

Murphy Strikes Again – Readers Sound Off

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Is this *déjà vu* all over again? Yes it is. There was an overwhelming response to my editorial of June 2008 entitled, “Murphy’s Laws of Noise and Vibration Sources.” I will summarize some comments from the usually silent readers of S&V. I identify readers and contributors only by initials to protect the innocent and guilty, and update the laws (as suggested by some contributors) that continue to provide some comfort in an irrational world, especially over the last fiscally-chaotic year.

Many S&V readers from industry, government agencies, national R&D labs, consultants, retired engineers, and so on, seemed to appreciate *Murphy on N&V* and offered guidance of their own based on their experience. Some readers provided oral comments in person and on the phone. This editorial is based on their collective wisdom; I am simply providing a forum for the benefit for the sound and vibration community.

GF wrote the following as he read the magazine at a fitness facility:

Folks there are not used to me laughing out loud as I do penitence on the treadmill for my long and dissipated existence, but I did just that and I thank you for it. What a splendid piece of understated, focused humor. My hat is off to you, sir.

WM said that all noise and vibration workers will forever be indebted to you for clarifying this most important issue. I always thought it was my own inability to make accurate predictions.

Here is a nugget from NB:

I have about 30 years of NVH test and engine mount design experience from which to draw examples of exactly what some of your “laws” are depicting. I can say first hand from the automotive industry that your laws apply well here, just as they would for many industries I am sure.

RA provides a full-blown endorsement:

As a researcher and NVH practitioner for the past 25 years, I fully endorse your set of laws for noise control. I’ll pass on your remarkable editorial. Thanks for the laughs and good moments spent reading.

AN provides a testimonial on the validity of laws:

The great thing is that all of them are true! Specifically, our project has beautifully demonstrated the validity of noise prediction’s Fifth Law!

Apparently, Murphy’s Laws have gone global, as evident from the comments offered by BP from Australia:

I’ll add two of my own to what is sure to

be an avalanche of contributions from other S&V readers.

- *My paraphrase of Dr. A. R. Dykes’ Definition of Engineering (1976): Noise control engineering is the art of modeling sources we do not wholly understand, configured into assemblies we cannot precisely analyze, whose sound emissions propagate via pathways we cannot properly quantify, while attempting to measure resulting levels without hope of accurately doing so, in such a way that the public has no reason to suspect the extent of our ignorance.*

- *Quote from RB of Sydney, Australia “All measurements are wrong. Therefore, measurement is the art of handling errors.”*

There is, of course, room for an improvement to the laws and axioms I had stated in the last editorial. For instance, AC wrote:

I thoroughly enjoyed your column in S&V. So much so, that I’m compelled to offer two more: 1) If the experimental data confirm your model, you have insufficient data. 2) A second opinion is never redundant.

MC suggests these additions:

- *When testing for an item that will cost money and improve performance, those that hold the purse strings will desperately search for the one piece of data that did not improve, so they can deny the proposal.*
- *When testing for a cost reduction, those that hold the purse strings search for the one piece of data that improved or did not degrade, so they can approve the cost reduction.*
- *The chance you have of getting a poor design changed is inversely proportional to how high the designer has been promoted.*

WW discusses three key questions that are often asked on interior noise issues:

- *You only did an analysis with one noise source and not the entire system. When will you do an analysis of the entire system? Never mind that all other noise sources were 10 dB or more below the noise source in the analysis. Was an analysis done for the entire system? I think so.*
- *Need to save weight. Replace the heavy bulkhead next to the big noise source with a lightweight composite panel. They use composite panels in aircraft. This just might be the equivalent to using a window screen as an acoustic material for noise control.*

- *We have some thermal insulation that has sound absorption properties. Does it matter that the major components of the noise source are below 250 Hz? I think so, and also think we can forget about the thermal insulation having much effect on the noise levels.*

Along similar lines, MA provided a true example that seems to mimic Murphy’s Laws:

The Acoustical Consultant Full Employment Act, part xy, requiring that the location of the mechanical equipment room in any new office building be required to be adjacent to the executive conference room.

Let us now consider what academia thought of the editorial. Response from undergraduate and graduate students was mixed. Some thought that the editorial was mildly hilarious and provided relief from the daily grind of classes, homework assignments, and examinations. A few argued the following:

Why pay tuition to learn theory and ideal-world concepts and then see those principles violated when you join the real world?

Some of my academic (grumpy old) colleagues did not quite appreciate the editorial, since they feel that humor and levity have no place in higher education. They did not put their thoughts on paper (or via e-mail), though they believe I must go back to the stiff-upper-lip world and continue to write only scholarly, mathematical and yet non-dramatic articles. (That’s what I do best anyway.) Previously, I had claimed that my search did not reveal an article on specific Murphy’s Laws in noise and vibration. Well, I should have not made a flat claim as **JS found a paper in the INCE digital library that was uploaded after I wrote the editorial. He wrote:**

I came across something today purely by chance that I thought you would find interesting: The Operation of Murphy’s Laws in Noise Control Engineering’ by Samuel R. Wade, Noise Control Engineering, Volume 8, Issue 1, January-February 1977. It’s mainly a collection of case studies illustrating Murphy’s Laws in action in noise control applications. Good stuff.

Thank you, JS.

Please continue to share your thoughts and wisdom on new or revised laws including their corollaries, anecdotes, and empirical evidence. Feel free to tell me more: singh.3@osu.edu 