening again.

Let me give another example. One minute a trainee is aloft and apparently OK; the next he or she slips, can't hold on, isn't clipped on and falls from a great height to the deck or overboard. An investigation into the underlying reasons may well identify shortcomings in training, briefing, supervision, over-familiarity or over-confidence.

Not very long ago a number of sail training vessels were participating in an event that involved a series of unconnected incidents that were, technically, accidents. There were a couple of collisions, a grounding and a flooding.

Careful analysis afterwards begged the question as to whether there was a common factor involved. Bad weather played a part, as indeed did the fact that they were all participating in a race over a course that involved some close quarter manoeuvring close inshore in a very strong tide at the start. The combination made it unusually difficult for some of the older, more lumbering craft, to handle. Setting the right course in the prevailing conditions was among the crucial lessons to be learned.

Next foundering. It shouldn't happen of course – vessels are designed and built to stay afloat. But they still founder. Whilst bad weather may indeed play a part, there will be underlying reasons.

Past investigations have identified problems with refitting elderly vessels on too tight a budget or the adding of additional top weight without due regard to stability. But the common factor in them all is that water will have got inside somehow; through ports, doors and hatches being left open or unsecured in bad weather because of the perceived need to improve access or ventilation below.

Then there is planking that works in a seaway; or the seacock or propeller shaft gland that leaks. The problem might well have been known in advance but investigations will often reveal that nothing was done about it.

The lessons to be learned may well include:

- making sure somebody, anybody, routinely checks for water ingress below, or ensuring the bilge alarm is working effectively.
- Ensuring you get rid of it any excess water straight away – free surface effect can play havoc with your stability.
- Making sure you can pump it out without difficulty and are well practised in operating the back up bilge pumping system.
- Never assume it won't happen to you.

Before leaving the issue of foundering, let me touch on one other feature that seems to underpin a significant percentage of the bad weather tragedies: the presence of the secondary low.

They are fiendishly difficult to forecast but, understanding how and when they occur may well ensure you are better prepared to handle them when they do come along.

Let me move on.

What single word do you think is most frequently encountered by marine accident investigators when trying to explain the unexplainable? It is ASSUME.

We all tend to make assumptions and accident investigators will subconsciously wait for those involved in the things to go wrong to admit they “assumed” something.

“I assumed he was going to give way.”

“I assumed there would be sufficient water beneath the keel.”

“I assumed he would clip himself on.”

“I assume that ship on my starboard bow had seen me – after all I'm a large sailing ship with white sails.”

“I assumed the fire extinguisher had been filled.”

The good sail trainer doesn't assume. He knows. He checks.

And yes you might expect the other vessel to give way and for you to stand on, but at what stage do you know you must take action to avoid that collision. Should you ever find yourself assuming something at sea, pause a second and think because making assumptions is one of the most valuable warning signs of an impending accident you will ever encounter

Next – another word: Complacency.

Its very use stirs up huge emotion. No sailor ever, ever acknowledges he or she can be complacent. None of us is ever guilty of complacency of course.

My Oxford English Dictionary defines Complacency as a feeling of contented self-satisfaction, especially when unaware of upcoming trouble.

Call the practice whatever you like but to reduce your guard just because you have done it hundreds of times before is a sure way to invite an accident. Such as not doing routine checks, or taking a short cut because it worked last time. Beware complacency; it accounts for a significant percentage of things going wrong.

Last year I touched briefly on the human element as a contributory factor in accidents. Nothing has changed; it still accounts for well over 80% of the reasons why accidents still occur. People who are tired, cold and hungry make mistakes. An astonishing number of accidents are caused by being distracted at crucial moments. Mobile phones or alarms are typical examples.

If approaching a difficult or dangerous situation remember the limitations on your ability to absorb information. Whereas in normal circumstances it is possible to absorb up to seven items of information simultaneously, moments of high anxiety, incredible concentration or imminent danger will reduce this span of inputs to just one or two. No matter how good you are, you will begin to shut out information that could be crucial.

The solution is to stand back if you can and get someone else do the work so you can absorb the big picture; or have someone standing at your elbow who can relieve you of some of the pressures.

My aim today is precisely the same as yours, to remain accident free, to instil confidence and trust in those around you and to enjoy every moment of your time at sea. There are many, many ways of achieving this, largely through accumulated experience but also by breaking accident chains and learning from the misfortunes of others.