

SA AND NATHAN POLOSKI'S INJUSTICE

By Professor Sidney Dekker

In September 2014, two F/A-18C Hornet Jets collided over the Western Pacific after taking off from the San Diego-based aircraft carrier USS Carl Vinson. Search crews were able to find one of the pilots, who received medical attention onboard the aircraft carrier. The other pilot was never found: the search for him was called off the next day and he was presumed dead the day after that. Neither were the two Hornets ever found: they had sunk in waters kilometres deep.

The Navy launched its investigation into the collision and came with its conclusion half a year later. Vice Admiral Mike Shoemaker, himself an F/A-18 pilot, said that the dead pilot should have exercised more of what his military calls "situational awareness, or S.A." In this case, it would have meant not relying only on cockpit instruments but looking outside "to spot a looming catastrophe." Because "situational awareness, or the lack thereof, can prevent or cause mishaps."

I have often invoked one of my early mentors, Aviation Medical Specialist and NASA human factors expert Dr. Charlie Billings. At the first scientific meeting on 'situation awareness' ever, convened in Florida in the 1990's, he got up and said: "Situation Awareness is a construct! And constructs can't cause anything!" And human factors researcher John Flach famously warned in 1995 against the circularity of constructs like it:

Why did he lose situation awareness?
Because he was complacent.
How do you know he was
complacent?
Because he lost situation awareness.

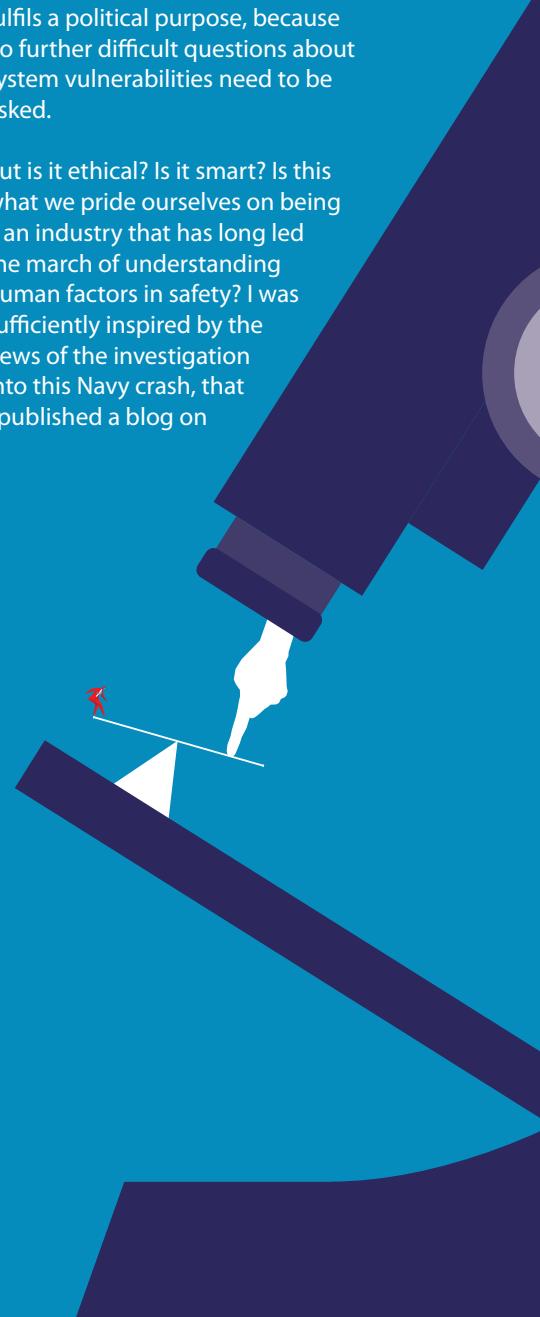
I have since written many times, in many places, about the awful use of "situation awareness" (and particularly "the loss of situation awareness") in

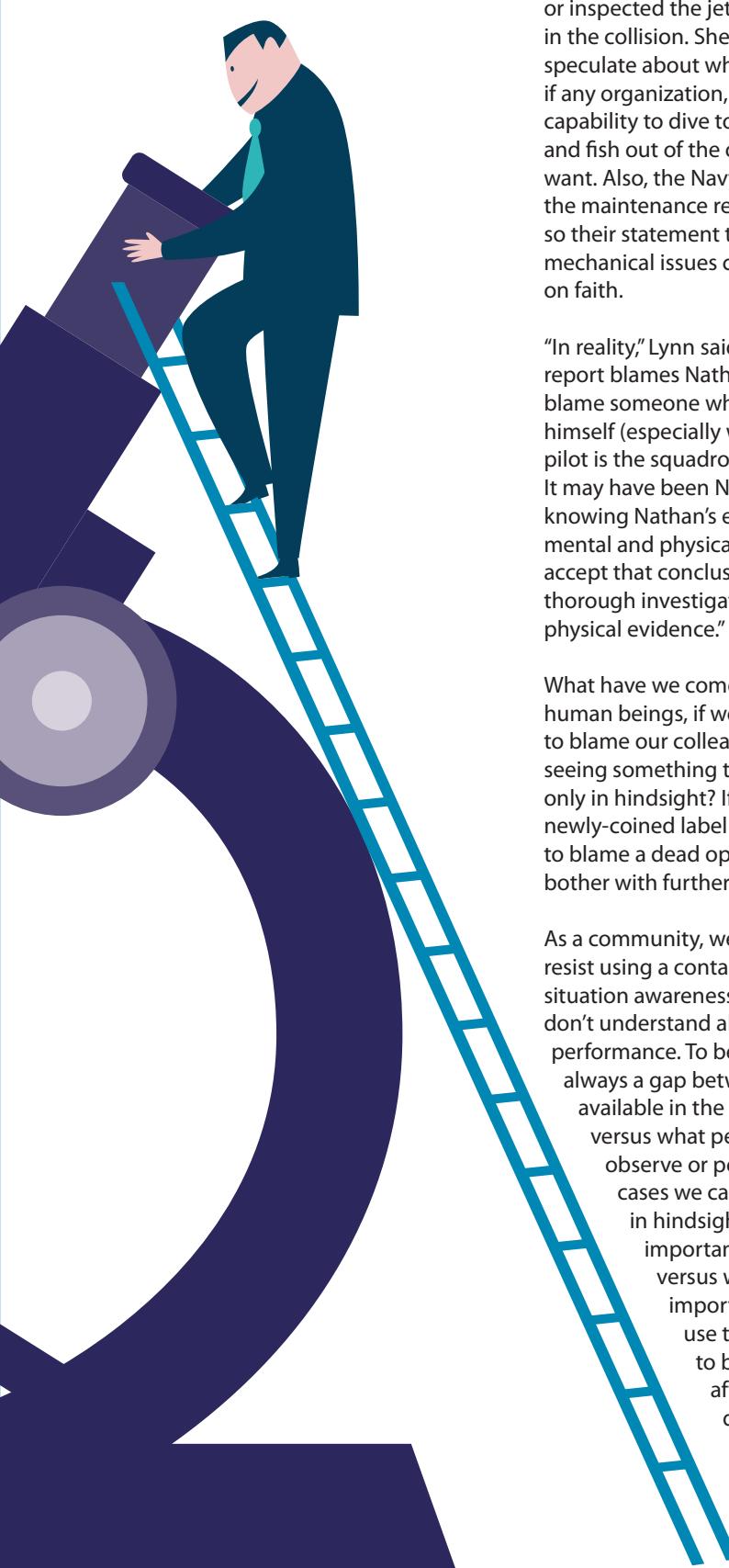
investigations, scientific articles and discussions among practitioners and researchers alike. I have clearly not been very successful. "Loss of situation awareness" is a favourite cause, in liberal use with the American National Transportation Board and other investigation bodies. And it gets worse. I learned recently of a Canadian criminal court case against an operator who, in the words of the prosecution (the Crown in this case), had "lost situation awareness" and had therefore been criminally negligent in causing an accident that killed two people. In another case, the coroner who investigated a friendly fire incident that killed three British soldiers in Afghanistan in 2007, rendered the verdict that the crew of an American fighter jet had lost "situational awareness" and were looking at the wrong village when they dropped the bomb.

But what does all that mean? A "loss of situation awareness" explains nothing. It is a judgment: it is merely the difference between what we know now, versus what the pilot knew then. Now that we know the outcome, it is also what we believe the pilot should have known. But he didn't because he was complacent. Perhaps that kind of conclusion makes us feel better, sleep better.
We have found the bad apple. We have found the cause. Perhaps it

fulfils a political purpose, because no further difficult questions about system vulnerabilities need to be asked.

But is it ethical? Is it smart? Is this what we pride ourselves on being – an industry that has long led the march of understanding human factors in safety? I was sufficiently inspired by the news of the investigation into this Navy crash, that I published a blog on





safetydifferently.com about it. Not long after I had done so, I received an email from Lynn. I didn't know Lynn, and she didn't know me, but she'd read the blog and decided to write me.

The pilot who was never found and presumed dead had a name. They always do, by the way (though we

sometimes forget that in the technical parlance of post-accident discussions and reports). His name was Nathan. Lieutenant Nathan Poloski. Lynn was his aunt. Lynn, herself a retired trial lawyer, told me she was very upset when she read the investigation about Nathan's accident. She felt the conclusion was premature at best, given that the Navy never retrieved or inspected the jets involved in the collision. She could only speculate about why, but the Navy, if any organization, certainly has the capability to dive to those depths and fish out of the ocean what they want. Also, the Navy never released the maintenance records of either jet, so their statement that there were no mechanical issues could only be taken on faith.

"In reality," Lynn said to me, "the Navy report blames Nathan. It's easy to blame someone who can't defend himself (especially when the other pilot is the squadron commander). It may have been Nathan's fault, but knowing Nathan's extraordinary mental and physical abilities, I can't accept that conclusion without a thorough investigation – including all physical evidence."

What have we come to, as fellow human beings, if we use a construct to blame our colleagues for not seeing something that is obvious only in hindsight? If we rely on a newly-coined label for 'human error' to blame a dead operator and not bother with further investigation?

As a community, we should resist using a container term like situation awareness for things we don't understand about human performance. To be sure, there is always a gap between what is available in the world to look at, versus what people actually observe or perceive. In many cases we can point out only in hindsight what was important to observe, versus what was not so important. We shouldn't use that gap as an way to blame someone after the fact. They didn't have the

benefit of hindsight. And in Nathan's case, he doesn't even have the opportunity to defend himself.

Instead, we should use the gap between what was available to an operator versus what was observed by that operator as a call for deeper investigation. It's not the conclusion or end to the investigation. It is the beginning! To understand why there is a gap, you will have to understand people's goals at the time – the various things they were trying to achieve and that helped direct their attention. Remember that they didn't start work that day to go kill themselves, or kill or hurt someone else. They came to work to do a good job. So make sure you understand why it made sense for them to look where they did, rather than blaming them for not seeing what you only now can say was important. That's too cheap, too easy. It's judgmental. It's not an explanation. And it's not human factors.

Make the actual effort to reconstruct why people looked where they looked; why it made sense to them at the time to direct their attention there – given their knowledge and their multiple goals. You will probably find very quickly that you don't need the term 'situation awareness' for that explanation at all. For many decades in human factors, we did perfectly fine without it, and you should be just fine, too. Nathan Poloski, for one, would probably appreciate it. 



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