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Reading Synopsis and Analysis: The Lessons of ValuJet 592

**Synopsis**

This article recounted a horrific tragedy that occurred a little over 20 years ago. William Langewiesche, a correspondent for the Atlantic with years of aviation experience, reflects on the accident and its implications. The direction of this article is to bring up an interesting argument about the nature of this airplane crash. As is the protocol of aviation regulation bodies, these accidents are dissected, and the cause is eventually identified. Ostensibly, this provides context for how future disasters can be avoided. Analysis of this particular, but the author wants to consider that instead it fits into another category of disaster: an unavoidable failure of the “system”.

The crash was first identified by a fisherman near the point of impact. He described what later informed the full story to the dispatchers and air traffic control. The onset of the emergency occurred when the pilot of “Critter five-ninety-two” communicated by radio that there was smoke in the cockpit. After a feeble attempt to return to Miami airport came the inevitable dive into the Everglades.

Once the accident was cleaned up, responders were able to reconstruct the story of what went wrong. Radio records indicate that the onboard fire caused passengers and crew to die agonizing deaths, adding emotional weight to an already egregious calamity. The cause of the fire turned out to be an absurd sequence of events that ended in the ignition of some oxygen generators stored in the cargo of the plane.

FAA administrator David Hinson shockingly explained that, after all due consideration, ValuJet was a safe airline to fly, and it has his full trust. The families of the 110 deceased surely would have said otherwise. Though Hinson and others were eventually out of jobs in the aftermath, his statement turned out to be reasonable. The complexity of inspection processes, a third-party management crew, “engineerspeak”, and an array of other things were ultimately at fault. No amount of preparation or scrutiny could have prevented this accident. Everything lined up in just the wrong way to cause the crash.

These details help describe this as a “normal” accident—an occurrence which results from extremely unlikely chains of actions. The paradox in preventing normal accidents is that attempts to stop them may actually be their root cause. Since these “illegitimate children” of science are theoretically inexorable, they merely provide us with a horrific illumination of the necessary costs of human progress.

**Analysis**

One of the main things I gleaned from this article was that there can be a discrepancy between what large corporations intend their operations to be and reality. There is no question that these businesses almost always have their customers’ best interests in mind. Hopefully, this largely stems from a solid ethical foundation, but there are also plenty of incentives to keep them in check. As the article mentioned, airlines “need … regulation in order to survive”. Though they may be tempted to recklessly push parts to their limits and cut costs in a free market, they eventually lose out to competitors which have the trust of their consumer base. Thus, the FAA and airliners have a symbiotic relationship: they need each other to survive.

Despite its obvious benefits, regulation reaches a point that makes standard business operations extremely difficult. Anyone who deals with a lot of paperwork knows that it’s hard to maintain focus when reading through a lot of it. Unfortunately, this type of paperwork is what ultimately caused the onset of the ValuJet 592 catastrophe. Precautions were ignored and protocols weren’t followed. The author argues that the two individuals who signed that the safety caps were simply the last two in the room, and anyone else would probably have done the same. His intent in saying this is that the specific fault found in these types of accidents doesn’t really matter. This “tangle of confusions will take some entirely different form next time”.

At first, I found it a little hard to relate this information to the realm of software. It was compelling to me that there are certain tragedies that are inevitable if we continue to progress technologically. Rather than mastering specific skills, we continue to press forward in order to discover the next best thing. This makes it difficult to nail down any particular process since new information is always being acquired and demands to be put into practice. However, it isn’t always easy to see the direct ethical implications of software.

In its early stages, software may not have had the effects that it can have nowadays. As I reflected upon these effects, I realized that they become much more significant every day. As software becomes more powerful, it takes over some of the tasks that hardware has been responsible for in the past. Ten years ago, computing within a standard car was very primitive, but we are now at the inception of self-driving cars entering the market. Clearly, human lives will rely upon the proper functioning of software. As this becomes a closer reality, coding standards and guidelines will become more stringent. Excessive documentation and system requirements are the equivalent of the “paperwork overflow” that Langewiesche warns us of in this article. It is hard to argue against the need for these things, but there is still the very real possibility that they become too convoluted to appropriately follow. There will be errors, and there will be tragedy. We don’t know the form, but we do know that it will happen.

On a societal scale, the author posits that these accidents are unavoidable, and he is probably right. However, I believe that anyone who reads this article should be able to learn something very important from it: their actions are within their own control, and they can do their part to not be “the one” that causes such an accident. Safety standards, protocols, rules, and regulations are extremely boring and cumbersome, but they are perhaps the most important things that we deal on a day-to-day basis. As I explained, this will be even more true in a matter of years. We must tirelessly push forward and uphold these standards to the best of our ability, or else we could end up at fault for the loss of human life.