

Newsgroups: rec.aviation.military  
From: shafer@ferhino.dfrc.nasa.gov (Mary Shafer)  
Subject: [Re: QUOTES- Aviation related](#)  
Date: Tue, 16 Jan 1996 22:03:05 GMT

On Thu, 11 Jan 1996 15:53:28 -0800, Brian varine <varine@ece.orst.edu> said:

Brian> I remember ROTFL on a post a while back where Mary Shafer said  
Brian> something like

Brian> "Absolute safety is for those people without the balls to  
Brian> accept reality" or something to that effect.

Brian> How about correcting me on this one?

I wrote, "Insisting on absolute safety is for people who don't have  
the balls to live in the real world."

It appeared on sci.space or sci.space.shuttle in 1989 or 1990 during  
one of the cyclical "why did NASA blow up the shuttle" threads or on  
rec.military during a "how dare those pilots crash the taxpayers'  
airplanes" thread, also a cyclical thread. I had gotten to a point of  
complete exasperation when I wrote this.

Here's the whole thing:

But, no matter what you do, it will never be perfectly, 100% risk-free  
to fly. Or to drive, or to walk, or to do anything.

One of our pilots here died when he waited too long to eject from a  
spinning aircraft. He was wrong; he should have jumped out earlier.  
He failed in his duty, IMO.

One of our engineers was walking his dog when a car driven by a kid  
jumped the curb and hit him. Only his leg was broken. But he walks  
his dog again, now. Who know better than him the danger?

There's no way to make life perfectly safe; you can't get out of it alive.

You can't even predict every danger. How can you guard against a hazard  
you can't even conceive of?

I agree that the days of "kick the tires and light the fires" are gone,  
but insisting on perfect safety is the single most reliable way of  
killing an aerospace project.

I've been on both sides of the FRR (Flight Readiness Review) process  
for a number of aeronautical projects. Experienced engineers try to  
think of everything that can go wrong. But airplanes can still  
surprise the best team.

I've had to sign a form, certifying that to the best of my knowledge  
everything that we're going to do on a flight is safe. I've never  
seriously asked myself "What will I say to the AIB (Accident  
Investigation Board)" because once one starts on that, the form will  
never be signed, the flight will never be flown, and the research will  
never be done.

But I have asked myself "Have I told everybody exactly what we're  
going to do and what the known risks are and are we agreed that  
these risks are acceptable" and when I can answer that "yes" I sign  
the form. That also answers the question of what I'd say to the AIB.

I'm not talking about abstract theories here, I'm talking about test  
pilots that I've known for decades. Believe me, I know exactly what  
the consequences of a mistake on my part could mean. The reminders  
are all around me: Edwards AFB--killed in the XB-49, Lilly  
Ave--first NASA pilot killed at what's now Dryden, Love Rd--I saw  
Mike's burning F-4 auger into the lakebed, with him in it. But once  
I've done my best, like everybody else on the team, it's time to go  
fly the airplane.

Insisting on perfect safety is for people who don't have the balls to  
live in the real world.

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