VectorSolutions™

A Guide To Practicing "New Safety"

The New View, HOP, Safety Differently, Safety-II, No Safety, Resilience Engineering, and More

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TABLE OF CONTENTS

INTRODUCTION

Vector Solutions is excited and pleased to be able to offer to you this *Introduction to New Safety.*

Since you've chosen to read this guide, we feel you've already got many of the characteristics we associate with new safety: curiosity, a drive to learn, and the desires to continually improve professionally and to get better outcomes from your efforts. So congratulations to you. We applaud your efforts and we hope you enjoy this guide.

For us, one of the most difficult things about creating this guide was figuring out what to name it. That's partly because there's no single term for what we've chosen to call "new safety" here. People use terms such as human and organizational performance (HOP), safety differently, safety II, human performance improvement (HPI), resilience engineering, and even "the new view" for some of the ideas discussed in this guide. It's also because a term like "new safety" suggests there's an "old safety" and there's a rigid division between the two. That's not the intention nor the case. And it's also because calling something "new safety" suggests it's better than something that might be called "old safety."

Again, that's not the intention, and there seems to be a widespread belief that we'd be better off if we didn't use divisive terms and labels and separate into real or perceived camps. And finally, it's a fair argument that what we're talking about in this guide isn't really about safety but business, operations, production, work, learning, relationships, successes, and more.

In fact, in an email discussion with Erik Hollnagel about the title of this guide, he suggested something along the lines of "No Safety," following the logic of his article The NO View of 'Human Error.' We appreciated the point and recommend you read the article, but chose not to take the recommendation because we thought fewer people would "get" the general meaning of the title.

So, take the title for what it is—imperfect. And place the responsibility for that squarely on me, not on the contributors. Keep the notes about the title above in mind, and enjoy the thoughts of the contributors, many of whom directly address the issue with much more nuance than we have above.

For this guide, we asked safety professionals and others using similar practices from around the world for their answers to the following four questions:

1. How would you **define "new safety?"**
2. What's the most **important thing a safety professional should know about new safety?**
3. How would you **recommend a safety professional begin implementing new safety?**
4. What resources do you recommend people check out to **learn more about new safety?**

Their answers are in the pages that follow.

We'd like to thank all of the contributors to this guide. In pulling together and editing this guide, I've been amazed at their insights, knowledge, experience, and generosity of spirit. They include, in alphabetical order:

- Acosta, Martha (Dr.)
- Anand, Nippin
- Baker, Andrea
- Barrett, Andrew
- Busch, Carsten
- Buschard, Eric
- Carillo, Rosa Antonia
- Casey, Tristan (Dr.)
- Conklin, Todd
- Edwards, Bob
- Estey, Joe
- Gantt, Ron
- Goodman, Sam
- Hewitt, Tanya
- Hummerdal, Daniel
- Johns, Adam
- Lloyd, Clive
- Lock, Gareth
- Lyth, Jeff
- Major, Charles
- McPherson, James
- Phillips, Michael
- Pupulidy, Ivan
- Ray, Becky
- Shorrock, Steven
- Sutton, Brent
- Walaski, Pam
- Walker, Sean
- Wong, Gary
- Yeston, Marc

In particular, I'd like to provide additional thanks to three of the contributors listed from the previous page.

First, to Ron Gantt. Ron was one of my very earliest introductions to a lot of these ideas after I found him discussing them on LinkedIn. And he was endlessly patient in answering my questions about them for years thereafter. Also, at the beginning of the COVID pandemic around March, 2020, Ron began hosting a series of online seminars to discuss these topics with people around the world. There was already an existing community of practice in place, but I believe Ron's seminars amplified and accelerated that, and they helped to introduce me (and I bet others) to a lot of new people and ideas.

Second, to Joe Estey, a human performance improvement professional who lives in my region. Joe was already implementing these ideas by the time I became aware of them. I caught him speaking about these things at a local conference, and, like Ron, Joe has been very patient with years of follow-up questions and favor requests from me.

And finally, to Jeff Lyth. Jeff has also been very helpful to me over the years, and he played a role in helping me establish the Portland, Oregon/Pacific Northwest Safety Differently Book Club. But most directly in the context of this guide, Jeff helped me pull together this guide by getting me in contact with some of the contributors. Be sure to check out his SafetyDifferently.com website, which you'll read mentioned again and again in this guide.

So a special thanks to all three—Ron, Joe, and Jeff.

Finally, one last note. In addition to contributing to this guide, many of the contributors have in the past also been kind enough to conduct interviews with me on issues related to the topics discussed in this guide. I thank all of them, of course, and invite you to find those recorded discussions at the Vector Solutions blog. There's a section at the end of this guide that provides links to those recordings as well, and we hope to add even more over time.

Jeff Dalto
Learning & Performance Improvement Professional

Vector Solutions

DR. MARTHA ACOSTA

Senior Moderator, Harvard Business Publishing

Advisor, Facilitator & Integrator for Human Systems Safety

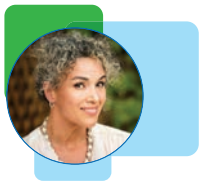
1 How would you define "new safety?"

New safety recognizes that all human systems are complex adaptive systems and all organizations are human systems.

To be highly reliable, safe operations must consider the interaction of autonomous but nested systems, including the operation of equipment, the function of engineered controls, the leadership of management systems, the conditions people are working under such as weather and physics (gravity, chemical reactions, energy), and psychological systems such as human emotional reactions and human sensemaking. Because the interaction of these nested systems is unpredictable, relying on proscriptive strategies to control human behavior as a way to control human systems is not only futile, but likely to create more opportunities for unexpected negative outcomes.

Instead, unpredictability should drive us to build additional capacity for safety and adaptability into these systems so that we can respond to the unexpected with agility. New safety challenges us to become very curious about the points at which various systems in the organization and in operations interact. If we create safety capacity by building learning into these intersections, then we can become more adaptive to the unexpected and more resilient to risk.

DR. MARTHA ACOSTA



2 What's the most important thing a safety professional should know about new safety?

Humans survive by adapting, and so do human systems. Our greatest adaptation skill is learning. Emotions are essential to learning, memory, and behavior change. You can't build resilient organizations and operations without helping people become more resilient emotionally and cognitively.

I've recently expanded on Todd Conklin's Five Principles of Human Performance in response to our heightened recognition of complexity and ambiguity in organizations.

First, not only are mistakes normal, but failure is inevitable. It's time we embrace failure not just as something we need to mitigate but also as one of our greatest opportunities for learning and innovation.

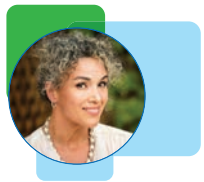
Furthermore, not only does blame fix nothing, it endangers everything because it destroys psychological safety and prevents learning.

Third, context drives behavior because it is meaningful. Meaning is emotions plus narrative. Leaders influence behavior through emotions and narrative. Authority and command & control convey a powerful meaning, but the emotions and narrative inherent in this kind of leadership tends to inhibit learning and innovation.

Learning is key because learning is how we adapt.

How management responds to failure matters because a leader's emotional response signals what is meaningful. If leaders signal that failure equals punishment, then the organization won't learn—it won't adapt. If leaders become curious about failure and use their emotions as a mechanism for adaptation then they will build the human capacity for safety into their organizations and operations.

DR. MARTHA ACOSTA



3 How would you recommend a safety professional begin implementing new safety?

Start with learning. Learn from failure and then become curious about the unexpected.

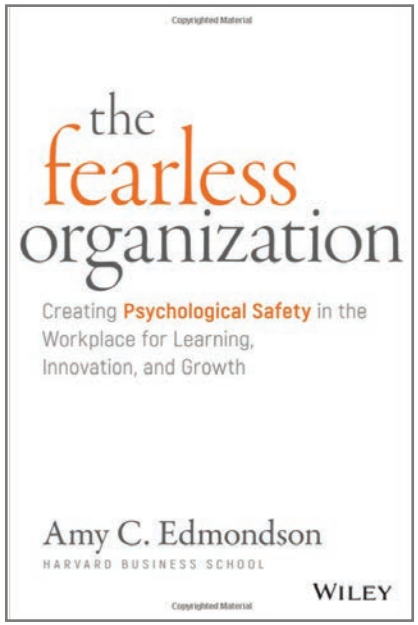
You may soon find that there are barriers to learning in your organization. Most likely those barriers are psychological. That's when you will realize that psychological safety is lacking in your operations. Psychological safety is the shared belief that it's safe to take emotional risks. Learning is emotionally risky because it requires conflict, diversity, and questioning assumptions—worse still, it is incompatible with "being right."

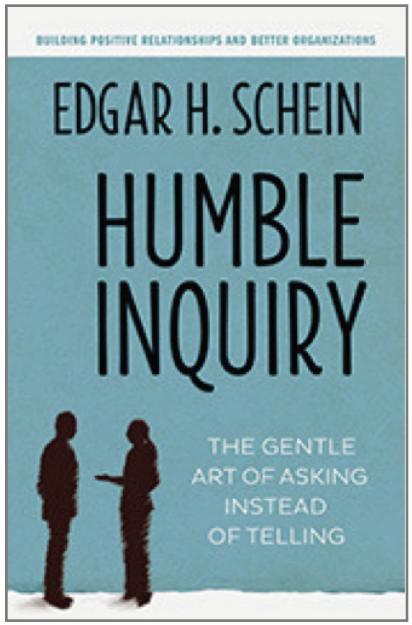
Then you will have to look to leadership, the messages they are sending, and the psychological conditions they are creating.

4 What resources do you recommend people check out to learn more about new safety?

Start by reading Todd Conklin's book *Five Principles of Human Performance* (2019). I also recommend Amy Edmondson's book *The Fearless Organization* (2018) and Edgar Schein's book *Humble Inquiry* (2013).

Folks can also visit my website (https://martica.com) for more information on psychological safety, emotional resilience, cognitive complexity, and paradox management.





NIPPIN ANAND

Founder and CEO
Novellus Solutions

1 How would you define "new safety?"

I don't have a view on new safety. I believe in a combination of our traditional approach to safety as much as new view, safety II, HOP, HRO, complexity, sensemaking, and other contemporary views on safety. Academics often advance theories and defend their work in pursuit of making original contribution to knowledge. Practitioners have to apply what is contextually relevant in messy situations and being blinded by theories and forming divisive views is not helpful.

To me it's not so much about new safety, it's about intelligent application of a variety of concepts (often beyond safety science) to make sense of the problem.

2 What's the most important thing a safety professional should know about new safety?

Again, the question about new safety restricts my thinking. I think safety professionals should have three distinct qualities:

First, being curious and humble, akin to what Dalai Lama would say, "I don't know." This is also defined as Socratic wisdom, meaning being aware of our limits of expertise. It's not something you would notice with many

NIPPIN ANAND

safety professionals because as custodians of safety we are socialised (trained) to believe that we must have an answer to all our problems (notice the terms - control and regulation). That is the reason for our existence and in many ways it can become a threat to our identity as (safety) professionals.

Second, have a balanced approach—as much as safety professionals need to understand the constraints of frontline work, they also should spend time understanding the business constraints. By that I mean an overview of how the system functions or, even simpler, how different parts (functions and departments) interact to provide the output that is expected from the organisation. The idea of a safety management system (and safety audits) proves the point that safety, by and large, sits outside the core functions of an organisation. Safety needs to integrate into business and for this safety professionals need to better understand the business context.

Third, navigate uncertainty—the future safety professional needs to become comfortable with being uncertain. Knowledge of the past (safety management, rules and regulations) will not always apply in an uncertain situation and this has become very clear to us in this post-COVID world. Coping with uncertainly requires mindfully measuring the impact of our decisions and actions as we move forward and constantly comparing our expectations with what lies ahead.

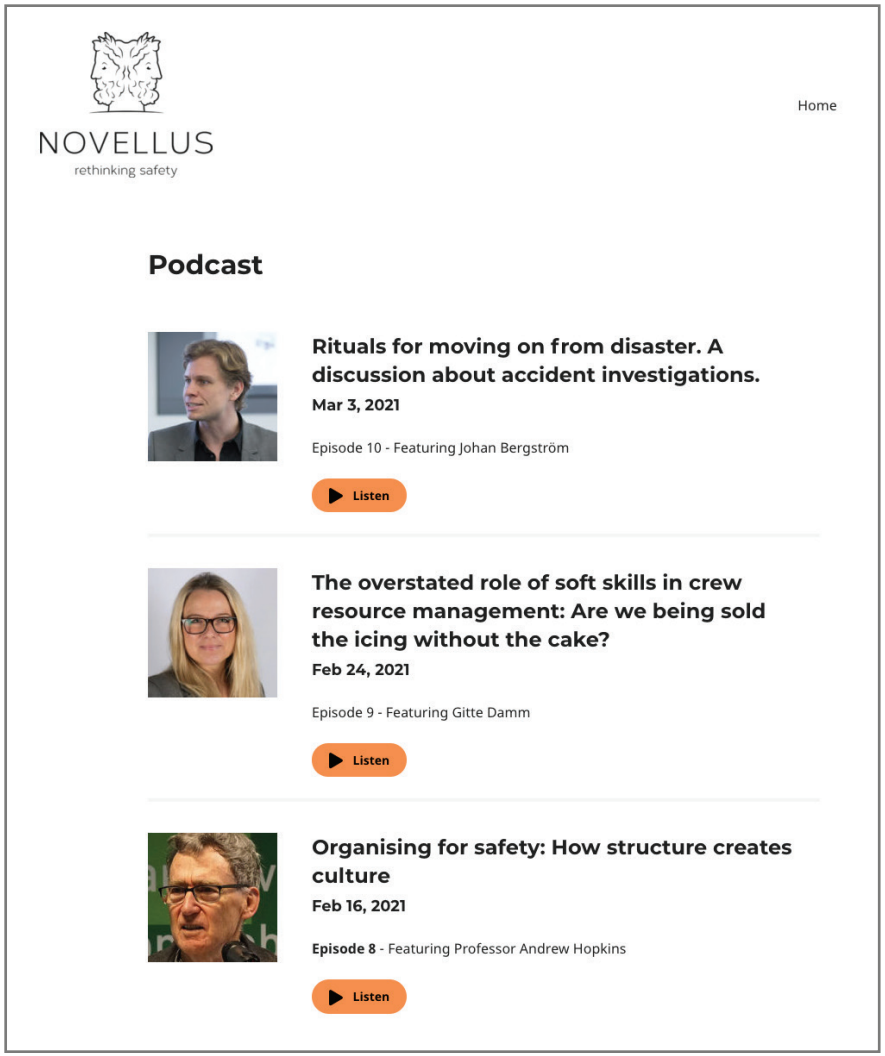
3 How would you recommend a safety professional begin implementing new safety?

Avoid being too engrossed with the term safety. Rather, spend a lot of time understanding the organisation structure (both formal and informal); stakeholders' expectations in both short and long terms; and how performance is defined, monitored and measured before you think of implementing a safety measure. Too often we are quick to implement safety without an appreciation of the organisation.

NIPPIN ANAND

4 What resources do you recommend people check out to learn more about new safety?

I strongly suggest keeping away from safety and human factors literature and reading more widely on topics such as anthropology, social sciences, technical sciences, human resources, finances, and legal, and at the same time spending time understanding the informal organisation. There is no need to read about safety – an attempt to understand the organisation from different perspectives will help you to approach safety holistically.



ANDREA BAKER

Founder

and organization "The HOP Mentor"

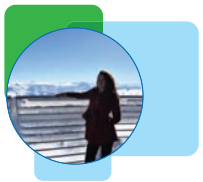
1 How would you define "new safety?"

OPTION 1: HOP is a group of principles (or organization beliefs) that *shape* our programs, tools, behaviors, and language. We are looking to adjust the organization's shared beliefs around blame, error, the definition of safety, the role of the worker, complacency, risk normalization, contextual influence, failure, the importance of learning from normal work (...and the list goes on) with the end goal of creating more resilient systems.

OPTION 2: HOP is a global movement towards using the social sciences to better understand how to design resilient systems.

To all those out there that feel most comfortable with data and analytics, let me try to frame the concept with some engineering language: humans fail (make errors and break rules) with a ***known*** frequency that is affected by ***known*** influencing factors. If we take those data inputs as a given, we design better systems – including better rules and better methods of discipline.

ANDREA BAKER



For those that prefer to communicate using soft skills language, let me describe it a bit differently: we have biases that lead us to judge others' decisions more harshly than our own. We believe others have complete access to all necessary information and have full autonomy while making a decision...but they don't. This misunderstanding is magnified by the fact that we are living with the ghosts of a global industrial culture that undervalues its workers. Combined, these factors have created a gap that is only bridged by the best of the best leaders across industries.

The new view gives us the terminology, the tone (the language), and the platform to disrupt the paradigms that hinder our ability to be transformational leaders. The choices we make today about how we ask questions, how we create rules, how we react to failure (how we treat people) will directly impact our business performance in the future.

2 What's the most important thing a safety professional should know about new safety?

HOP is an operating philosophy which often requires us, as individuals and as an organization, to adjust our assumptions about the world.

Changing perspectives is hard. It's a journey. We will continually find ourselves taking three steps forward and two steps back. And that's OK.

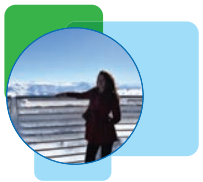
3 How would you recommend a safety professional begin implementing new safety?

We've seen a pattern start to emerge that seems to work well. The pattern isn't quite a roadmap, but a number of distinct (semi-sequential) phases. There appear to be 5 phases of HOP integration:

Leadership interest: garnering leadership support

Building HOP fluency: education around, and continued exposure to, HOP principles to facilitate a paradigm shift in thought

ANDREA BAKER



Operational learning: practicing how to learn and improve, both proactively and reactively

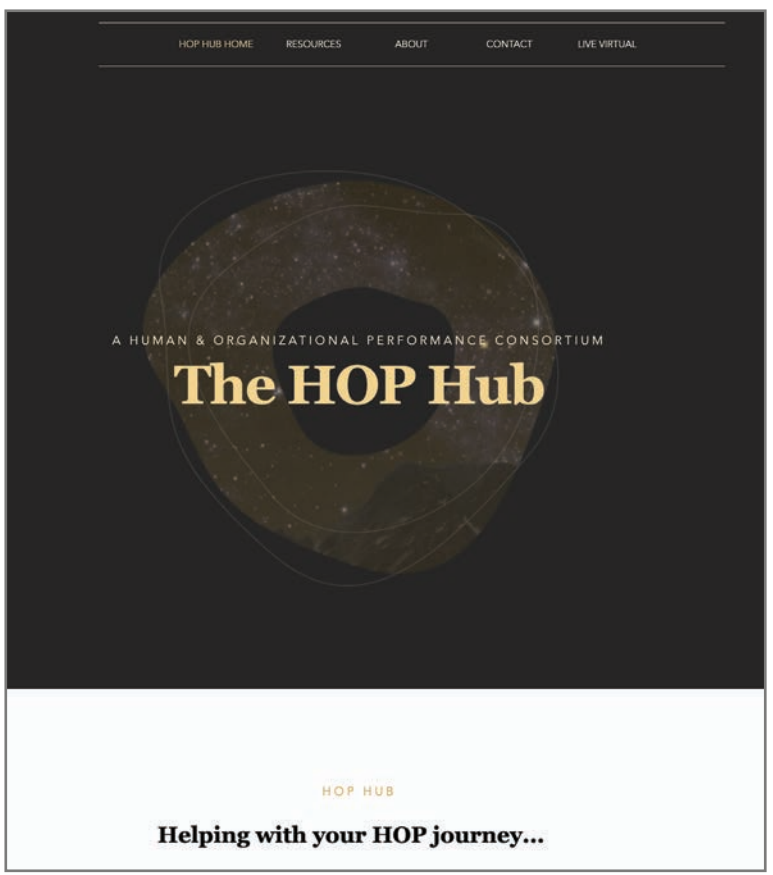
Alignment: building HOP principles and operational learning mechanisms into existing processes, programs, and practices

Safeguard management: using operational intelligence (gained through operational learning mechanisms) to continuously and collaboratively design, iterate and manage safeguards

Listing the phases in this fashion does do us a bit of disservice: the phases are not nearly as sequential as this presentation appears to suggest. In practice, pockets of organizations can have leadership interest, quickly build fluency, and operationally learn before other pockets of the organization have even heard of HOP. HOP-fluent individuals can begin to operationally learn and use the resulting "case studies" to build leadership fluency (or run into roadblocks if the leader is not ready for the change). Alignment can begin at a site level and build as "best practices" until those ideas begin influencing organizational programs. Safeguard management can be a byproduct of operational learning before any formal alignment. And so on.

4 What resources do you recommend people check out to learn more about new safety?

We've compiled some resource suggestions and links at www.hophub.org/resources.



ANDREW BARRETT

Chief Connector

Safety on Tap

1 How would you define "new safety?"

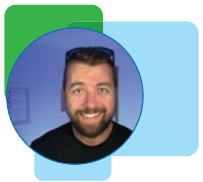
New is all relative to what a person already knows. New is not absolute, it's individual. Very old ideas can be new to someone today. So we cannot define 'new safety' until we understand the perspective of the person/people we are talking with right now. A universal term like 'new' safety' to include one or more theories or perspectives is not helpful.

2 What's the most important thing a safety professional should know about new safety?

First, there is a whole world of 'new' things out there, that are different to what they are thinking/doing/paying attention to at the moment. Acknowledging we don't know it all/have it all perfect, helps us see what is new. And that helps us grow and improve.

Second, new does not mean better (but it could be). New means alternatives, which only become relevant when they might be able to help you harness opportunities, or fix the stubborn, sticky or complex issues that you haven't been able to thus far.

ANDREW BARRETT



Third, be a mercenary for what makes a difference in your situation. Don't label yourself or your practices 'new' or 'traditional' or whatever. There are only three categories you need to divide the world into: we think these things help us, we think those things don't, and we haven't tried that stuff yet. The only way to figure out which thing fits where is to try it yourself.

3 How would you recommend a safety professional begin implementing new safety?

With a hypothesis. It sounds like this: "I think this new *thing* will have that *result*, for this *reason.*"

Next, test the hypothesis: "Hey leader/manager/worker, we're trying this new *thing* out for this *reason*, and we think it will have this *result*. It's different from our current *thing* because of x, y, and z. Do you want to get involved in an experiment/pilot/test/demo to see what we can learn?" (You cannot fail if your goal is to learn. It simply informs your next decision/action).

If you're not sure what thing to try, other people already have suggestions (e.g., if you want to implement Safety II in practice, this free journal article suggests things you can try:

4 What resources do you recommend people check out to learn more about new safety?

Since anything can be 'new' to you, the resources are infinite. So think about the *type* of resources you might search for:

- Theory resources are different from practice resources. Don't skip the theory, you need both.
- Ask your peers and colleagues what they have found useful, and what to avoid. Yes, ask your Linkedin network too
- Published research or books (Google Scholar, not regular Google)
- Any theory resource (books, articles, videos or podcasts) needs to have good citations/references
- Any practice resource needs to show the proof of it working in practice (otherwise it's still theory!)
- And the Safety on Tap podcast: it's for leaders like you who want to grow and improve yourself, so you can drastically improve health and safety as a result!)

CARSTEN BUSCH

Carsten Busch, BSc, HVK, MSc

Mind The Risk (mindtherisk.com) / Lund University HFSS

1 How would you define "new safety?"

Actually, I rather would not. Definitions help us of course, but sometimes they also can be limiting. Especially when trying to define something complex as safety. Any definition will most likely leave out essential elements or point of view. Also, to complicate things further, we are not really talking about safety as such, but approaches to achieve safety!

And then it's not just safety either. It's about "new" safety… the word "new" may suggest that this is something that has come to replace something "old" and that it is automatically better. It is not. While it may be useful for pedagogical purposes to contrast "new" and "old" approaches, it is not very useful for practice (except maybe to remind you that you want to do something differently than you did last time). Also, keep in mind that everything we call "old" now, used to be "new" at some point in time, and since things often tend to move in cycles, sometimes "old" becomes "new" once more. That makes it a term which has a best-before date and that doesn't inspire to give a definition either.

As suggested above, unlike what we often intuitively feel, "new" is not a synonym for "better," or even "suitable." What we call "new safety" these days is not something

CARSTEN BUSCH

that replaces all traditional approaches. We need those still. Well, at least many of them, and surely a few, we better scrap or improve. But safety is something that has to be tailor-made and that is context-dependent. This also means that you are more likely to create safety (or maintain safety if things go sideways after all) when you have a variety of tools and approaches at your disposal. When you have multiple viewpoints to assess a situation and choose from a rich toolbox.

This then gets me not to a definition, but perhaps a direction. "New safety" is a set of approaches to complement traditional approaches that stress positives instead of negatives, that humanize, that are systemic, that appreciate complexity, context, variability, and adaptability. Aren't those characteristics also found in traditional safety? Yes, surely, but I think many of the newer approaches emphasize these things more and years of tear and wear (call it "tradition") have probably eroded them a bit in those "old" approaches.

2 What's the most important thing a safety professional should know about new safety?

The most important thing? Not sure whether there is such a thing. When we see safety as an emerging property of the entire system (including the approaches with which we try to create safety) then it would be wrong to single out one thing on basis of being "most important." I could single out a thing on basis of me being very fond of it.

One of the things I do like a lot, and I do think is very helpful to think in "newer" ways is the concept of local rationality. This is best characterised with the question: "Why does it make sense to the people in that situation, at that point in time, given their knowledge, objectives, resources and constraints?" It is very powerful to see points of improvement where it really matters.

CARSTEN BUSCH

3 How would you recommend a safety professional begin implementing new safety?

Continuing from my non-definition above, I would say that a good way to start is by not telling people how everything that came before was wrong. Leave that to consultants.

Instead, explain why certain approaches may improve things from the current situation. By discussing local rationality. By seeing things in their context. By trying to explore different explanations and seeing things from various sides.

And one very powerful start is by changing language. Drop judgmental and normative approaches (including discussing “safe” and “unsafe”). More neutral language opens for exploring solutions that are not only about safety, compliance and so on, but may help improve everyday work. And safety benefits as well.

4 What resources do you recommend people check out to learn more about new safety?

The first book to check out is probably Dekker’s *Field Guide*. From Hollnagel, I would recommend the *ETTO* book and the Safety-II Eurocontrol white paper.

But by all means do not get stuck in merely sources from that side of the literature. I would encourage people to actively engage with sources from other schools in safety (as well as literature in the fields of psychology, management, philosophy, organisational sociology, and so on) at the same time. First, you may be surprised what you find, second, it helps you to better reflect on what is useful for your situation at that point in time without having to rely on a single source.

ERIC BUSCHARD

Safety Director

Monarch Construction Company

1 How would you define new safety?

New Safety technically isn't new, but it was new to me. It's easy to define 'new safety' but this is not my definition. Gantt, Woods and Hollangel helped put me onto this for a definition of safety (and resilience): The ability to be successful in varying conditions.

Please read and review everything you can by those in my previous sentence, they are revolutionary in their genius. I especially like this definition because we find conditions are changing constantly in normal work and cookie-cutter regulations and rules were (and are) failing us.

In the construction field I was asking people to do things I didn't understand for reasons I didn't believe in. This new approach to safety helps me feel more confident in our tactics to how we deal with and understand adaption and improvisation at the sharp end of the stick. We practice progress not perfection. We study what happens when nothing happens and we look for anomalies and brittleness in our systems.

ERIC BUSCHARD

2 What's the most important thing a safety professional should know about new safety?

Always stay the student, in this and in life. Ask better questions and ask the dumb questions. You don't do the work. Even if you are like me and did the work for a long time, things have changed. Now you just imagine the work. See work as done vs. work as imagined. You must change with them.

There are no secrets here, yet there are tons of secrets here. They are whispers that if you listen deeply and drink them in you can hear the future. Images that you must not just see but observe are all around you. You can't be feared and you can't do this job from behind a desk. All that academia has to offer is for nothing if it stays debated by intellectuals.

Lastly and the most personal for me, you must kill the word 'safety.' It has been bastardized by years of the whip or the carrot. It has been forced down the throat of all the hard-working people out there that just want to do a good job. It has been weaponized to a point that it needs to die. Kill the word 'safety.'

Your people will likely listen a bit more and own a bit more and probably thank you, but don't say that word. Find other ways to talk about 'safety' without talking about safety. Be humble, inquisitive, honest, and open. Respect is a gift that when it is received it ripples out into our world.

3 How would you recommend a safety professional begin implementing new safety?

Secretly and start with yourself. Stay to the shadows in the beginning. You are, in fact, a safety ninja or, in cases of large, outdated organizations, a safety shadow government. It's too much change to quickly for most. Slow is steady and steady is fast. Now you are hidden in the shadows, read everything you can. Then weave it into daily conversations, slowly at first. Find the followers. Build from them. Be excited and speak the language of those you want to bring along. Understand not everyone wants this, some are very comfortable in "just enough" or "it isn't broke why fix it." But some really do want it. Some want it to help make sense of the world and how work fits into it. Some of naysayers will come along and some won't. Always remember it's muddy in the middle.

ERIC BUSCHARD

4 What resources do you recommend people check out to learn more about new safety?

I fell on this new safety accidentally with this book and it started me on this path: *The Safety Anarchist* by Sidney Dekker. (It will feed the fire.)

Then I moved into *The Field Guide to Understanding 'Human Error'* and *Drift into Failure,* both by Dekker (now I questioned everything I thought I knew).

From there I found Conklin: start with *Pre-Accident Investigations*. Everything the man writes is money. Listen to his podcast and takes notes. (I think he helped me realize I have been doing the same thing over and over again and expecting different results).From that podcast I heard Ron Gantt and David Woods and so many more amazing people.

Check out SafetyDifferently.com and read anything Gantt touches and Hummerdal too. But once there you'll find some additional gems, like Adam Johns, Gary Wong, and the list goes on and on.

If I didn't mention you, I apologize. You are genius too (I read the whole catalogue on this website, and still re-read it today).

Well from David Woods I found Erik Hollangel and he's just splendid. Have a dictionary on hand for these two.

In the end, today I find myself reading about how we decide, complexity and chaos, Cynefin framework, systems thinking, why we break rules, resiliency, reliability, and ultimately this is all great, but my role is to operationalize these movements, theories and frameworks. This beautiful music is trapped on paper, let's help get the band playing it.

One more piece of advice. Listen to books on tape and podcasts. Don't let the old-school notions of needing physical books slow you down. I prefer paper, but I can carry more digitally in an e-reader and people don't look at me funny carrying all this game-changing information around with me. I secretly feel if I keep this information close it seeps into the deepest parts of my brain--just ask my poor back.

ROSA ANTONIA CARILLO, MSOD

President, Carillo and Associates

Author of the relationship factor in safety leadership

1 What's the most important thing a safety professional should know about the new safety?

Safety is a people business.

First, I would like to point out the "new safety" has been around since the industrial age began. I say this because it is not a process or seven-step model. It is a set of assumptions about people, their value and potential. It is about relating in a way that is respectful and shows that you value each person's contributions. Workplaces where these practices exist typically produce higher results.

How do we know this? There have always been people that relate to others in this way. Researchers have observed them, studied their ways, and published them so that others might learn from their success. If you seek an evidence-based approach to improving safety performance, this is the one for you. I say this because if you are willing to experiment with these concepts and give them time, you will see results.

Adopting and implementing a new view of safety may involve self-change and taking on a specific set of assumptions about human nature. It also means accepting the responsibility for our beliefs and expectations. Scientific research has shown that when

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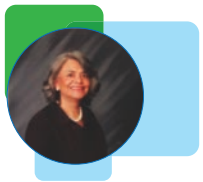

it comes to performance, we get what we expect. To further understand I highly recommend watching this video, *The Power of Expectations*.

To help leaders in this endeavor, I introduced the 8 beliefs of relationship-centered leadership in my book, *The Relationship Factor in Safety Leadership*. They arose from years of conversations with successful managers, supervisors and safety professionals. Each one has deep implications for our relationships and the results we achieve.

The eight beliefs of relationship-centered leadership are:

1. True communication takes place in the presence of relationship and trust.
2. Inclusion precedes accountability.
3. Innovation, resilience, inclusion, and accountability are interdependent.
4. People are able and willing to contribute to the success of the enterprise.
5. People will speak up to stop an unsafe situation if it is in their interest to do so.
6. Drift is a positive quality of adaptive human behavior.
7. Our pre-judgments and biases can prevent us from finding the truth in what we see and hear.
8. Relationships influence emotions, feelings and beliefs, which influence decisions

The eight beliefs are interdependent in the sense that they all work together to build the relationships within the organization or team to encourage both collaboration and the willingness to risk bring up interpersonal conflicts or ideas outside the norm. They also guide how the leader communicates, arrives at the truth and makes decisions in a way that maintains relationship.

Belief # 1: True communication takes place in the presence of relationship and trust

Safety performance improves with the level of trust and open communication. It also shows that employee engagement increases with the strength of relationship with their direct supervisor. This makes supervisors the heartbeat of the organization, but they cannot do it alone. Middle and upper managers must play their role in building relationships with supervisors through social interaction. The challenge is that many managers, even supervisors, say they don't have time to talk to people 1-1. Since many leaders with the same

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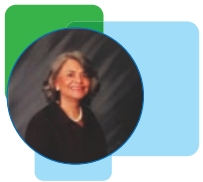


responsibilities do find time, that isn't the real issue. The challenge is believing that social interaction and personal inclusion make getting the work done easier.

If you want to retain top talent, bring fresh ideas into the discussion, or encourage people in your organization to speak up to stop an unsafe action, first build the safety net that will reduce the threat of exclusion or rejection. Our leaders need to learn and teach the skills to build inclusive relationships because it is a leadership responsibility to facilitate and role model them.

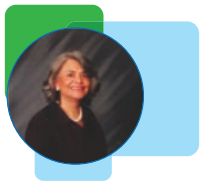
For most people there is a risk in bringing up a problem or idea that no one else seems to see or isn't willing to talk about. The retaliation that people fear isn't always as obvious as getting fired or physically attacked. It can be as subtle as an unconscious fear that you will lose your credibility or membership in a group that you value. The truth is that unless the leader makes it specifically okay to bring up potential problems, even late in the planning process, resentment from co-workers can arise.

Also, people will not take feedback or corrective information from people outside of the relationship. This means that there is a pre-established relationship of credibility, trust, and respect. Even formal authority is not sufficient to create a connection. I have seen the GM tell an employee not to use his cell phone only to have the employee pull out the cell phone as soon as the GM turned his back.

Without trust it is almost impossible to get information in a timely and accurate manner—especially if someone has made a mistake or it could lead to failure. Many managers are in denial about the real level of trust on their team. Recently I had a client tell me that all the members of his management team were aligned around an initiative and that there was a high level of trust among them. We did an anonymous poll, as a warm-up exercise to test the level of trust and open communication on the team, and found out it was low-to-moderate. One of the reasons expressed was that perhaps the lower scores were due to the same people always being called upon to do the more challenging projects. "We always tend to pick and listen to the same people."

The information we need to improve our safety in our organizations is all around us, but we may have to go outside our usual channels to get it. It is possible that people may not be speaking up because they feel we are too busy or don't want to hear it. It is possible that at this very moment people are talking amongst themselves about malfunctioning

ROSA ANTONIA CARILLO, MSOD



processes that will eventually result in damaging the company's reputation. Such conversations typically take place informally between small numbers of people and are hidden because they go against the politically correct storyline. If the leader doesn't go after it systematically, and demonstrate responsiveness, it will stay hidden.

One could disregard people's concerns as "personal agendas or whining." That attitude will make it impossible to create an environment where people will come to you with information to prevent failures. Whether we like it or not, some things will not be said in the open, so we have to go to the source and make it safe to talk about what isn't working.

Belief #2: Inclusion precedes accountability

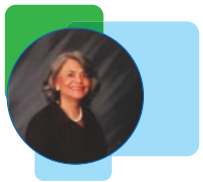
Inclusiveness drives out fear, exclusion creates silence and withdrawal. There is no accountability in a fear-driven organization where people feel they don't matter—that they are peripheral to the important work that needs to get done. Why would anyone be motivated to take on responsibility, go beyond minimum requirements, or contribute their creativity if he or she didn't feel they were an important part of the solution? And, how do people know they are important at work? They know when they are included in decision-making; when their opinions are sought out and their work respected. They know it when they feel they are part of the trusted circle. These are the proof of inclusion.

Preventative activities—focus, attention to procedure, sharing information, planning, risk mitigation—all depend on the willingness of the individual to perform them even when no one is watching or directing them to do it. Managers often say this challenge would be met if employees spoke up to stop unsafe actions; then accidents would be reduced and possibly eliminated. The unspoken judgment is that people would speak up if they felt a sense of personal accountability.

There will be no speaking up without psychological safety. There is too much risk of rejection without it. People do not speak up when they do not feel known or accepted. The fear of ridicule or ostracism is reduced in correlation with how well you know others and how well they know you.

When we ask people to make a commitment and hold themselves accountable they want to know why. When the answer to that question addresses how their actions will contribute to the success of the operation and assures that they will have what they need to succeed, the will to be accountable emerges. Resistance to change often shows up as lack of ownership and accountability. The effective

ROSA ANTONIA CARILLO, MSOD



listener engenders accountability because they are led to ask the questions that reveal the uncertainty, lack of clarity, and misunderstandings that block acceptance to change.

Belief #3: Innovation, resilience, inclusion, and accountability are interdependent

Why are inclusion and accountability interdependent with resilience and innovation? Google's team development research showed how inclusion and psychological safety shows up as innovation. They found that the #1 characteristic of their high-performance teams was that they were absent of ridicule, thus allowing team members to freely express any idea.

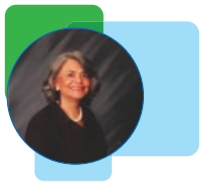
Every organization must take some risk to get to innovation, and if we take risks sometimes we fail, so we need resilience to try again. I'm not talking about taking physical risks. I'm talking about psychological risk. Much is said about a worker's right to refuse unsafe work. There are laws against companies putting workers at risk. However we don't talk about the risks we most often ask people to take, like speaking up about mistakes. We ask them to report near misses. We tell them to ask questions that could reveal that they have less knowledge or expertise than their peers. We ask them to contribute their best ideas even though they might get rejected.

While we have these expectations, we are mostly unconscious of our reactions that send signals to stop people from taking these risks. The signal is exclusion, which can be subtle and unintentional. For example, leaving someone's content out of a team report or taking credit for someone else's work.

Innovation is also interdependent with inclusion and accountability. If the team leader were aware that a member was holding back on effort he might see it as lack of personal accountability—you should have spoken up again. The team member doesn't see it that way. There are enormous psychological risks in speaking up. So if you try it once and get no results, how likely are you to try it again?

Inclusion engenders resilience. When we do not fear exclusion, we are more likely to bounce back from mistakes. We are more likely to ask questions rather than cover up our ignorance. When we feel psychologically safe, we are more resilient, so we are willing to keep trying new ways to meet goals. All of this breeds accountability because we are motivated to commit to the goals we've bought into and wish to remain a member of the group.

ROSA ANTONIA CARILLO, MSOD



Exclusion violates the most basic human need to belong. A leader in a high uncertainty, competitive, physically hazardous environment cannot afford to violate this precept. Regardless of race or gender the people working with you want to be seen and heard. They want to know if what they see and hear is important to you. If they feel the answer is no, they stop trusting you. You sever your connection, which means they stop sharing information with you. When that happens you risk losing that piece of data that could have prevented a significant failure or led to an innovative breakthrough.

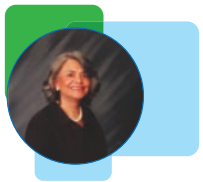
I do not suggest that safety engineering is unimportant; rather RCL is intended to enhance its strength. A focus on relationship is intended to balance speed, finances, and technology with the emotional needs of employees. This is much more powerful than saying one organizational goal is more important than another.

Belief #4: People are able and willing to contribute to the success of the enterprise

If you wish to engage employees and motivate them to a higher level of performance, the first area to look at is your beliefs about what people are willing and capable of contributing. When I was in training to be a teacher I learned about experiments where teachers were told that a random group of children had a genius IQ. The overall performance of those children tended to be higher than the children who the teachers had been told were average. All the children were exposed to the same lessons and materials. The only difference was the teacher's belief about their ability to learn. I learned that we unconsciously treat people differently based on what we believe to be true about their capabilities.

I would be remiss not to tell the story of Proctor and Gamble, for they led the way to belief #4. It all began when P&G hired Douglass McGregor and other consultants to improve productivity at one of its manufacturing plants. Their approach was based on McGregor's motivational Theory Y and Theory X. He thought that there were two sets of beliefs used to understand the relationship between a man and his work. In Theory X a person preferred to be directed and prized security over everything. Thus people would be motivated by money and fear of punishment. A manager's role would be to control the work closely. McGregor had observed that trust soon broke down under Theory X and productivity declined.

ROSA ANTONIA CARILLO, MSOD



He also proposed Theory Y. Employees were not considered hostile towards a company's needs and were willing to work with the company to achieve mutual benefits. Employees were considered partners capable of acting with self-discipline and creativity, thus supervision was minimal. He found Theory Y to be successful at the P&G plant in Lima, Ohio.

The Lima plant was to become the most productive and cost-effective plant in the corporation. The leadership team designed a radical structure without team leaders; everyone rotated in and out of the leadership positions, so that everyone had a stake in the whole operation. It was so productive that Lima employees kept their real production numbers a secret from corporate because they feared being accused of lying.

P&G kept the methodology a secret, but it might not have been necessary since once the methods were available to everyone, few managers within P&G or other companies were willing to take on the process. One of the reasons that managers balked was that every employee had four hours of training and 1.5 hours of team meetings a week that enabled them to problem-solve as well as transfer knowledge and information. The effectiveness declined when new managers got rid of the training and meetings. Consequently the teams were no longer able to operate. Without the time to hone relationship skills and build mutual purpose, trust, and open communication, the system eventually fell apart.

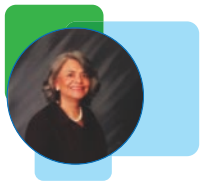
It was observed that P&G employees trained in this system had such a deep sense of ownership that it took quite a while for the culture to abandon the principles.

The story of the Lima plant resonates with what I have seen happen in safety. A leader is successful with an approach but when the corporation tries to expand it to other plants, not all managers are willing to put in the same time and effort. The belief in the added value of people's contributions is missing. Accountants look at the training and meeting hours as down time, rather than looking at the upside of the results gained from those sessions.

Belief # 5: People will speak up to stop an unsafe situation if it is in their best interest

Speaking up is risky. When you bring up a question, concern, problem, or something that went wrong, the risk is to be seen as negative, incompetent, or disruptive. People are willing to take risks when the benefits outweigh them. It

ROSA ANTONIA CARILLO, MSOD



is not in our best interest to speak up when leaders have demonstrated that they will not listen or respond, and that they will sometimes retaliate. A health care study[1] found that 58% of 4,200 nurses felt it was unsafe to speak up or were unable to get others to listen. They were in these situations a few times a month. Consequently less than 1/3 of the nurses had shared their concerns about medical errors with doctors. The study was done first in 2005 and the 2011 survey found that the situation had not changed even after tremendous efforts to create better procedures and to ensure that nurses felt empowered to speak up. Why was it so difficult for nurses to speak up? More than half cited being disrespected as their biggest concern. The nurses who were able to speak up took the responsibility to build relationships and learned to communicate in a way that they would be heard. It is interesting that the nurses took on that role, rather than the doctors or management.

Just as the nurses felt trepidation at pointing out a doctor's error, employees feel it could be dangerous to point out management's shortcomings. There are laws to protect people from workplace retaliation, however the law covers very few circumstances and have to meet a high standard of proof. A good example of how laws don't remedy exclusion is the legislation that outlaws sexual harassment in the workplace. A safety professional had this to say:

"I just spent the week with a large group of ironworkers. Almost everyone identified behaviors that would meet the unsafe criteria, and not one said they would speak up or have said anything for fear of blackballing and layoffs. Like one said, "When you are a single parent raising a child, you have to weigh your options, and for most, the desire to provide for their children is the tipping point." (Carrillo personal correspondence 2018)

Exclusion can be much more subtle than sexual harassment yet can be just as damaging. Examples of exclusion include not being invited to a meeting or getting important information, getting fewer personal development opportunities or interesting assignments,

1 Maxfield, David, Joseph Grenny; Ramón Lavandero, and Linda Groah. (2011). The silent treatment: Why safety tools and checklists aren't enough. *PSQH*. Downloaded on 9/21/2019 at: http://www.psqh.com/analysis/the-silent-treatment-why-safety-tools-and-checklists-arent-enough/#sthash.ALobRgze.dpuf

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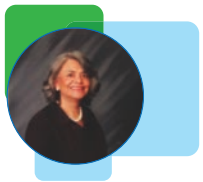

or not being included in social events. While these actions may seem trivial compared to getting fired or demoted, neuroscience shows they are felt as equally threatening.

The other side of this is that most professionals feel they take responsibility for speaking up, as this female safety professional explains:

"Yes! Oh my gosh, figuring out how to speak up is just so tiring. I had a job where I felt exhausted every day just from the mental gymnastics. I felt like I was playing chess all day just to maintain an equal footing.

Even now when I'm in a really diverse company with almost equal gender representation, these micro-biases still come out, like being left out of the decision-making meeting or having to make my own introduction at the corporate visits. You just feel invisible sometimes and it's a tiring constant struggle to fight for your place at the table." (Carrillo personal correspondence 2018)

Everyone wants employees who are willing to stop an unsafe action and take responsibility for safety but few understand that it cannot happen without strong relationships. If leaders do not take the time to have the right conversations, people will not build the trusting relationships they need to stop unsafe actions and report information needed to prevent the next failure.

What Does Encourage People to Speak Up?

Listening is recognition, and it is a powerful motivator, but for some reason it is believed that pizza and donuts can replace it. The interesting thing about that is that while people aren't motivated by food, they want to know why some crews get it and not others. So, while getting the food may not be a motivator, not giving it triggers claims of unfairness. What's the lesson? Recognizing people by empowering them to make decisions about their job and responding to their input are two effective ways to motivate people and also improve communication.

Focused listening communicates that you respect and value a person's knowledge or simply that they are important to you. Think about the relationship between shift supervisors and their teams. Are they busy taking care of administrative burdens in the office and sending emails to people at the end of the day, or are they walking the floor meeting people in their workspace? In some places, a manager walking the floor is cause for concern due to the kind of interactions he or she has had in the past. "What's wrong now?" is a typical

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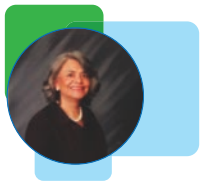


response. Employees feel threatened by the manager's presence, rather than reassured. When the supervisor shows interest in the employee that perception can change, thus opening up the channels of communication.

If it is done right remarkable things can happen. Most people in positions of authority don't realize how much social power they could have. Their position provides them with the opportunity to make a difference by listening, recognizing the value of people's work, and helping them acquire the resources they need.

Belief # 6: Drift is a positive quality of adaptive human behavior

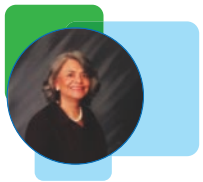
Drift is explained as "the slow uncoupling of local practice from written procedure," for reasons that make practical sense at the time. It is a term used to explain the causes behind the Chernobyl, the Challenger, and Columbia disasters. Examples of drift can be seen every day in the workplace as people skip steps in operational procedures or eliminate them altogether. These actions are clearly against safety procedure, yet it is a normal adaptive human behavior. Thus, drift cannot be prevented, only managed.

Since drift is here to stay, instead of treating it as a problem to be solved we can look at it as an opportunity for learning. It would be helpful to see drift as an indispensable adaptive behavior that has allowed humans to survive in brutal environments, but this is hard because it sometimes leads to failures.

It is also hard because it could be frustrating to continually discuss the possibility of changing a procedure once it has been completed. I always smile in empathy when someone says, "Everything is perfectly clear. I don't understand why they keep saying it isn't!" The implication is that there is a hidden agenda behind asking for clarification. A much more likely explanation is that the ongoing conversations after a decision was made brought in new perspectives and ideas. So what was once a clear answer isn't anymore. For these reasons drift is considered a natural consequence of complex adaptive systems.

When drift leads to a successful innovation it is considered learning or adaptation. Optimum learning and adaptation takes place in groups who can engage in a relationship that allows experimentation and failure. They are not individual processes because they build on the ideas of others to determine what needs improving and how to do it. An open, ongoing conversation about drift without blame would allow for potential dangers to be exposed early.

ROSA ANTONIA CARILLO, MSOD



We are in a quandary with safety. Drift could be seen as a form of conscious and unconscious experimentation. Since most of these behaviors are unseen, we tend to know about them after things go wrong. We are deprived of learning from the success. The pace of innovation is hampered by fear of making mistakes. The fear is justified because people could die or be injured. However, the use of bureaucracy to control potential negative outcomes becomes untenable when the people it is meant to protect ignore it or cry out, "We can't get the work done!"

Two utilities attempted to stop drift through rules. One utility came up with "Unbreakable Rules," the other, "Rules to Live By." The idea being to get employee agreement (in this case, union) to a very few rules that everyone would agree to never drift from rather than including every safety procedure. There had to be consequences for violations, so disciplinary actions were outlined. In the first case, the union abandoned the "Unbreakable Rules" following the first disciplinary case for violating an unbreakable rule.

In the second experience, the attempt, though more successful, still created backlash as reported by one of the participants:

The "Rules to Live By" approach demands real attention as a cultural issue. There have been cultural impacts, both positive and negative, at the electrical transmission facility. The cultural impact that is seen as positive and constructive is that the program is credited in part with strengthening the norm to confront peers in the presence of unsafe acts and conditions. On the negative side, "The Rules to Live By" program is also credited by many with: (1) dampening near-miss reporting; (2) reducing the flow of information from craft to supervision; and, (3) fueling mistrust. In particular, union workers reported not speaking to their supervisors so that they would not get punished as well.

Managing the downside of drift is both a technical and social problem. Workers do things for their own reasons so if you want to change behavior, address the need—change the procedure, make resources more available, and involve the users in the fix. The other factors are relational. Attempting to control people by demanding compliance and discipline is unachievable. In the absence of technology only internal reasons to comply can succeed. Leaders create internal motivation to follow procedure by building teams, a common purpose, and identity. This is done through ongoing communications about what is the right way to do things. Writing up new procedures based on "lessons learned" at

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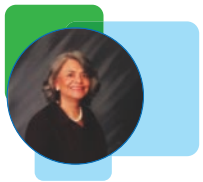

another site doesn't work. People look at them and decide they don't apply to their situation. Conversations create opportunities to develop mutual respect and understanding of why and how to do things.

In conversing with Dr. Mei-Li Lin, Senior Vice President at Dekra Insight, she brought up an additional aspect of how relationship and drift are related. In her opinion we need to pay equal attention to drifting out of communication with colleagues. If we are not constantly recalibrating our relationships small conflicts can grow into big ones, or we can simply stop relaying important information from lack of awareness of other's needs. This drift contributes to lack of communication on procedural updates or even the existence of procedures because we would tend to dismiss the concerns of colleagues to whom we don't feel a connection. A simple example is the recalibration of equipment between shifts. One shift leaves things "in order" only to find everything changed when they return. The shift making the changes knows that the other shift feels it has a negative impact on them, but does it anyway. That is an example of a relationship that has drifted out of sync and why shift turnovers can be so important.

Belief #7: Our prejudgments can prevent us from finding the truth

Prejudgment is an attitude, belief, or impression formed in advance of an actual experience. Prejudice is a type of prejudgment. How could a prejudgment prevent us from finding the truth? Some say it is because of confirmation bias—the act of interpreting new evidence in conformance to existing beliefs or theories.

Post-accident analysis often shows that the information to prevent an unwanted event is present, but we didn't see it or hear it. Or, we might have seen it but misinterpreted it. We also make prejudgments about people that can also get in the way of creating an environment that is safe for the expression of dissenting opinions, and where people feel valued and respected. Assuming a stance of an open mind increases the possibility of success exponentially because we have access to a lot more information. When people feel we have our mind made up they rarely feel the urge to contribute or speak up.

It can be difficult to accept differing opinions or perspectives. We might not trust the speaker's experience. We might have had a negative experience with the speaker or with the approach being proposed. We may be facing a deadline and decide that we have sufficient experience and knowledge

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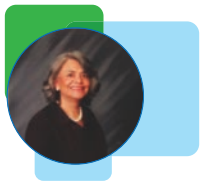


to disregard the dissenting opinion. We can never reach 100% certainty in a complex situation, so all we can do is be conscious of our biases and make sure we are not rejecting data based on false assumptions.

I was working with a group of safety professionals from a global mining company to discuss why some of their behavior observation programs were failing. The issue of prejudgments came up in a different way. Essentially, they were asking employees to accept feedback from workers that came from different crafts. Their reasoning was that "fresh eyes" see hazards more clearly. This was an effort to eliminate the element of confirmation bias.

This is not meant to be a complete analysis of why behavior observation programs break down, but what happened in this case was that the workers being observed rejected the feedback because they had their own prejudgment that the observers could not give relevant feedback since they weren't from the same craft. That meant they didn't understand the work.

As it turns out, the workers who were being observed did not know the observers, and had no idea what they knew or didn't know. After discussion the safety professionals had the insight that observers should not be sent out without adequate conversation that establishes shared goals and mutual respect between the observer and the person being observed.

Since prejudging cannot be eliminated due to human nature, we need to set up opportunities for people to get to know each other and set common goals. This can contribute towards forming more accurate perceptions of other people's intentions and knowledge. This serves not only to avoid breakdowns in communication, but also preserve the opportunity to learn from outside groups. In addition leadership development should include awareness of our tendency to prejudge and the value of developing the discipline of an open mind.

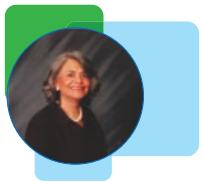
Belief #8: Relationships influence emotions, feelings and beliefs, which influence decisions

Neuroscience has shown that emotions have the strongest influence in decision-making. Since relationships influence one's emotions, our actions and behaviors are influenced by our relationships with others.

Antonio Damasio (1999)[2] discovered through research on the

2 Damasio, A. (1999). *The Feeling of What Happens: Body and Emotion in the Making of Consciousness.* NY and London: Harcourt.

ROSA ANTONIA CARILLO, MSOD



brain that people without access to emotion couldn't make decisions. He concluded that feelings, which result from emotion, could lead us to consciously examine a situation and develop actions to address challenges. David Rock (2009)[3] reports that emotions have the strongest influence in decision-making; feelings allow us to go beyond automatic responses. Dan Siegel (2010)[4] describes emotion as linking the body to the brain and linking people in groups even across generations.

If managers and supervisors aren't modeling the behaviors that show safety is an important value, and if employees don't seem to take personal responsibility for safety, neither threats nor discipline nor tools and checklists will get them to start. These are emotional and relational issues.

When it comes to gaining buy-in, a logical argument for change is no substitute for emotional connection. In the end, it boils down to building a relationship with the people you want to influence. When we meet people's emotional needs and ask questions about how tey feel, we open the way to communication. When we threaten them we close the way.

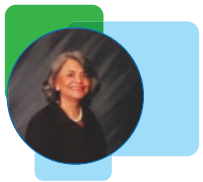
Emotions and relationships influence how we do our work from day-to-day because we care about what people who are important to us think and expect. The Gallup Engagement Survey has questions asking *if you have a friend at work* or *does your boss care about you* because if your answer is no, that means you are probably not engaged. The following story illustrates that if you don't communicate that you care, you will lose support for your safety efforts.

A lab technician at a pharmaceutical company seriously burned himself in a lab due to following improper procedure handling a flammable agent spill. The director gathered everyone and gave a report on the root causes of the accident. He reminded everyone of the proper procedure for handling chemical spills, and ended by saying that a lot of work time had been lost so everyone should refocus on their jobs.

3 Rock, David. (2009). Managing with the brain in mind. *Strategy+Business.* Issue 56. Downloaded 9/21/2016 http://www.strategy-business.com/article/09306?gko=5df7f

4 Siegel, Daniel J. (1999). *The Developing Mind: How Relationships And The Brain Interact To Shape Who We Are*. NY: Guilford Press.

ROSA ANTONIA CARILLO, MSOD



By the following week everyone on the safety committee had resigned because they said the director did not care about people. The safety committee chair, a chemist, said, “Everyone in the facility was talking about how all he cared about was getting the work done.” In actuality the director, a very ethical person, had spent a great deal of time with the injured technician and his family. It did not occur to him to talk about his personal concern in his communication to the staff.

People have an automatic filter that interprets what the speaker is saying according to their own experience. Successful communication depends on the exact use of words and being conscious of how they are being interpreted. When a mistake is made, emotions are triggered. It is important to recognize it so the message can be restated and offer an apology when appropriate. In this way, the trust level may be maintained.

Conclusion

Our beliefs create our thoughts, which turn into actions. Those actions create the results we experience. When we persistently experience unwanted results, we have to re-examine our beliefs about reality and correct them.

Any of us who want to influence change must reflect the belief we have about the people around us. You may feel it is far-fetched to say that our thoughts can influence those around us. However, if you are willing to experiment there is a lot of neurological science available to show why this is true. As mentioned earlier, you may also simply try to act from these beliefs and see what happens. Each time you pass someone, look them in the eye and say good morning. To make this encounter even more powerful, use the person’s name. Stay aware so that you can notice subtle changes in the way people relate to you or approach you. Then add saying thank you, often.

DR. TRISTAN CASEY

Lecturer, Safety Science Innovation Lab

Griffith University,

1 How would you define 'new safety'?

To me, the term 'new safety' and other similar labels and descriptions do mean quite different things yet are often used interchangeably, so I am glad the issue of definition has been raised.

For instance, 'safety differently' seems to be an ethical and social ideology that emphasises bottom-up empowerment and restorative justice. 'Safety-II' concentrates on the definition of safety (emphasising a positive-capacity or success-driven understanding) and measurement. 'Resilience engineering' focuses on tangible practices like developing an understanding of performance variability—where it comes from, how it affects work, and how to amplify or dampen it accordingly. And finally, 'human and organisational performance,' or HOP, crosses many work domains (not just safety) and highlights the importance of teamwork, learning, and continuous improvement, among other things. It is clear that 'new safety' can take on many different forms.

I think 'new safety' refers to a more fundamental shift in academics' and practitioners' core beliefs from a fixed mindset about what safety is and isn't, and towards a more flexible and open mindset that is curious towards new ideas about safety.

DR. TRISTAN CASEY

The 'new safety' practitioner is comfortable to experiment within boundaries and try new ways of managing safety. Overall, the 'new view' promotes the collection of evidence, evaluation of effectiveness, open debate about ideas and practices, and more integration across different theories, models, and disciplines.

2 What's the most important thing a safety professional should know about new safety?

At the risk of being cryptic, the most important thing a safety professional should know about new safety is what they DON'T know about it.

In safety, just as in general management, we are at risk of being bamboozled by the latest 'fad.' Behaviour-based safety, cognitive-based safety, types of crew resource management training, and many interventions loosely branded as 'safety culture' programs can be attractive on paper but lack theoretical and empirical backing. Given the rising popularity of 'new safety,' spurned on by the attractiveness of a potential paradigm shift, we should be wary and critical of new activities and interventions that fall into the new safety bucket. Being bold and asking for evidence of how a 'new safety' initiative works, data on its effectiveness, and overall robustness of its development and implementation helps draw attention about what the professional does and doesn't know. That way, a more informed decision can be made.

3 How would you recommend a safety professional begin implementing new safety?

Given my background is organisational culture, my recommendation would be for a safety professional to understand how he/she thinks in relation to safety, and how these beliefs might shape and influence the way safety is done in their organisation.

An organisational culture for safety, or a 'safety culture' (which can be considered as the specific beliefs and assumptions in an organisation that are most relevant to safety management), is shaped and influenced mostly by people in authority. Safety professionals may have some influence and status in their organisations, particularly over how safety systems are designed and implemented, and their personal mindsets around safety will play out in their decisions and actions.

DR. TRISTAN CASEY

So, recommendation #1 is to be reflective and mindful of the role that beliefs and assumptions play in how safety is managed and be open to divergent or even contradictory ways of thinking about safety.

My second recommendation is to be critical and exhaustive in the search for evidence. Too often, tools, techniques, and practices in safety are adopted on face value rather than being grounded in a robust evaluation of their effectiveness. Consequently, these tools and practices accumulate, adding to the burden of work performed by frontline personnel, and worryingly, adding no or negative value to the 'safety of work.' A safety professional should seek out evidence that safety interventions actually work and add value before they are widely implemented. Doing so will repeal some of the cynicism and disconnect between frontline operations and safety personnel that we observe in countries like Australia.

4 What resources do you recommend people check out to learn more about new safety?

My general advice would be to read widely, and perhaps the best advice I can provide is within my domain of expertise, which is organisational culture and safety. With this focus in mind, I suggest the following resources on safety culture to develop a more informed and broader understanding:

The OSH Body of Knowledge: Chapter 10.2.2: Organizational Culture-Reviewed and Repositioned

"Understanding and Exploring Safety Culture" by Frank Goldenmund

Goncalves Filho, A. P., & Waterson, P. (2018). Maturity models and safety culture: A critical review. *Safety Science, 105*, 192-211.

DR. TODD CONKLIN

Human & Organizational Performance Consultant

HOPHub & Pre-Accident Investigation Podcast Channel

1 How would you define "new safety?"

Well, I think to begin, I wouldn't define new safety. I'm not sure I like the term new safety. I think I would call it more of the new view, which is exactly what Sidney Dekker called it for years and years. Period.

I'm not sure you'll fix safety by fixing safety. And so therefore, I don't think it's that valuable to try to capture safety as new or old or better or good or right or wrong, or one or two or whatever terms we want to use, period. I think that's the biggest problem we have is that we're trying really desperately to think of a clever way to categorize this different way of thinking. Any time you're involved in a philosophical shift, whether it's in the Renaissance or in some kind of development of a religion, they're going to be small groups of outliers. I think they called them sects in the old days.

Usually these outliers represent a different way of thinking about the world, and that is really what this safety journey we've been on is, it's a different way of thinking about the world, and in our case, the world involves really reliable outcomes and safety performance. But if we look at safety as an outcome to be achieved, then I guess we're going look at safety as

DR. TODD CONKLIN

something you do. But I've made my living by really trying to get people in organizations to see safety more as a capacity, and so therefore, this new view of understanding and defining safety is really an important part of how we do the work we do now.

I would start by saying that the biggest difference I see philosophically in the new view has to do with the way we look at workers. Traditional safety sees the worker as the problem to be fixed, which is why we've had years and years and years and years of programs that are focused on making workers be safer. I'm pretty sure that we thought that was a good idea, and I'm pretty sure we thought that that would make the biggest difference. It must be that case because somehow, we have to justify this long-term relationship we've had with behavioral observation programs in order to create organizational safety.

I would suggest just from the beginning that that is kind of a moral question that needs to be addressed. Do we manage the actual behavior of the workers who work for us, or do they get to exercise and manage their behavior? The bottom line is the new way of seeing safety. This new view sees the employee not as the problem to be fixed, but really is the solution to actually gather, understand, respectfully listen to, and harness in order to make more reliable outcomes. That difference alone is monumental.

That's a huge way of seeing safety as a much different program or outcome or measurable item than it has traditionally been in the past. Our challenges are we want to try to measure safety by actually understanding outcomes. But what we must do is really understand safety by seeing safety as a capacity in the everyday doing of typical work. And that really is a huge change and a much different way to see the world, new safety or the new view, or the philosophical shift that's happening kind of while we're there. Watching it is pretty exciting.

It doesn't say the old view was wrong, and the new view is right. Or that old safety was wrong, and new safety is right. It just says there's a different way to define safety.

Safety is not the absence of accidents. Safety is the presence of resilience, the presence of capacity, the presence of tolerance in a system.

We don't do that by asking workers to be more careful. We don't do that by trying to fix the workers behavior, which, as I said before, seems a little morally questionable. We do

DR. TODD CONKLIN

that by creating capacity in the system. So that way, when uncertainty happens, the system has the ability to tolerate the uncertainty that is present.

It's hard to answer this question and not talk about the pandemic that happened in 2020. The pandemic really allowed us as a globe to think about capacity and thinking about capacity leads us to thinking about this new view.

Capacity is really interesting because if you have it but don't need it, it's expensive. But if you need it and don't have it, it's incredibly expensive. The pandemic has shown us that our organizations have been really aligned towards creating and optimizing efficiency in our organizational systems, and we did that to a great extent at the cost of putting additional capacity to manage uncertainty as it happened. Then the pandemic took place and we realized that the uncertainty that we took out of our calculation was something well beyond our ability to control.

We don't get to manage uncertainty. What we manage is the ability to have uncertainty, and that led us to understanding that our systems should not solely be aligned towards creating efficiency. Our systems need to be aligned towards creating resilience, having capacity for uncertain events to take place. That may be the best stress test of how we think about and change the way we understand the philosophical underpinnings of safety.

2 What's the most important thing a safety professional should know about new safety?

Workers aren't the problem that you fix. We don't live in a world where the only lever we have to create safety improvement is the worker. We actually live in a world where probably the least effective, least comfortable, and least likely lever to pull in order to make change is the lever that impacts the worker and the worker's behavior.

As a safety professional, you have much more power over the system in which the work is happening than you have power over the attitudes and behaviors of the people who are actually doing the work. The belief that you can somehow manage hearts and minds in order to create organizational and operational safety for the company is foolish at the very onset. And I would question if it's the right way to think about creating reliable outcomes, the very best thing we could do is put

DR. TODD CONKLIN

workers into a place where we've made it easy to do the job well and difficult to do the job wrong.

We do that not by changing the hearts and minds of the workers, but by actually thinking a lot about the overall system in which the work happens. And when I say system, I'm not talking about the classic engineering definition of a system, although I am talking about the engineering definition of a system. I'm actually talking about the larger organizational context in which we place the workers in order for the work to happen. As a safety manager, the one thing you can control is the stuff that creates that operational context in which work is performed.

You are the organization. You are the procedures. You are the tool availability. You are production pressure. You are supervision.

You're all of the things that influence how workers perform the work they do and to me, the valuing and understanding that makes it almost easier and certainly more emotionally satisfying to think about managing your system. My biggest piece of advice for a safety professional is for them to understand that ultimately, we should understand how normal work is performed. How typical work happens in order to understand where we either have the capacity for uncertain outcomes to happen successfully, or where we don't have the capacity for uncertain outcomes to happen successfully. Look at typical work and ask this question: is the system in which the work is done flexible and tolerant, are there margins in that system for uncertain and surprise events? If the answer is yes, my guess is you're looking at a really stable system. If the answer is no, then you've identified a brittleness in your organizational process where you can actually move in and create further opportunities for resilience.

We don't manage accidents, and a safety professional needs to realize that an accident is defined as an unintentional deviation from an expected outcome. Accidents are accidents – they are surprises.

DR. TODD CONKLIN

What we manage is the ability for the organization to have an accident successfully. And by successfully, I mean the ability to fail and reduce the consequences of the failure. Intervening upon the accident before it actually has a cost. All of that is contingent upon how you think about safety. If safety is an outcome and you measure it as an outcome, then you're probably missing the point. Safety is really a part of every part of the way you do work. It's a capacity that exists in the system, and safety has more to do with the presence of controls than the absence of failure.

3 How would you recommend a safety professional begin implementing new safety?

So, this is something I thought about a lot and the quickest answer I can give you (because the universe teaches me this lesson about once a year) is that the most important group of people you're going to talk to is the leadership of the organization. This new view of safety doesn't need a lot of time and training and exposure and message management to the worker level. They understand this. Workers understand the power of context, the power of the system, and they understand safety as a capacity and doing work.

The group of people that really has a hard time with this shift in thinking is your leadership. Spend as much time as you can with those leaders, helping them redefine safety not as an outcome to be achieved, but in fact, as a capacity to manage. Help them redefine the definition of safety.

Safety is not the absence of accidents. Safety is the presence of controls.

Help them understand that as we talk about managing safety differently, what we're really talking about is just that they must manage safety differently. They must manage safety as a part of normal work, and they must manage safety as a capacity. We don't look for the presence of risk. As a senior manager, we look for the absence of tolerance, the absence of defenses, the absence of controls. Risk is normal. Risk exists in the work we do all the time. And one of the best ways to get this message communicated is to have them look at safety the way they look at finance - have them look at safety risk the same way they look at financial risk, because they will tell you financially when they designed the business, the business is diversified because of risk, they've built tolerance into the system. They're monitoring financial stability all the time, and they're looking at normal

DR. TODD CONKLIN

operations. Have them take those same ideas and move that towards managing high-risk operations in the organization.

My last advice here, because I think this is really important, is when managers push back because they have lots to lose or they're less than comfortable with the idea that responsibility and accountability for safety is moving closer to them, not farther away from them, don't get defensive. Become instructive, because when managers push back around this new philosophy, what they're telling you is that we haven't done a good job explaining how this change impacts them and what they will do and how they will respond.

4 What resources do you recommend people check out to learn more about new safety?

Well, so this question is ridiculous to me because it feels so awkward to promote books and podcast that I am a part of and that I've created for the last 20 years of my career. But there are lots of really great resources out there.

Everything starts, in my opinion, with Sidney Dekker's *The Field Guide to Understanding Human Error*, and if you can, get the first edition of it. It's my favorite. That's the one that started everything for really most of the world I come from now. I started this journey a little bit before that book came out. So, I could tell you that book is really attractive to me, because when it came out, it provided a lot of clarity and language.

All of the books I have (and it seems like there's like a million) are available. If you ask me which ones to read first, I'd probably start with *Pre-Accident Investigation: A Book on System Safety*, then go to *The Five Principles of Human Performance*, but the ones that are more specifically around fatality prevention I think are pretty valuable as well. But I'm super-biased because I wrote them, so of course I would think they're pretty valuable.

I think Eric Hollnagel's writing (books and articles) is absolutely worth the read and incredibly valuable, and he talks more about "what's happening when nothing bad is happening?" which is a super-good question to ask.

DR. TODD CONKLIN

Podcasts, and there's a million. Everybody has a podcast now. I think they're valuable, but I'd also encourage you to look at economics literature, psychology literature, behaviorism literature, all those are really important.

And then the book that I think is really valuable for any new push would be a book by Everett Rogers called *Diffusion of Innovation*, which really talks about how organizations change. And that book is...you know the book. If you've ever seen The S-curve, the diffusion curve, it's got early adopters on one end and laggards on the other, THAT's that book, and that's a really valuable book as well.

And then Phillip K. Tompkins from University of Colorado. He has a book on the Marshall Space Flight Center that's really valuable. And then anything that Jim Barker's writing around organizational change and risk, he's at Dalhousie University, that's a good read as well.

BOB EDWARDS

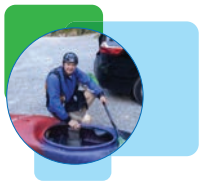
Human & Organizational Performance Consultant at

The HOP Coach

1 How would you define "new safety?"

I don't. It's not really safety to me. It's more about operational struggles that can lead to all sorts of bad outcomes. Safety, quality, operational upsets, financial problems, personnel issues, etc. It's about listening better to the voice of the worker and trying to understand the true complexity of what they do. It's about seeking to understand the variability they deal with every day and usually quite successfully. It's about looking at all the messiness of work and building a safe place to talk about that mess. Seeking to understand the world from their point of view (industrial empathy) so that you reach a point where the problem or the event is no longer a surprise and often isn't even that interesting. It may become so obvious that you wonder how bad things don't happen more often. It's about treating those who do the work with great respect and bringing them into the conversation instead of them being the topic of the conversation. It's about getting their ideas on how to make things better. It's also about studying successful work with the same sort of open discussion. We want to find out how brittle we really are even when our metrics are great and we've been awarded "project of the year."

BOB EDWARDS



2 What's the most important thing a safety professional should know about new safety?

Try to fight the urge to think you know what the problem is. If we believe we already know what the problem is, we stop asking meaningful questions, we stop listening, and we stop learning.

3 How would you recommend a safety professional begin implementing new safety?

I think small, reversible steps are best. Talk with your leadership about the concepts and principles. Seek to get buy-in to try them in an area where there is a willingness to try, fail, learn, try again, fail some more, learn, improve, and try again. Without fear of retribution.

4 What resources do you recommend people check out to learn more about new safety?

Read everything you can get your hands on about Human and Organizational Performance (HOP), Safety Differently, Complexity, Resilience, Safety II, etc. Listen to podcasts and video blogs. Talk to people on the journey. Go to conferences.

Keep an open mind and realize this is an emerging field with tons of space for new ideas. Do NOT take anything I say as gospel but challenge every thought and concept and be willing to seek out those who think differently than you do.

Be comfortable knowing that as you go into motion with your efforts you will figure out things that we haven't thought of yet and it will likely be better than anything I could have come up with. Have fun doing it and make sure you take good care of yourself because it can be very demanding and draining and much harder than you might initially think. Stay in touch with others on the journey so that you can encourage each other.

Now, go change the world for the better!

JOE ESTEY

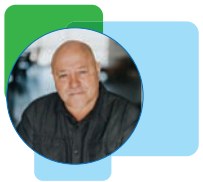
Senior Performance Improvement Specialist

Lucas Engineering and Management Services

1 How would you define "new safety?"

Many practitioners and authors define the 'new safety' by contrasting it with the 'old safety.'. Safety I and Safety II, Model 1 and Model 2, Old View and New View. Legitimately, there are stark differences, so it is easy to contrast and compare. For example, Old View: people are objects of an investigation, a problem to control, and the primary target of any corrective action (the thing to fix). New View: people closest to the work are the most important resource in understanding why things happen, the way they happen, and are not the problem, they are the important part of the solution. Old View: When investigating incidents, stop at human error and fix it. New View: start at human error to understand the underlying conditions and expectations. Old View: Safety is an outcome measured by an absence of incidents, including near misses. New View: Safety is a value running through the planning and execution of work and reinforced as a value by what we learn from both wanted and unwanted outcomes. Old View: Risk Aversion. New View: Risk Competency.

JOE ESTEY



However, I would also say New Safety is about more than Safety. Many of safety professionals learned about a decade ago it is better to be a double or triple asset to an organization rather than being 'the safety person.' So, they got MBAs along with their CIH or CSP certificates, spent time in management, work planning, or engineering, because safety isn't a business unto itself-it's a distinct discipline within an enterprise that shouldn't be separated from the primary mission of the organization—to provide value to customers through the production of good and services. An engineer isn't an engineer for the sake of doing engineering, their value exists because of the contributions made to the overall good.

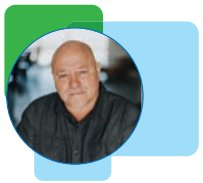
2 What's the most important thing a safety professional should know about new safety?

Build relationships by being genuinely interested in the way things get done. Not in the way things are planned, but how they actually get done. The way a safety professional responds to errors and mistakes, mishaps and incidents, sends a strong message to those watching them. As others have noted in Resilience Engineering and Safety Differently, focus more of your time studying why 12 out of 13 jobs went well instead investing all your time studying the 1 out of 13 times things didn't. Stop using technical manuals to explain why a condition is safe, when someone asks "are you sure we can do it this way?" Listen to the questions behind their question, and the answer usually has more to do with empathy, trust, and concern than it does with parts-per-million and legal allowances.

3 How would you recommend a safety professional begin implementing new safety?

Look first at the real issues you or your organization are experiencing. Not those that others tell you are being experienced. Many times, we spend time solving problems we don't have and ignore the ones that are challenging us routinely. Look at near misses, close calls, listen to pre-job meetings and after action reviews. Examine your work management process—are jobs being done the way they were planned, or is work as performed different? Don't implement or suggest any new changes to the way things are being done until you evaluate why things are being done that way. Then, look at the organization's history of corrective action planning.

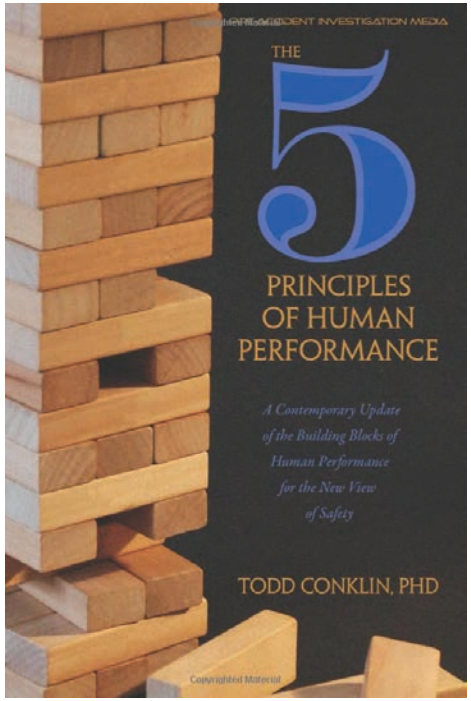
JOE ESTEY

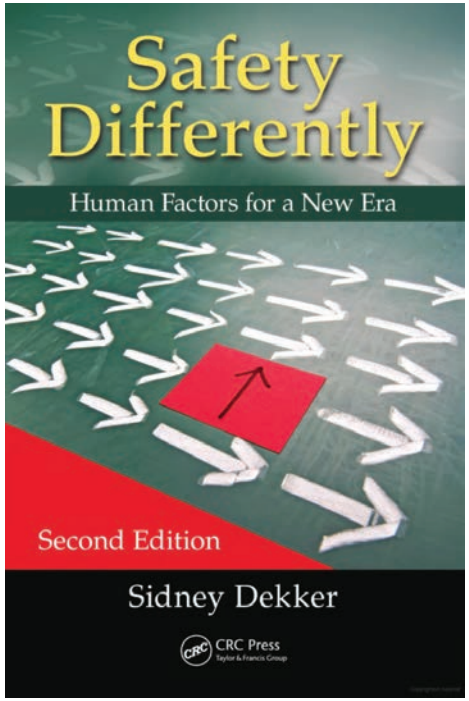


What do they do following an event or incident? Are these actions based on motivating people out of 'bad behavior' or providing people with a greater ability and capacity to improve their performance, and therefore, their outcomes? This will give a safety professional a deeper look into the organization beyond compliance issues.

4 What resources do you recommend people check out to learn more about new safety?

If I had no prior knowledge, the four that come to mind are *Safety Differently* (Dekker), *Safety-II In Practice* (Hollnagel), *The Influencer: How to Change Anything* (Vital Smarts), and the *Five Principles of Human Performance* (Conklin). As well at the resources at our site, of course: LucasOPT.com





RON GANTT

Director of Innovation & Operations and add organization: Reflect Consulting Group

1 How would you define "new safety?"

"New safety," to me, is a label for a set of ideas, models, and theories that all revolve around a systemic view of behavior. Basically, "new safety" believes that context drives behavior and that to improve safety you need to create a context that enables safety to be created (as opposed to trying to improve safety by fixing the person's beliefs about or level of care for safety).

2 What's the most important thing a safety professional should know about new safety?

"New safety" isn't really new. The ideas have been around in research and practice in one form or another, arguably for a century or more. However, that doesn't mean that organizations are already doing "new safety." It's common for organizations to have some elements of what we call "new safety" in place already, but I have yet to find any organizations that have implemented a "new safety" approach entirely. So, just because it is not new does not mean you're already doing it. Rather than focusing on where you think your organization is already doing "new safety," it is often more productive to ask where you may be falling short.

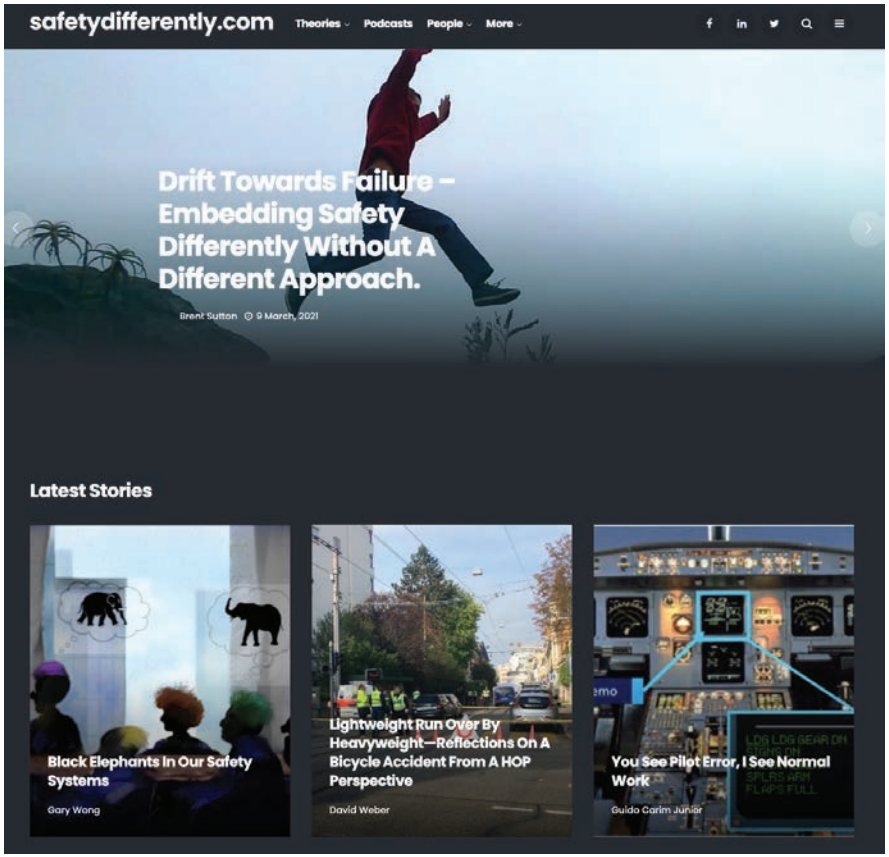
RON GANTT

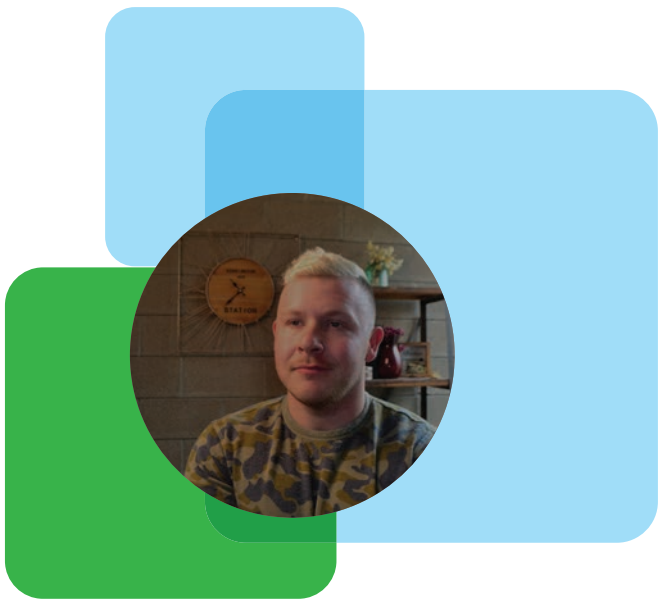
3 How would you recommend a safety professional begin implementing new safety?

The first step is to start the conversation about it, particularly with leadership, about the need to understand the context of work to improve safety. This is especially useful when you are discussing an accident where it appears that some sort of "human error" or "unsafe act" is to blame. Showing how the organizational context contributed to the event is often an "ah-ha" moment for some that opens the door for additional discussion and implementation.

4 What resources do you recommend people check out to learn more about new safety?

Safetydifferently.com is a great place to go. Look especially at the posts by Daniel Hummerdal and Steve Shorrock, but almost anyone who has posted on there is great. The Pre-Accident Podcast with Todd Conklin is another great, free resource. Todd's book, *Pre-Accident Investigation,* is a great introduction to the field for those wanting to get started.





SAM GOODMAN

The HOP Nerd

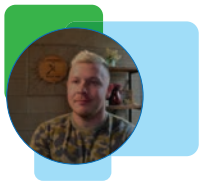
1 How would you define "new safety?"

Ultimately, as a shift in underlying assumptions around how we view workers and safety in general. Rather than viewing people as problems we view them as problem solvers, rather than starting from a place of distrust we start from a place of trust, rather than doing things to people we start to do things with people, and rather than viewing safety as a lack of negative occurrences we view safety as the presence of positives.

2 What's the most important thing a safety professional should know about new safety?

It's not just another safety program, one that can be copied and pasted into an organization. In fact, it's not a safety program at all, it's a fundamental change in how we approach safety. By its nature, "new safety" recognizes the complexity and uniqueness of organizations and the problems that they face. If you want to successfully move down the path of "new safety," start with learning. Learn from those that actually accomplish work within your organization, learn from those that reside within the systems that you seek to better. While using the key principles of "new safety" as a lens, and a healthy dose of operational intelligence, you can begin to craft what "new safety" looks like within your organization.

SAM GOODMAN



3 How would you recommend a safety professional begin implementing new safety?

Personally, I have found that change starts, and is perpetuated through, conversations. It's the subtle challenges to our firmly held beliefs around the ways that we have historically viewed safety, it's dialogue and debate about what really matters, it's focusing on and growing "bright spots" that already exist within organizations, and it's replacing less desirable ideas with better and more impactful ideas.

4 What resources do you recommend people check out to learn more about new safety?

Todd Conklin's works, such as the book *5 Principles of Human Performance* and his *Pre-Accident Investigation Podcast*, are great resources for those beginning down this path or those that seek to obtain a greater understanding of the concepts. Todd's works, along with the works of Sidney Dekker, Bob Edwards, Dave Provan, and many, many more are invaluable resources. Additionally, reach out to people! There are many people in the "new safety" space that are more than happy to have conversations, answer questions, and provide input. This community that is ever growing around "new safety" is diverse, large, and always happy to help.

TANYA HEWITT, PhD

Founder
Beyond Safety Compliance

1 How would you define "new safety?"

I have found defining safety very elusive – that in a room of 100 people, you could get 100 definitions for safety. Yet, rarely is this ever acknowledged – we tend to go about our work as though we all hold a common definition of safety.

I find the question a bit troubling, as though this problem has been addressed with the "New View." What I can say is that the "New View" is a mind shift – a different way to approach safety that hasn't been the norm for quite a while. This different way has evolved over time, and now has more of an audience than it ever has – and I believe the audience is getting bigger all the time.

2 What's the most important thing a safety professional should know about new safety?

Not being a safety professional myself, I am not sure I am well positioned to answer this question. However, I might suggest that any certification that a safety professional has might not be in line with the new view principles and practices, knowledge and insight. Overall, a safety professional with various certifications should not assume that they have been schooled in this new view.

TANYA HEWITT

The certifying organizations, as far as I know, have been very slow to adopt the thinking and approach of the new view of safety.

3 How would you recommend a safety professional begin implementing new safety?

The first step is to get educated. There is no benefit to getting inspired after being exposed to one webinar or reading one article to go and change the world. This is a different way to think – and this is a monumental shift that will take time and effort. Begin connecting with others who are of like minds beginning to implement this new view. Listen to others who have been on this journey for a while, and hear their successful and not so successful attempts. Listen to the leaders in the field who are driving this and can give advice. See this new view as a business excellence proposition.

This is a "go slow to go fast" kind of approach. It can be more damaging than helpful if homework is not done up front.

Some tangible things – introduce the new vocabulary slowly, start questioning the value of your daily activities, look for incentives (both explicit and implicit) that drive behaviours, start small and celebrate quick wins, build for microexperimentation (safe to fail in restricted environments), and begin to foster psychological safety.

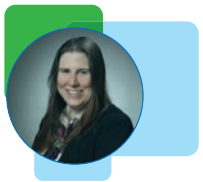
4 What resources do you recommend people check out to learn more about new safety?

I am sure there are many others who can offer a torrent of resources. Know your learning style, and choose a medium that fits you best.

Podcasts:

- The Safety of Work
- Pre-Accident Investigation
- Safety on Tap
- Rebranding Safety
- The HOP Nerd
- The Interesting Health and Safety Podcast
- Disastercast
- Cautionary Tales

TANYA HEWITT



Some people to follow on LinkedIn and/or Twitter (there are many, many more):

- Todd Conklin
- Drew Rae
- Rosa Antonio Carrillo
- Adam Johns
- Stephen Shorrock
- Andrew Barrett
- James MacPherson
- Sam Goodman
- David Provan
- Daniel Hummerdahl
- Ron Gantt
- Bob Edwards

Websites to visit:

www.safetydifferently.com

Go to conferences where new view is being presented (there are others):

- HPRCT (Human Performance Root Cause Analysis and Trending)
- NSC/ORCHSE HOP summit
- Support the sessions on the new view at your traditional safety conferences

Books authors (most have written many books – more recent ones will reflect more recent thinking):

- Sydney Dekker (Start with the *Field Guide to Human Error*)
- Todd Conklin
- Erik Hollnagel

Seminal books:

- Dianne Vaughan - *The Challenger Launch Decision*
- Scott Snook – *Friendly Fire: The Accidental Shootdown of U.S. Black Hawks over Northern Iraq*
- Charles Perrow – *Normal Accidents*

DANIEL HUMMERDAL

Head of Innovation

WorkSafe New Zealand

1 How would you define "new safety?"

It's a shift from risk and error reduction to building capacity to navigate threats and dangers in the presence of complexity, change, and unpredictability.

2 What's the most important thing a safety professional should know about new safety?

Great health and safety performance does not come from the precise application and adherence to rules, policies, or procedures. It needs insights, discoveries, learning, creativity, growth, connections, understanding unique contexts, dialogue, and other ways to continuously 'complicate' and grow our ability to meet the demands of work.

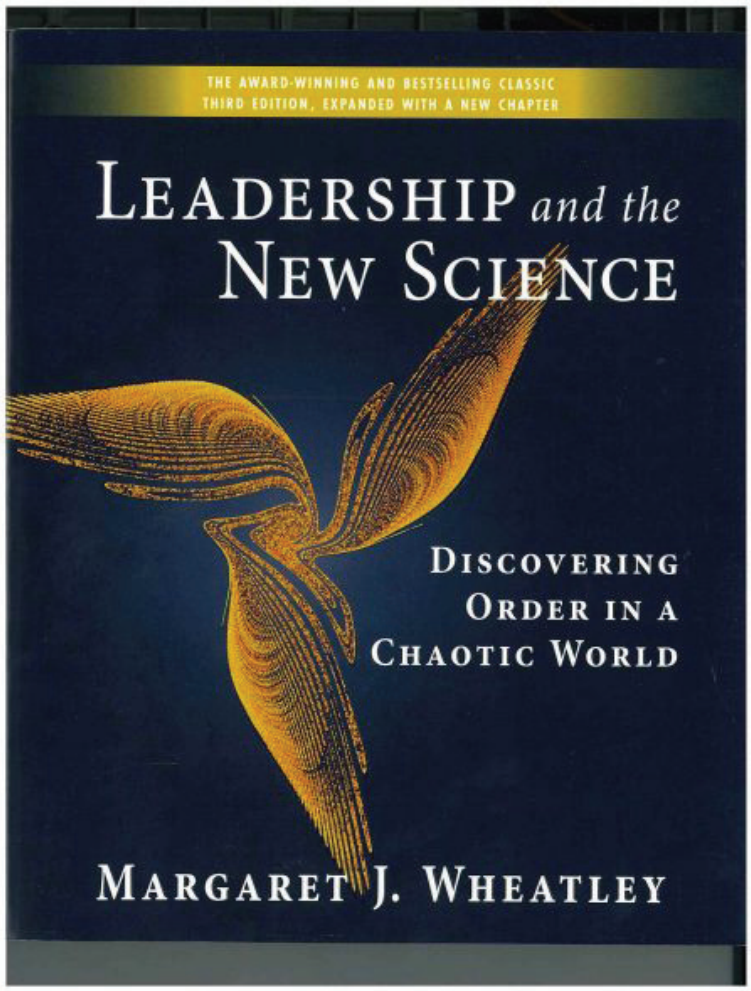
3 How would you recommend a safety professional begin implementing new safety?

Practice falling in love with the needs of end-users/workers. Participate, observe, and have conversations in which you try to learn what people need to achieve and avoid. Think critically about the extent that current practices help and/or hinder those needs, and take steps toward trying and establishing better practices.

DANIEL HUMMERDAL

4 What resources do you recommend people check out to learn more about new safety?

The most inspiring book to help me think about health and safety from a different perspective has been *Leadership and the New Science* by Meg Wheatley. She uses insights from chaos theory, quantum physics, and biology to challenge traditional ways of thinking about organisational practices. It helped me to see how our reliance on mechanistic models stand in the way of innovation and better ways of organising.



ADAM JOHNS

Health & Safety Manager,

KeolisAmey Docklands (Light Railway)

1 How would you define "new safety?"

There are many, many ways to define "new safety," and my own definition may subtly change depending on the challenge I'm trying to tackle that day or what I've been reading recently.

A way that I look at it most often is that the process of 'managing safety' should actually be about organisational learning. Traditionally in safety we've helped organisations to learn in limited ways by reactively solving problems that surface through unwanted events: either someone got hurt, something was damaged, or something went wrong that cost us money. New safety is simply about broadening the scope of how the 'safety manager' can help the organisation to learn. This means the focus and the unit of analysis in safety has to shift from accidents and incidents to everyday work. By doing this, the new safety approach helps organisations to learn in ways that improve not just safety, but many other metrics that define a successful business.

So new safety is about maximising organisational learning from the study of everyday work.

ADAM JOHNS

2 What's the most important thing a safety professional should know about new safety?

Crucial point: new safety is not a programme and you can't get a certificate in it – it's a philosophy; a mindset; a perspective; a set of principles. Yes, there are different practices for doing things like investigations, risk assessments, measuring safety, and generally learning about your operations, but there's no point implementing these practices if you don't live by the principles. That's true for you *and* the key stakeholders across your organisation who manage risk.

Whether you take your new safety principles from Safety-II, Safety Differently, HOP, or anything else badged as new safety it doesn't really matter; to me they all greatly overlap. I won't outline all of the principles that I think new safety is based on, but a safety professional wanting to take the new safety approach needs be a systems thinker, they need to understand the difference between complicated and complex systems, and overall have an unquenchable thirst for learning.

New safety won't be *new* for long, so stay ahead of the bow wave by continuously learning and remaining flexible in your opinions about what works; science is creating new wisdom every day.

3 How would you recommend a safety professional begin implementing new safety?

Start small and don't ask for permission. Of course don't break anything in the process, but I'd avoid spending months putting together a strategic plan to convince your boss or exec team to take a new approach to safety.

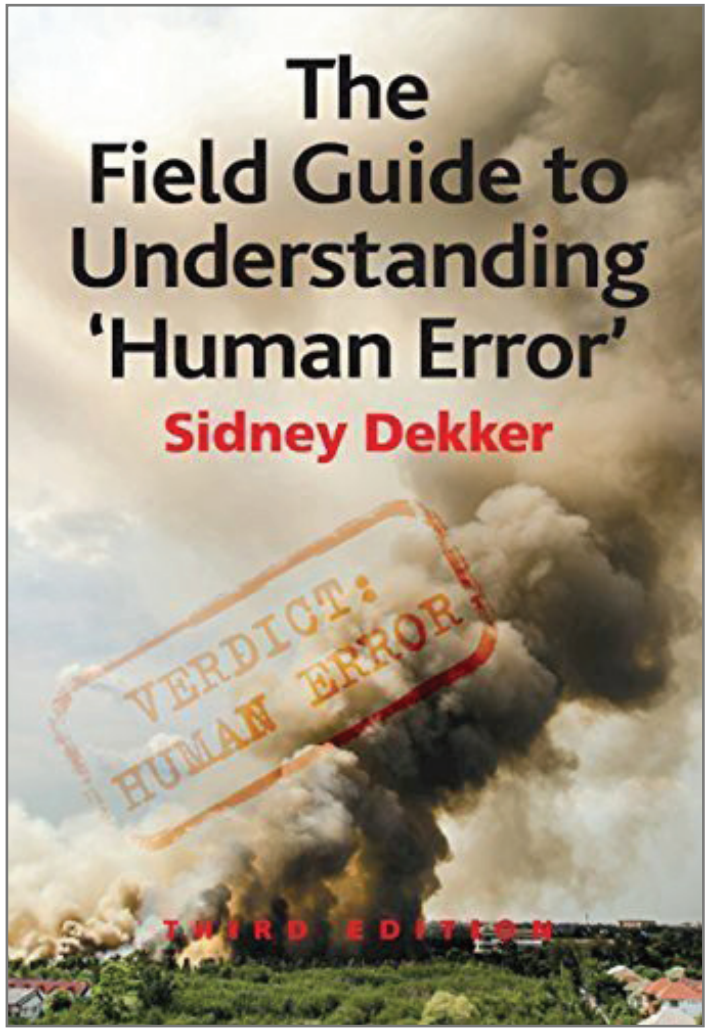
Instead, start off by living it yourself. Adopt the principles into how you conduct yourself and how you engage with stakeholders. Talk about safety in a more neutral language and explain to people why you're doing it. Create a small but merry band of people who believe in this new way and then start applying new safety practices, like Learning Teams, in small targeted ways.

Think of it like you're experimenting with innovations. Some will succeed and some will fail. But a failure is only a failure if you don't learn from it. If you learn then it becomes a stepping stone to success.

ADAM JOHNS

4 What resources do you recommend people check out to learn more about new safety?

Read *The Field Guide to Understanding 'Human Error' (Third Edition)* by Professor Sidney Dekker as soon as possible, and read it as quickly as you can. Then read it again, a little slower. After that, just follow your nose, and don't be afraid to reach out to people who've been there and done it. But that book is the perfect jumping off point.



CLIVE LLOYD

Psychologist, Principal Consultant

GYST Consulting Pty Ltd

1 How would you define "new safety?"

To me, the 'new view' is best defined by a shift in the basic assumptions that leaders make about their people. Traditional safety (that which Erik Hollnagel labeled 'Safety I') tends to view people as a problem to be managed. Based on this top-down model of leadership, safety policies, procedures, and systems are often imposed upon employees with little or no consultation. In contrast, New Safety fundamentally sees people as the solution, recognizing their skills, knowledge, and experience. Hence, employees are invited in, and as Dekker says, Safety Differently replaces control with curiosity, prescription with participation, and instructions with involvement. As such, New Safety makes the bold leap toward decentralizing power and decision-making about safety by involving frontline workers. It asks the people who actually perform the work how things ought to be done.

CLIVE LLOYD

2 What's the most important thing a safety professional should know about new safety?

It's important safety professionals understand that it is not an 'either/or' choice. It is not a case of Safety I versus Safety II. Not everything will (or needs to) change. Leaders will still need to focus on risks and their mitigation. They will still need to meet regulators' standards and be involved in designing safe systems and practices. The key difference is they won't be doing these things to their people, they'll be doing them with their teams.

3 How would you recommend a safety professional begin implementing new safety?

On the one hand, Dekker states that Safety Differently is not prescriptive and that there are no checklists to follow in order to successfully implement the approach. Nevertheless, contributors to the Safety Differently literature have identified several core processes that – while not constituting a recipe – may act as a foundation for successful implementation.

These core processes include:

- Decentralizing and devolving power
- De-cluttering
- An analysis of work as imagined versus work as done
- Appreciative investigations
- Restorative Just Culture

However, leaders seeking to embark upon a journey toward doing Safety Differently would do well to consider whether or not they have first created a climate in which the approach is likely to be embraced at the sharp end.

In my opinion, a successful Safety Differently initiative is entirely reliant on trust. First, leaders themselves must take a giant leap of faith in trusting that if they allow their workers to become fully involved in co-designing safety processes, the resulting changes (for example, in risk assessment activities) won't lead to disaster! Equally, if the workforce has a strong mistrust of management (perhaps based on years of working within a top-down, hierarchical, parent–child culture), suddenly being invited to run the show could easily elicit suspicion, cynicism, and a middle finger!

CLIVE LLOYD

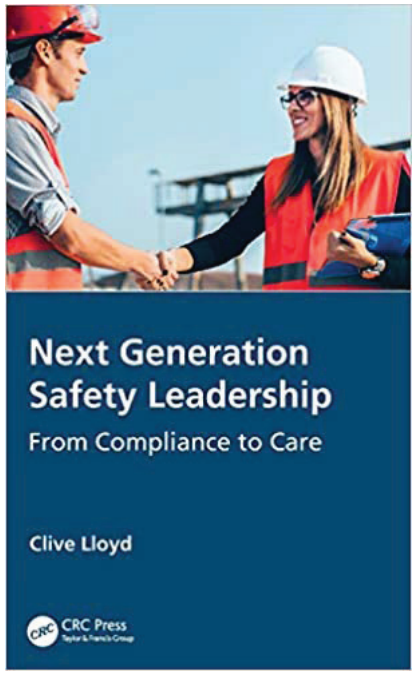
Despite the role of trust being foundational to the approach, it has received scant attention in the Safety Differently literature and discussion – I believe this needs to change. If organizations fail to lay the requisite foundations for successful implementation, the worthy approach could become just another safety fad. With interest in Safety Differently running at fever pitch (at least within academia), overzealous leaders could easily allow their initial fervor to drive a premature implementation. My suggestion would be … first create trust!

4 What resources do you recommend people check out to learn more about new safety?

There are many great books, articles, videos and podcasts available. A useful place to start would be https://safetydifferently.com.

Books by authors such as Professor Sidney Dekker, Professor Erik Hollnagel, and Dr. Todd Conklin would also provide an excellent grounding.

My recent book *Next Generation Safety Leadership: From Compliance to Care* also discusses the need for change, and how to begin implementing the New View.



GARETH LOCK

HS/OpEx/Organizational Resilience Consultant

1 How would you define New Safety?

The problem with a clear definition is that it doesn't exist in absolute terms – it is our human bias to want to reduce things to simple descriptions which is somewhat of an antithesis to the perspective of New Safety, which is about understanding how all work (and safety) is done.

Safety is about managing risk to an acceptable level in a world which requires different approaches based on where you are in the complexity domain space. Some aspects of safety can be managed in a simple, linear manner with very detailed and specific requirements (clear domain - best practice). Others require knowledge and practice developed via different people and distributed over time (complicated domain – good practice). Yet others require small, safe-to-fail experiments to determine how the system will operate when changes are introduced and what constraints are in place and sense can only really be made in hindsight (complex domain – exaptive practice). Finally, some areas of safety management are all about novel practice where you have to act first, then work out what should have been done (chaos – novel practice). These four domains come from the concept of Cynefin from Dave Snowden and Cognitive Edge.

GARETH LOCK

2 What's the most important thing a safety professional should know about new safety?

Safety is not binary. You need to separate outcome from the processes and context which got you to where you are now. Outcomes are sexy, but they sometimes are divorced from the multiple causal and contributor factors which led to the event you are dealing with. Factors which might, ironically, be influenced by the safety rewards systems you have in place.

Be curious and ask questions about how 'normal work' is done and why there are gaps between 'work as imagined' and 'work as done.' Second most important thing? Safety is not a standalone activity; it is part of and an outcome from the business. Understand the business and the competing goals which the leadership have to balance. By understanding context, you might be able to shape how you impact the business.

3 How would you recommend a safety professional begin implementing new safety?

The same as I would for all safety. Build relationships with those around you, up, down and across the organisation. Develop yourself as a leader by getting outside your comfort zone, speaking with as many stakeholders as you can find to see what their 'normal' work looks like. Not just those at the sharp end, but those in planning, engineering, HR, operations, and support services, because they will ALL impact safety at the sharp end. Be part of the leadership teams within the organisation you are in.

The reasons why the relationships are important is because business, and safety, is based on them. When you have good relationships, you will start to see where the gaps are and address them. There is no one size to fit all, and this in itself causes problems with getting started. Genuinely understand the struggles and why the gaps exist, THEN look to develop something that is bespoke to that problem space.

GARETH LOCK

4 What resources do you recommend people check out to learn more about new safety?

The Paradigm Learning Organisation weekly webinar and its associated back-catalogue. Tens of human and organisation performance and health & safety professionals have presented their work since March 2020 on how to improve performance and safety within their organisations or those of others. https://www.paradigmhp.com/learning-organisation-webinar

LinkedIn hashtags

- https://www.linkedin.com/feed/hashtag/hop/
- https://www.linkedin.com/feed/hashtag/humanperformance/
- https://www.linkedin.com/feed/hashtag/humanfactors/

https://www.thehumandiver.com/underpressure - a book which covers systems thinking, human factors, just culture and human error. Not just a diving book, but a book about people operating in high-risk environments.

https://www.cognitive-edge.com/ - learn about complexity theory

DOE HOP Manuals Part 1 and 2 which you can find on this page https://www.paradigmhp.com/knowledgebank

JEFF LYTH

HOP Consultant

QSP Leadership, Inc

Host, SafetyDifferently.com

1 How would you define "new safety?"

That can be tricky.

To some it's neither "new," nor "different," nor even "safety" for that matter. And they are right.

To others, it's a new and different way to do really good safety! And they're right too.

For me after 20 years in very *conventional* safety management, discovering around 2012 Dekker's work on error and 'safety differently', and Hollnagel's work on 'safety-II' and resilience, was exactly what I didn't know I was looking for. It absolutely transformed my career in a profession that I thought I knew! In fact it has changed the way I think about a lot of things, especially lately.

The roots of this *movement*, the fundamental underlying insights, are not new. "Turtles all the way down," as Hollnagel once said. But over the last decade a bunch of those ideas seem to have coalesced into practices and principles that are now quite actionable for all kinds of organizations. This is increasingly being referred to as 'HOP,' and I think it expresses a lot of what was in that 2012 era body of work, and what it itself was based on.

JEFF LYTH

Lately, Human and Organizational Performance, '*putting the 'O' in 'Human Performance,"*, is really helping a lot of organizations to see accident causation (and their people) quite differently, and then engage in some learning and experimentation to see if it brings value.

Basically, they stop seeking retribution for unintentional actions, and they use progressive discipline mindfully only when it is warranted. This then opens the door to various forms of operational learning, with Learning Teams being the main one. Using those insights to improve the overall system of work becomes rewarding and addicting.

I am very fortunate that I get to help organizations learn together with their own experts, and work with career safety professionals as they experience a new horizon of possibilities in their roles.

Say what you will about the terms themselves, they have generated controversy and debate, but they really penetrated into 'orthodox safety' circles and led to a lot of positive evolution in the last 9 years.

2 What's the most important thing a safety professional should know about new safety?

Probably that it's not a threat. A few years ago, and I am guilty of this, a few of us came at orthodox safety pretty hard. We were critical of its shortcomings and poked holes in its weaknesses. It was an attack on the conventionality of it, not on any person or organization, but as Todd [Conklin] says, "telling someone their baby is ugly" is probably not a good way to start the conversation when you are trying to be helpful and bring about good.

What I would say next is that it is a natural and necessary evolution, even a renaissance of sorts, and that deploying these ideas in your organization is something that should be considered to see if it brings benefit:

- We have come down the fairway and are on the green, so we use a putter now
- We have bulk-excavated down to the detailed excavation, so we use different buckets now
- We have gotten to the bottom of the ship's hold with a clamshell bucket, so we use a mini-excavator down there now

JEFF LYTH

Pick your favorite analogy. In 'safety' we are making a fundamental reassessment because the game has changed and 'more of the same only harder and louder' won't get us where we want to be. And even THAT has evolved; we now have a much better idea of what success looks like. Plus, we have all this amazing intelligence coming in from other domains that we haven't had before.

So in one way, nothing changes. We still perform the same elements of our safety management system, and we don't strain limited resources with additional new tasks or bureaucracy.

But in another way, everything changes. We perform those elements differently, with different expectations and goals, and we gain so many more opportunities to improve.

Make sense?

3 How would you recommend a safety professional begin implementing new safety?

I think it was Andrea Baker who said that it's not so much a program we *implement*, but rather principles we *integrate* or *deploy* in an organization. Read her part of this paper, or just read as much as you can by her. Truly great stuff.

You really have to learn about, and be comfortable with, the principles either logically (this is accurate and strategically smart for organizational performance) or emotionally (this is a better way to treat people and grow towards a more engaged culture). Or ideally both.

I'm a 'fundamentals first' guy. I think it is incredibly important to have enough dialogue for leaders to be solid on the principles and want to take next steps. It takes courage to step back from the artificial comforts of blame and counterfactual reasoning.

Then, start introducing the new terms, concepts, and definitions, and by all means jump into operational learning with your first Learning Team. After that it's time to look at how this modifies work observations, crew talks, hazard assessments, reporting, metrics, etc., etc.

JEFF LYTH

Be wary of any pre-packaged programs, or anything that comes with posters or banners; to me that is opportunistic and not truly practicing what we preach.

Most importantly, talk to someone who is on the journey. Saying that most are 'happy to talk about it' is an understatement! Call me.

4 What resources do you recommend people check out to learn more about new safety?

www.safetydifferently.com of course!

There are now so many books, papers, videos, and podcasts...gravitate towards those that resonate with you at the time. It is the kind of perpetual learning/applying/reflecting process that conventional safety aspired to (but sucked at IMO) so be patient There is a lot of good information out there and it can be overwhelming if you're in a panic to 'catch up' or are looking for a single definitive model that explains everything in one go.

Read anything (or everything maybe) by Dekker, Hollnagel, and Conklin (including anything published by his Pre-Accident Investigation Media). Personally, I am biased towards Todd's stuff because of all the work he routinely does on the ground helping companies recover from serious incidents. He lives this stuff, his thinking is really current, and he does some of the heavy lifting in that he synthesizes all that has (and is currently) going on in this evolving space. It's plain language, funny stuff, and it really helps you turn 'the new view' into 'the new do' (thanks to Rob Long PhD. for that line!).

If you want a much deeper dive, just fall down a ton of 'click holes'! Search out all the references, quotes, and citations in everything you read. Find some like-minded people to discuss it all with.

CHARLES MAJOR

Sr. Director of Operational Excellence and Human Performance

Vistra

1 How would you define "new safety?"

The view from 30,000 feet: New safety does not bring a new mission. Everyone wants fewer events. The divergence is in perspective and methods. New safety requires we see the world differently. It is a new way of seeing work, workers, errors, violations, safety, and metrics. Many disciplines and thought leaders have converged to create the current understanding of new safety. New safety has emerged from the work of Resilience Engineering, Safety-II, Human Performance (HPI and HOP), SIF reduction, and Safety Differently. All these inputs themselves continue to be impacted by many fields of study, such as organizational psychology, neuroscience, behavioral economics, sociology, evolutionary biology, and decision theory to name a few. New safety seeks improved outcomes by improving the human/system interface, making it easy to be successful. After an event, new safety foremost looks at the system for improvement and increased resilience. When considering workers, new safety seeks to understand the field adjustments needed to be successful, asking how we can provide workers more capacity and more margin. Old safety seeks safe outcomes by improving the human, focusing on compliance to the system.

Looking first at the human in what is assumed to be an otherwise safe and stable system.

CHARLES MAJOR

To give real meaning to "New Safety" we need to look back at how the current predominant mindset of safety was formed. From the dawn of time, humans have shown a deep need to give meaning and explain what goes on around us. In ancient times, negative events were attributed to a lack of moral fiber or just the random act of an angry god: the worse the outcome the more egregious your actions or the angrier the god. The Renaissance ushered in many new branches of science to explain the world and its interactions. This yielded principles and laws and framework to combine and test ideas in the search of answers. Many models and frameworks were created and integrated into nearly all organizational endeavors. Our focus is modern work and the science of safety.

At the close of the 19th century, work became dominated by group action and joined with systems and technology moving from artisan work to industrial factories. In 1911, Frederick Taylor released "The Principles of Scientific Management" into a world poised for radical change. Scientific Management was a methodology to standardize and optimize work to increase employee productivity. The work was engineered and managed logically, it was demonstrated possible, and a standard was created. The speed of its adoption was staggering, and its far-reaching impact is nigh impossible to overestimate. Taylorism transformed the landscape of labor and became hardwired into the managers and titans of industry. Massive productivity improvements were gained while safety and quality improved as well. Embedded within Taylorism was the tacit and explicit division where managers design the work and workplace while frontline employees became merely tools to follow the instructions. When things went bump in the middle of production, or an injury occurred, the cause of issues was almost exclusively seen as the human being as a bad actor in a scientifically engineered system. The worker was the variable that stood out as we looked at events, so the natural answer that followed was greater adherence to the standard.

Taylorism continued to spread and by the early 20th century, workplace psychologists were studying so-called "accident-prone" employees. Rather than look for flaws in their machinery, factory owners would often blame the human component. One of the first moves toward new safety happened during World War II. The U.S. Air Force lost nearly two-thirds of all aircraft to non-combat situations. This rate of loss drove the Air Force to seek solutions other than human error, with the only action of reminding pilots

CHARLES MAJOR

not to crash their planes. In 1943 psychologist Alphonse Chapanis investigated repeated instances of pilots retracting the landing gears upon touchdown resulting in a crash. Chapanis met with pilots and studied the cockpit layouts. He found the levers that controlled the landing gear and flaps were identical and placed next to each other. Pilots would mistakenly raise their landing gear when they intended to extend the wing flaps to slow the plane. This environmental error trap was so strong that Chapanis said that, "There are two types of pilots: Those that have landed gear up, and those that will." After improving the controls to make them more intuitive, this failure mode went to zero for the rest of the war. Adherence to the procedure had failed to yield improvement, so the human/system interface was improved. This was an early and broad application of psychology to engineering design and the human interface. For our understanding of the transition to new safety, this represented a case where we acknowledge that the procedure was 100% correct if followed, but does not produce reliable outcomes. Slowly more emphasis was given to Human Factors and then the concept of Human Performance.

From 30,000 feet to the deck: Safety and resilience are not defined nor the result of a *lack* of events. Safety and resilience result from the presence of expanding capacity.

Prevention is necessary, but not sufficient by itself. Traditional safety looks at approximately 2% of work activities to learn what to prevent to be "safe." New safety broadens the data set to move beyond the event data to also understand how things go well in 98% of activities.

Accidents are preceded by normal success that includes the adjustments necessary to overcome local challenges. This informative data has not been leveraged in traditional safety efforts. New safety increases the capability of people and systems to create more things going well. If 100% of activities go well, there is no room for events.

The old safety perspective sees employees working in a system that is safe and stable. We have only to train and then constrain the worker to work within the boundaries. The employee is seen as a problem to control where the new safety view sees employees as a resource. Workers create safety by adapting to the situation, making small moves based upon the culture and current situation to overcome unexpected challenges.

New safety focuses on the demands and challenges of work that must be overcome with the goal of making it easy as

CHARLES MAJOR

possible to do the right thing, and more difficult to do the wrong thing. Traditional safety pursues adherence to life-saving (punishable) rules focused on procedures and processes, while new safety seeks to understand the embedded challenges in normal work. It also identifies the resources needed to overcome the constraints, goal conflicts, and barriers to success.

New Way to View Safety, Work, and Workers

Old View

- Humans cause events in safe/stable systems.
- To explain failures, seek people's failures.
- We must find people's inaccurate assessments, wrong decisions, and bad judgements.
- Those closest to the event usually cause the event.
- Workers are the problem, so fix the worker.
- Safety is the absence of accidents.
- Focus on failure, error, and violation.
- Focus on procedure and process.
- Show importance with tough discipline.
- Lower failure rate to 0%.
- Provide motivation with discipline.

New View

- Human error is a symptom of trouble deeper within the system.
- To explain failure, look at the worker/system/culture interface.
- We must find how people's actions made sense at the time, in their context.
- More than 90% of events are caused by something other than the worker.
- Workers know how to improve the system.
- Safety is an effortful non-event created by adaptable workers.
- Focus on success, demands, and adaptions.
- Focus on learning and capacity.
- Show importance with tough learning.
- Raise success rate to 100%.
- Provide capacity with learning.

Improve Outcomes through Learning

Conklin, Dekker, Havard, Hollnagel, Major

CHARLES MAJOR

2 What's the most important thing a safety professional should know about new safety?

New safety is mostly additive to traditional safety. There are few components of traditional safety that the new safety professional would want or need to attack in most cases; this is rarely an either-or situation. Safety science to date has improved safety, but many of the principles of traditional safety have reached their terminal velocity. Some of the historical safety ideas act as a limiting factor, while other concepts of historical safety thinking need to be understood and removed because they stand in opposition to improvement. The Heinrich Pyramid, the focus on zero, and believing all events can be prevented, are items to address.

Most conclusions of the Heinrich Pyramid have not been replicated, are not supported by data, and its application to reduce Significant Injuries and Fatalities (SIF) were shown in one study to be negatively correlated. It appears that reducing cut fingers and ankle sprains will not eliminate SIF events. While Safety-II sees the exclusion of normal work from the dataset of study as a limiting practice, the focus on prevention over protection and focus on low-level events to reduce SIF events can be detrimental to safety.

Organizations that highly focus on lower-level events and believe all accidents are preventable have less drive and imagination to improve their SIF programs. Often the things that cut your finger are not the things that can kill you. There are things that will cut your finger that will not kill you, and many things that will kill you but will not cut your finger.

We can look at the "safety bowtie" in a slightly different, proactive way, to illustrate the impact that can be done with traditional safety only focus and belief. Think of the left-hand side and imagine the time and energy that we put into planning and prevention based on the thought that we can predict and prevent all accidents. If this were one hundred percent then we should be consumed with prevention. The middle of the bowtie can represent the execution of work, while the right side denotes our response after the work or off-normal situation. The new view of safety sees safety as a result of things going well in all three parts of this proactive bowtie. We plan and prevent based on the total work dataset. We use human performance tools and adapt during the work execution (middle) phase and learn/improve with curiosity in response to all work outcomes. What often results in a traditional safety organization is a very large left side, a

CHARLES MAJOR

smaller but reasonable middle, and an atrophied right-hand side. The learn and improve are replaced by blame and adhere pointing; back to the strength and supremacy of the prevention (left) side of the model. Todd Conklin has pointed out that SIF events are not really a failure to prevent, but a failure to control. If we follow this failure to control, it springs from an overreliance on prevention. We cannot prevent what we cannot imagine. A focus on prevention can distract us from the important work of creating capability, capacity, and freedom to adapt, respond, and learn.

We can plan for and attempt to create protection from every risk, except the ones that are beyond our ability to imagine. These unknown unknowns are most problematic according to Donald Rumsfeld, *"we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say, we know there are some things we do not know. But there are also unknown unknowns—the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tends to be the difficult ones".* We fail to mitigate because we fail to plan. We fail to plan because we fail to imagine.

The concept that all accidents are preventable will increase our energy to predict and protect based on the prediction. When we believe that we have protection and we have prevention, it reduces the energy and perceived need for the ability to respond. We can assume that the system is stable, and everything will be prevented, leading us closer to a failure of imagination. In complex systems, we cannot predict or imagine all the interactions and possible failure modes.

New safety strives to increase worker capacity to overcome abnormalities while, at the organization level, putting energy into the response needed to improve organizational learning, trust, and resilience. When traditional safety relies on the left side of the model (prediction and planning) for safety, a normal leadership response is to provide more training (to ensure workers know the standard and procedure) and discipline (to provide motivation to adhere to the standard and procedure).

New safety better enables the organization to be a learning organization, increasing the speed at which they learn and feedback into processes and systems. New safety improves processes, systems, and procedures based on proactive and reactive learning from the people that do the work and know the barriers to success.

CHARLES MAJOR

3 How would you recommend a safety professional begin implementing new safety?

Start with the highest-ranking people on the organization chart you can reach. New safety is a culture change that requires you and your leadership team to change the way you see the work, workers, safety, blame, learning, and cause. You need to reach high in the organization (site or fleet), as leaders must change their response to failure to embrace learning over blame. Changing the culture of your organization will take time and will require changes to your KPIs, metrics, and performance management. But leaders can change the climate and direction with one key response to a high profile event.

Strategic ideas:

- Change the way you see work, workers, errors, violations, and the system.
- Know asking people to not fail louder and longer is a failed strategy.
- Change your question from “who” failed to “what” failed.
- Learn with and from workers to understand the context and build trust; use Learning Teams that engage the workers to improve the work/system/culture interface.
- Respond instead of reacting to results (both + and -) in a way that creates learning and improvement.

Tactical ideas:

- Name-drop some of the major corporations that have changed to the new view of safety. These include Tesla, Chevron, ConocoPhillips, Vistra, Maersk, Quanta Services, Cargill, and Biogen.
- Connect with the companies above and have them share their journey with your leaders.
- Use “Safety Moments” from the Pre-Accident Investigation Podcast at the beginning of meetings.
- Make connections between your company’s values and the 5 Principles of Human Performance.
- Conduct book studies with your leadership team.
- Train your leadership team; they need 1.5-2.0x more than workers do.

When you get this far you can proceed with training the organization. The training should be cascaded through the organization. Training is insufficient and almost useless on its own, but awareness is a good place to start.

CHARLES MAJOR

The most powerful method I have seen to transform an organization quickly toward new safety is setting up a standing learning call which is set up and kicked off by the top leader. Take the results of the Learning Team and have the person closest to the work give the report or at least their account. This will not always be possible due to work schedules and often workers prioritize meetings over working. The first time a top leader thanks a worker at the sharp end of the stick for helping us learn and improve, the other workers will be in shock. The second time it happens, all your leaders will know the culture has changed, and the third time the workers will believe. Over time you will run out of events to learn from. In this case, you maintain the call and weave in more and more proactive Learning Teams and safety best practices.

You must change yourself to change the world. Challenge yourself to improve and adapt all safety and learning models/principles. You may not be successful at making improvements, but the act will greatly help you correctly understand, teach, and apply the model or principle.

4 What resources do you recommend people check out to learn more about new safety?

Books to read and reread:

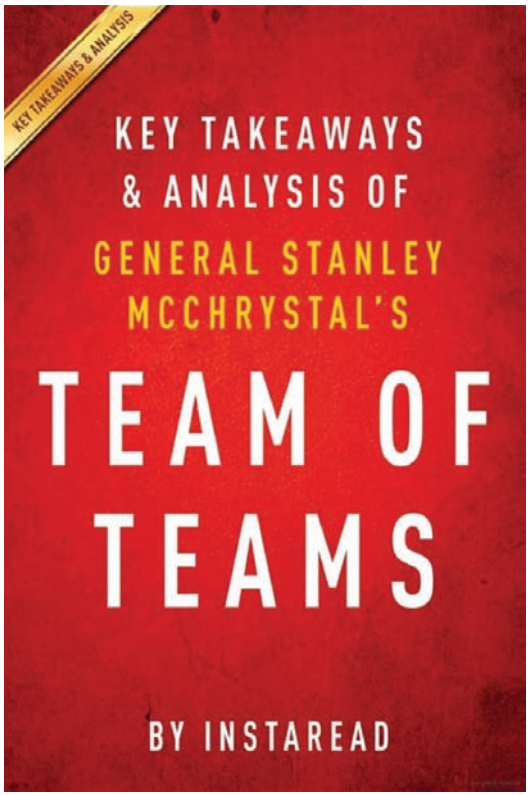
- *The 5 Principles of Human Performance* by Todd Conklin
- *The Field Guide to Understanding Human* Error by Sidney Dekker
- *Just Culture* by Sidney Dekker
- *Pre-Accident Investigations* by Todd Conklin
- *Safety-I and Safety-II* by Erik Hollnagel
- *Workplace Fatalities: Failure to Predict* by Todd Conklin

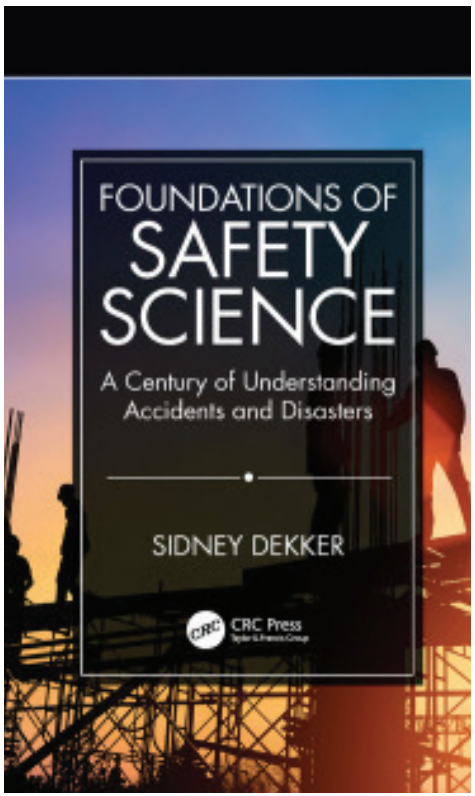
Books to read:

- *Safety Differently* by Sidney Dekker
- *Team of Teams* by General Stanley McChrystal
- *Foundations of Safety* by Sidney Dekker
- *When the Worst Accident Happens* by Todd Conklin
- *Safety Myth 101* by Carsten Busch

CHARLES MAJOR

- *Bob's Guide to Operational Learning* by Bob Edwards
- *Drift into Failure* by Sidney Dekker
- *Fooled by Randomness* by Nassim Taleb
- *Change the Culture Change the Game* by Roger Connors
- *Beyond Blame- Learning from Failure and Success* by Zwieback
- *Mistakes Were Made (But Not by Me)* by Carol Tavris
- *Predictably Irrational* by Dan Ariely





Conferences:

- The HOP Conference orchse-strategies.com/hop/
- The HPRCT Conference hprct.org/

Podcasts:

- Pre-Accident Investigation Podcast
- The HOP Nerd
- The Safety of Work

JAMES MCPHERSON

Host of Rebranding Safety,

Cofounder of Project Mollitiam, and

Head of Safety at the GGF

1 How would you define "new safety?"

New safety for me is safety as originally intended with some key upgrades. We lost our way at some point and became too focused on command and control and creating paperwork for paperwork's sake. New safety brings us back to the roots of being reasonable and practicable in your approach, but with some key upgrades like physiological safety, a collaborative approach, and other concepts like "Work as done and work and imagined" and "Safety of work and work of safety," which are game changers for me and will continue to be.

2 What's the most important thing a safety professional should know about new safety?

Employees are the experts. If you were anything like me, you were trained in that cliché "employees are the problem" mindset. Understanding the power of employee engagement and utilizing the cognitive diversity that exists in your business by collaborating with employees is the most important thing I have learned. No one is more of an expert on the risk than the person working with that risk.

JAMES MCPHERSON

3 How would you recommend a safety professional begin implementing new safety?

Slowly. If you are anything like me, you would have read a book and been so excited and ran into work like "No, we don't call them accidents anymore, it's events!" and got a blank expression.

Firstly you need to work out where you are, how mature is your organization? How do you think they will react to this? You have two ears and one mouth for a reason so ask questions and listen, ask everyone how they define safety and see what you get. Then pick out a couple of empathetic ears and start talking. Change is slow and it happens one conversation at a time.

4 What resources do you recommend people check out to learn more about new safety?

The free ones. LinkedIn to start with; start connecting with as many people in the space as possible and start talking to them, it's an amazing community. I will seem biased because I work in this space, but podcasts and YouTube--there are so many free videos and podcasts full of amazing advice without the price ticket.

And don't just limit yourself to safety ether, start watching and listening to psychology, philosophy, economics, sociology podcasts or videos!

MICHAEL PHILLIPS

EHS/OpEx/Organizational Resilience Consultant

1 How would you define "new safety?"

To me, "new safety" offers a different perspective in how I think about traditional safety management. This "new view" incorporates research from human factors psychology, resilience engineering, behavioral economics, and decision sciences, while traditional safety management is often based on managing risk through loss prevention, regulatory compliance, and scientific management. It builds off lessons learned from high-profile disasters like the Three Mile Island nuclear incident, and it borrows heavily from early studies into sense-making and systems thinking. The "new view" reminds us that work is messy and complex, requiring people to constantly adapt in order to succeed. When we view work through the lens of "new safety," we consider the experts in problem solving to be those closest to the work. But, "new safety" also recognizes the significant influence of stakeholders who are far removed from the work. "New safety" can favorably impact risk management by enhancing operational excellence and improving organizational effectiveness.

MICHAEL PHILLIPS

2 What's the most important thing a safety professional should know about new safety?

In my opinion, it is important to remember that "new safety" is not a replacement for traditional safety. It is not an "either/or" proposition, but rather "both/and," because we still must manage hazards and risks with safeguards and controls. But, new safety keeps us focused on learning, not just from the infrequent mishaps but also from the successful outcomes, which are more normal and routine. If we are not willing to learn from the reality of normal work, then we are not ready to pursue "new safety."

3 How would you recommend a safety professional begin implementing new safety?

A safety professional can begin learning about "new safety" by asking questions and wrestling with the implications of the new concepts, specifically how it is different from traditional safety approaches.

Next, it is imperative that leaders, who are the key influencers and enablers in the work environment, understand the value to the organization that "new safety" can provide. If leaders do not understand "new safety," then any implementation will be extremely frustrating and ultimately unsuccessful. Leaders must recognize how they demonstrate both "operational humility" and "industrial empathy" (terms from "new safety" thought leaders Bob Edwards & Andrea Baker) to encourage learning and improving within the organization, especially after a mishap. Todd Conklin advises that whatever time you spend implementing "new safety" to your frontline workers, double or triple that time investment with managers and supervisors. They hold the keys to implementation.

MICHAEL PHILLIPS

4 What resources do you recommend people check out to learn more about new safety?

Books by Todd Conklin:

- *The Five Principles of Human Performance*
- *Pre-Accident Investigations*

Books by Sidney Dekker:

- Field Guide to Understanding Human Error
- Safety Differently

Other helpful & enabling books:

- *Bob's Guide to Operational Learning* by Bob Edwards & Andrea Baker
- *Risk-Based Thinking* by Tony Muschara
- *The Practice of Learning Teams* by Sutton, McCarthy & Robinson
- *Humble Inquiry* by Edgar Schein
- *Safety-I and Safety-II* by Erik Hollnagel

Podcasts:

- "Pre-Accident Podcast" with Todd Conklin
- "The Safety of Work Podcast" with David Provan & Drew Rae

YouTube videos and listening to the many podcasts that are available today is extremely helpful. Jay Allen at SafetyFM hosts many of these talented contributors and thought leaders. Also, practitioners in the UK, Australia, New Zealand, Canada, and elsewhere are outstanding resources to connect with through LinkedIn and webinars on "new safety" topics.

IVAN PUPULIDY PhD

Adjunct Professor

Department of Mechanical Engineering

The University of Alabama at Birmingham

1 How would you define "new safety?"

There are always challenges with definitions that deal with the word "safety." Safety is a word that carries many meanings for many sectors of our society. Safety also has implications that are not agreed upon, including how safety is created and by whom. The "new view" of safety seems to be centralized around a discussion of capacities. These capacities are also not well defined or agreed upon. My experience in aviation and wildland fire has pointed to a key capacity – learning.

Fostering a learning culture is contingent upon many things and requires a fundamental acceptance of human error as a natural product of any complex system. Error therefore cannot be looked at as a cause, rather it is an opportunity to learn. Learning is also not restricted to any segment of an organization – all employees are learners.

IVAN PUPULIDY PHD

2 What's the most important thing a safety professional should know about new safety?

There is no single thing or more important thing a safety professional should know. Priorities change all the time in complex systems and therefor safety professionals must maintain a sense of humble inquiry. Again, this points to a capacity to be in a learning mode. To this point, we think of "things" safety professionals should do, when a better course of action might be to focus on the principles that could guide operations.

3 How would you recommend a safety professional begin implementing new safety?

Here I would point to the need for self-design. No one-size-fits-all approach is going to work. Each organization has its own share of goal conflicts, challenges in communication, cultural emphases, and regulatory requirements that can all pull members of the organization in different directions.

Here the concept of principles emerges as a theme that can help. As an example, the United States began as a nation of principles and has drifted to a nation of laws. Safety in many organizations is similar, having initially organized around principles, many have drifted to organizational rules, regulations, policies and procedures. This limits what a safety professional can do – should they become the "compliance police" or should they concentrate on the principles of operations.

We (the US Forest Service) focused on the principles and began to question our rules, regulations, policies, and procedures. We found that in many cases complex adaptive systems did not react well to routine responses and required sensemaking, learning in the moment, and innovation. Building the capacity of the organization to recognize anomalies (when routine would not work) and then engage in sensemaking was key to reducing accidents. We dropped our equivalent of Life Saving Rules and changed them from mandatory rules to guidance designed to help workers to recognize when the system was delivering the unexpected. This has to be coupled with the ability and willingness of people to speak truth to power. We developed a couple of tools to help with this aspect of information and I coined a phrase "information is the currency of safety" (Pupulidy 2013).

IVAN PUPULIDY PHD

4 What resources do you recommend people check out to learn more about new safety?

Pupulidy, I (2020) Self-Designing Safety Culture: A Case Study in Adaptive Approaches to Creating a Safety Culture, *ACS Chemical Health & Safety* 2020 *27* (1), 24-33 DOI: 10.1021/acs.chas.0c00005

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BECKY RAY

Consultant

Paradigm Human Performance

1 How would you define New Safety?

I would probably call it the next logical step in the natural evolution to how we view and mange safety. We should see that the more traditional approaches have and can only take us so far and we now need these new approaches to take our organisations to the next level for not only safety performance but business performance in general.

2 What's the most important thing a safety professional should know about new safety?

The concept of organisational drift and the difference between 'work as imagined' and 'work as done' and that it's alive in every organisation and should be viewed with curiosity and open mindedness.

There's so much to learn from the work that takes place in your organization, so spend as much time as possible where the work takes place with the people that conduct it and watch and listen and learn with a view to really understanding the challenges they are up against on a daily basis.

BECKY RAY

3 How would you recommend a safety professional begin implementing new safety?

I would start by just talking about the concepts of new safety and see how they land in your organization. Start with small steps and build from there. Talk to everyone who will listen, but more importantly listen to the people in your organisation about the work they do, really take the time to understand and listen, and this will pay dividends as you will be seen as someone in the organisation who cares and wants to learn about the real work that takes place.

4 What resources do you recommend people check out to learn more about new safety?

There are loads of great places where you can find people and organisation talking and sharing their ideas about new view safety. My favorite is actually LinkedIn - I have over the years managed to connect with loads of fellow professionals who are already in this space, it's a great community and people are more than willing to answer any questions you may have. You can easily find articles and posts about the subject on a daily basis.

Plus, there's loads of people doing Podcasts - my favorites are 'The Safety of Work' by David Provan and Drew Rae, and 'The Pre-Accident Podcast' by Todd Conklin. Plus, Paradigm holds free learning webinars every Thursday at 2pm GMT and have loads of great guest speakers from around the world talking about how they are implementing new view safety.

Also check out every book Sidney Dekker and Todd Conklin have written as a great starting place. I'd also say once your eyes are open to this you will never look back - it's the future and it's very exciting!

STEVEN SHORROCK

Senior Specialist Safety & Human Factors,
EUROCONTROL and Editor-in-Chief, HindSight Magazine

1 How would you define New Safety?

I don't use the term, personally. The different perspectives and approaches are different. Some have more of a theoretical underpinning and others are umbrella terms. Probably what underpins most of what might be termed 'new safety' is more of an asset base to balance the more deficit-based approach to considering safety through the lens of unwanted events. There is more of an appetite to understand normal work.

2 What's the most important thing a safety professional should know about new safety?

I suppose the interconnectedness of everything, including values, is something that we need to appreciate. Another thing is the need for multiple perspectives. And to know there's really nothing new. Almost everything written has been there in a similar form for quite a long time, in different disciplines. It's important to read around diverse places about human work.

STEVEN SHORROCK

3 How would you recommend a safety professional begin implementing new safety?

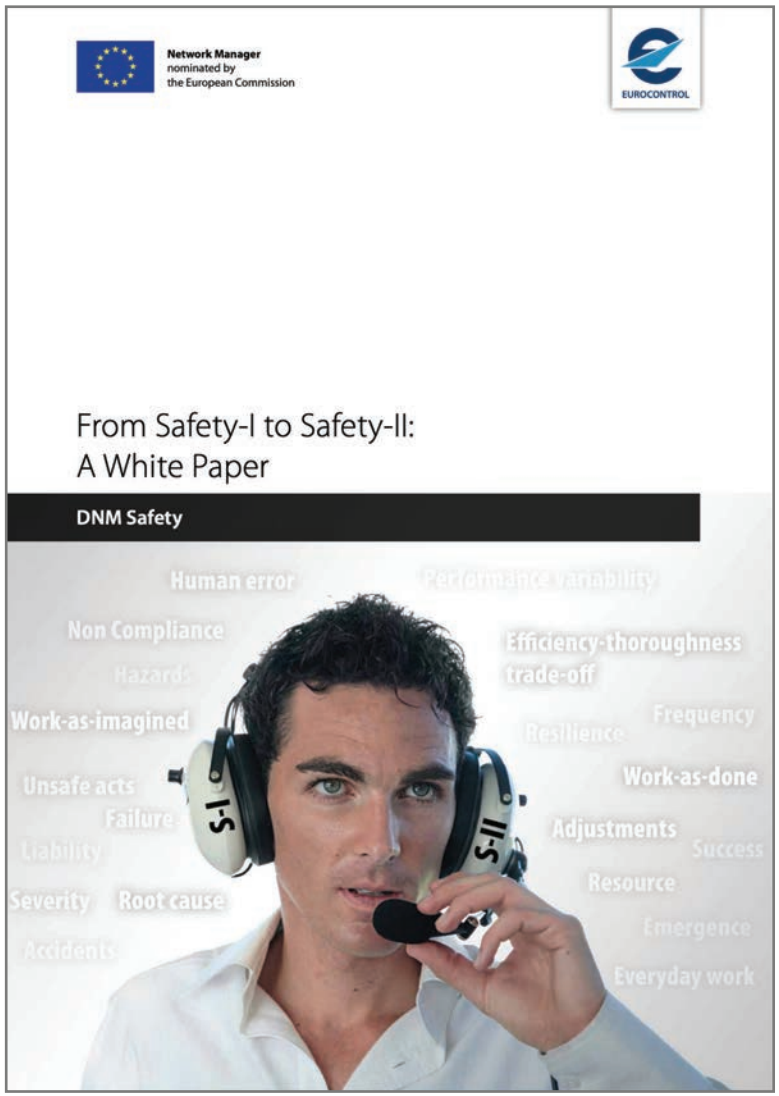
Collaborate, read, think, listen and talk, write and draw, and observe. This applies to improvement generally.

4 What resources do you recommend people check out to learn more about new safety?

There are more than enough resources already in systems thinking and practice, systems engineering, systems human factors and ergonomics, ethnography and organisational anthropology, work and organisational psychology, social science, etc.

In addition, check out:

- Hindsight Magazine/EUROCONTROL: https://www.skybrary.aero/index.php/HindSight_-_EUROCONTROL
- HumanisticSystems.com: https://humanisticsystems.com/
- How To Do Safety-II: https://humanisticsystems.com/2019/11/03/how-to-do-safety-ii/



BRENT SUTTON

Founder

Learning Teams, Inc.

1 How would you define New Safety?

There are two parts to that conversation. The role of the "system" and the role of the "people who are exposed to the risk."

The new view is about the system and the people who do the work. Workers who do the work have to have adaptive capacity to keep pace and learn from the changing needs and demands of operational work.

The new view is about the organisation providing, guiding, and supporting an environment that embraces the capacity and operational learning that occurs during every day work.

The new view treats the person who does the work as the expert and as the knowledge holder of everyday work. And by better understanding and learning about how that everyday work goes right, we can apply those learnings to support a system of continuous improvement and resilience.

For accidents and events, the shift in the system is moving from a deficit model of 'how the worker failed the system' to a learning model of 'how did the system support the worker to be successful.'

BRENT SUTTON

From a risk-management perspective 'It is only the worker who is exposed to the harm of residual risk." Whatever defenses, barriers, controls, or mitigations we 'the organization' put in place, there will be residual risk. If the consequence of that residual risk is harm, it is only the worker who faces that outcome.

2 What's the most important thing a safety professional should know about new safety?

The role of the safety professional is to be an enabler and facilitator of operational learning.

The biggest challenge I see with safety professionals is the shift from being the expert or knowledge-holder. The old view of the safety professional is reliant on technical skills. The new view situates the safety professional as an enabler and facilitator that has strengths in soft skills in areas such as communication, collaboration, facilitation, reflection, and critical thinking.

Part of being an enabler with the new view is to recognize and understand the value that your current systems have and how the system can be enhanced and improved with the new view.

One of those challenges is to better understand when our safety systems are a valued or non-value activity at both an organization level and worker level. For example, compliance by its nature is a non-value activity. It is something we have to do, not something we want to do.

The new view of safety and in particular Learning Teams give visibility and transparency to those valued and non-valued activities. This creates the opportunity to change non-valued activities to being valued at both the organization and worker level. More importantly if the system, process or procedure is not of value and is not required for compliance, then we identify it as waste. If the item is waste, you have a simple choice to improve it or remove it.

BRENT SUTTON

3 How would you recommend a safety professional begin implementing new safety?

Everyone's journey is different. From my experience there are some common threads which a safety professional should consider.

Be curious (ask questions that place the person you are talking to, as the expert), engage with workers every day and have a conversation about their work, even a chat about what a good day looks like versus a bad day looks like. This allows you to seek some of that variability.

Keep a daily journal of your journey. Record your reflections (at the end of each day, spend 10 minutes to think about the difference between how you planned your day versus how your day actually happened. Ask yourself "Where did I have to make do and what would I do differently tomorrow?")

Have a coach/mentor or trusted colleague you can share your journey with and seek their feedback and set yourself goals that are achievable.

Use your journal and look back over the last 3 months and see how much progress you have made or what barriers you encountered and what you tried to overcome them.

Be part of a community of practice such as Safety Differently forum or LinkedIn Groups (for example https://www.linkedin.com/company/learning-teams-inc/)

You have to learn to improve, so share your successes and failures with others. We are only human, and failure is ok if we learn from it.

4 What resources do you recommend people check out to learn more about new safety?

The three books I would recommend are:

- *The 5 Principles of Human Performance: A contemporary update of the building blocks of Human Performance for the new view of safety*. Author: Dr Todd Conklin, Published 2019: ISBN: 1794639144
- *Pre-Accident Investigations: Better Questions - An Applied Approach to Operational Learning*. Author: Dr Todd Conklin, Published 2016: ISBN: 9781472486134

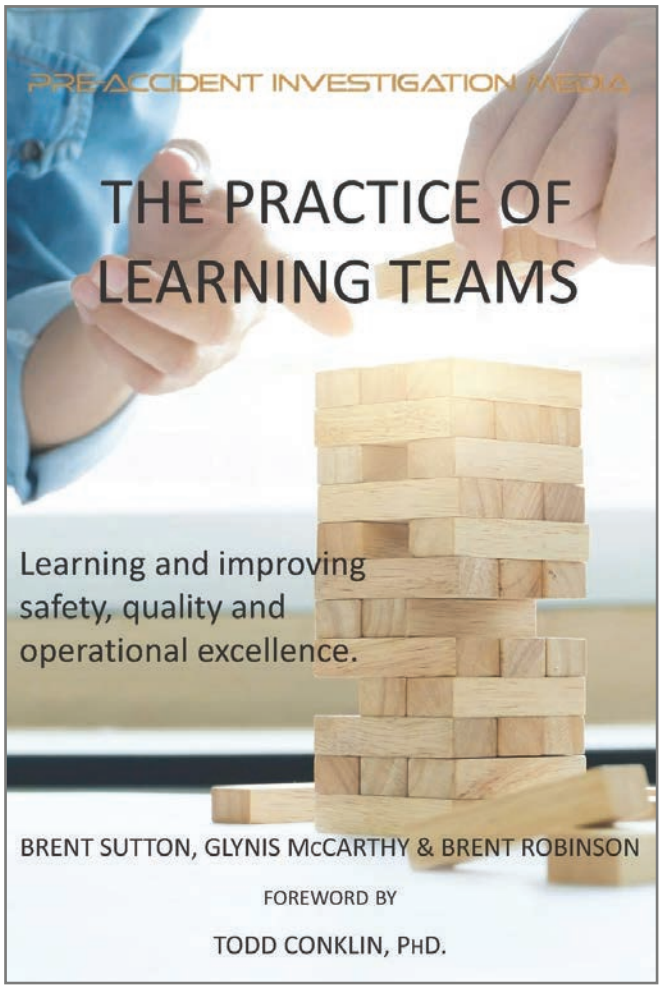
BRENT SUTTON

- *The Practice of Learning Teams: Learning and improving safety, quality and operational excellence*. Author: Brent Sutton, Glynis McCarthy, Brent Robinson and foreword by Dr Todd Conklin, Published 2020: ISBN: 979-8665374321

The three podcasts I would recommend are:

- Pre-Accident Investigation Podcast: Host Dr Todd Conklin https://preaccidentpodcast.podbean.com/
- The Practice of Learning Teams Podcast: Host Brent Sutton, Glynis McCarthy and Brent Robinson https://learningteamspodcast.com/
- The HOP Nerd: Host Sam Goodman https://www.thehopnerd.com/podcast

Or tune into https://safetyfm.com/.



PAM WALASKI, CSP

Senior Program Director

Specialty Technical Consultants, Inc.

1 How would you define "new safety?"

My working definition of the term is that it is a mindset and philosophy that is based on a completely different approach from compliance and enforcement that has been the foundation of much of our safety practice over the years.

Key aspects of "new safety" as I see it are flipping the notion that workers are the problem to them being the source of solutions, as Todd Conklin has so eloquently promoted. It pushes safety professionals to think of themselves as partners with the workforce and management, not "cops" or "officers." It means that the relationships between and with the workforce, safety professionals and management are what drives success and innovation and builds capacity and resilience, not more rules, policies, and compliance with regulations.

I understand that we can't go back and change the narrative, but I do have some reservations about using the word "new." It makes it seem as though we are totally upending the practice of workplace safety, when I see it as part of an evolution, albeit a big and important one. I think this critical look at our profession is important, but not a dismissal of the value we have brought to the

PAM WALASKI, CSP

organizations and workers we serve to this point. I may sound apologetic here, but if we are going to bring the majority of professionals on board, I think we need to both give credit and challenge at the same time.

2 What's the most important thing a safety professional should know about new safety?

That it's not a "flavor of the month," which the profession has been guilty of promoting over the years, sad to say. It's a different way of looking at how organizations function to keep their workers safe, not by focusing on incident reduction but on building capacity and resilience in both our organizations and workers.

3 How would you recommend a safety professional begin implementing new safety?

First and foremost, do a deep dive into how you are practicing - be willing to take a critical look at what *you* are doing and saying that is probably contributing to some of the reasons why our profession appears to have stalled in its efforts to address improvements in aspects such as fatality and serious injury reduction and why the workforce seems unwilling to engage. That takes courage and a willingness to change, but as the adage goes doing the same thing over and over again and expecting different results should tell us that something needs to give. Feeling frustrated over and over again by workers who don't "behave" the way they are "supposed to," or using the words "stupid" or "no common sense," are serious mistakes you may have made that you need to honestly consider and commit to change.

I think safety professionals play a critical role in leading our organizations to a different approach, but in my opinion that can't happen until we take an honest look at ourselves as individual practitioners. And even though Gandhi is credited with saying it though he never did, the phrase "be the change you want to see" is one that resonates with me.

PAM WALASKI, CSP

4 What resources do you recommend people check out to learn more about new safety?

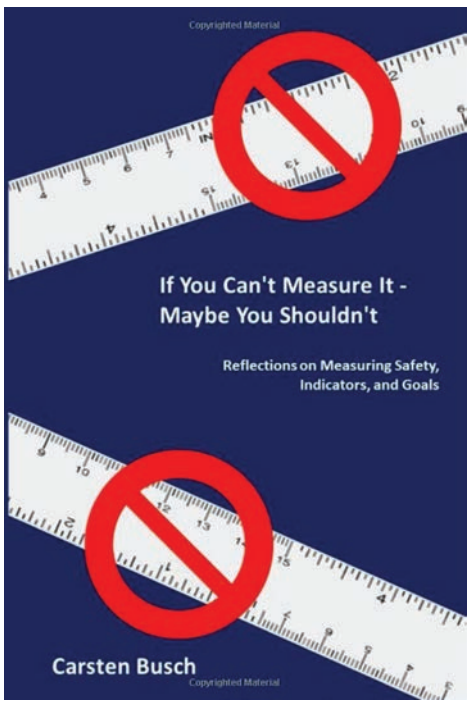
Depending how you learn best, I have a few thoughts.

For book readers there are three that I have read in the past year or so that have made a big impact on my perspective and I always recommend to my fellow professionals. They include *The Relationship Factor in Safety Leadership* by Rosa Antonio Carrillo, which will help you consider your individual role in developing relationships that lead to change; *Pre-Accident Investigations* by Todd Conklin, helpful for understanding human performance and organizational change; and *If You Can't Measure it, Maybe You Shouldn't* by Carsten Busch, which will upend how you look at metrics, indicators and all of those data points that you are certain tell the safety story of your organization.

For podcasters, I suggest Todd's Pre-Accident Investigation podcast.

The Hop Hub website (www.hophub.org) is packed with resources on human and organizational performance from Todd as well as Bob Edwards, Andrea Baker and others and the Safety Differently website (www.safetydifferently.com) has plenty of resources.

If LinkedIn is a place you go for this type of information, try the Safety Differently group.



SEAN WALKER

Organisational Performance Lead

Innov8@work

1 How would you define "new safety?"

There are numerous ones, but the one I like is "As many things as possible go right" in that we can learn from our successful processes not just our accidents and incidents on site. ***#Success #Learn***.

2 What's the most important thing a safety professional should know about new safety?

For me, the new view means we focus on all works on site, especially where there are organisational constraints, i.e., shortage of staff and resource issues. The safety professional of the future will need to be humanistic in his/her approach to organisational performance from a work point of view. Want to know how to change safety on site, be prepared to roll up your sleeves and jump into the work arena to understand how things actually work, train on the courses they do so you understand their work, and remember the organisational constraints they are working against. ***#Works-as-Done #Bevisible***

SEAN WALKER

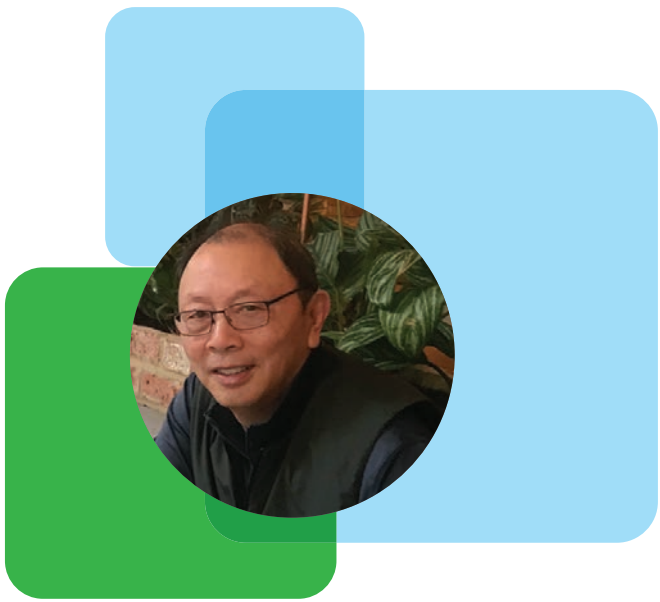
3 How would you recommend a safety professional begin implementing new safety?

As I have said so many times on webinars in 2020, attempt small trials regarding the new view on your sites, declutter your system, reduce your number of risk assessments, review your workable process safety documents, ask your teams and/or crews for advice on how they actually work in real time, and listen more. A lot of safety documentation has its origins in an office with more safety professionals thinking this is the way it should be conducted. Get out and be curious about the work and the workers who do it. Show you care and are willing to listen by including the workers in any trails carried out on site. ***#beengaging #becurious***

4 What resources do you recommend people check out to learn more about new safety?

I would certainly recommend reading articles on the Safety Differently website, joining 'new view' groups on LinkedIn, watching 'New View' webinars that are on the internet, subscribing to podcasts (listening to when travelling – these are a great source of information, including The Safety of Work Podcast by Dave Provan & Drew Rae).

The safety professional would gain much more traction in learning from those that have been through this change process of moving from the old view to the new view to improve safety on site. This doesn't necessarily mean doing loads of safety courses. On the contrary, looking into matter subjects' that will increase your employee engagement and increase your understanding of the barriers and constraints that the workers have to contend with on a daily basis. And implementing (1) learning teams and (2) psychological safety. After reading on the website data, if you get to a point where you are looking for operational evidence that the new view has been implemented successfully, the Queensland Urban Utilities in Australia comes to mind as a recent success. ***#improve #evidencedbased***



GARY WONG

Complexity Facilitator

Gary Wong & Associates

1 How would you define "new safety?"

"Classical Management theory" [1] has dominated business operations for well over 100 years. When Bureaucracy, Scientific Management (Taylorism), and Fayolism were introduced, they were openly accepted as the "new view." They entrained us to think mechanistically and thus treat humans as mere cogs of a machine. While we may see these concepts as detrimental today, they did fill a huge need back then organizing people to productively get work done.

Safety thinking mirrors business thinking. Consequently, it shouldn't be a shock that humans were seen as error-prone, causing damage to machines and themselves. Attention was on what could go wrong and reducing worker absenteeism to keep machines running. When the method of statistical process control was launched in the early 1920s, failures became a number to measure. In 1931 Herbert Heinrich parlayed numbers into a "scientific approach" in his *Industrial Accident Prevention* book. When he introduced his Domino Theory to explain accident causation, it would have been considered a "new view" for that era. So "new safety" depends on where you are on a safety thinking evolution timeline. In the 21st century, "new safety" became an endeavour to

GARY WONG

shift from the safety paradigms that have dominated for the past century and see people in a different light - as solutions, not problems.

Under the Safety Differently banner, I take an "anthro-complexity" approach for new safety. It is a view that blends complexity science, cognitive science, and the social science of anthropology - the field of ethnography. Safety is not a product to be created nor a service to be delivered. Safety is the emergent property of a complex adaptive system (CAS). What we do is adapt system constraints and work conditions to enable safety to emerge. This is a not new idea. Richard Cook opined it in 1998.[2] Other safety academics and professionals weighing in are listed in an article I posted in 2015 on safetydifferently.com.[3]

2 What's the most important thing a safety professional should know about new safety?

New safety does not replace traditional safety or what Erik Hollnagel has coined Safety-I.

In a CAS, both paradigms are required to enable safety to emerge. Understanding why requires a brief tour of the 3 basic systems in the real world – Order, Complex, Chaotic.

Safety-I is in the Order system. It's where safety regulations, policies, standards, rules, compliance checking, auditing, and best practices reside. Safety-I is about strengthening robustness, the capacity to take an unforeseen hit and survive without changing.

When an accidental failure such as a machine/tool/equipment breakdown or personal injury occurs, this is typically characterized by a plunge from the Order system into the Chaotic system. Failures are always a surprise; something unexpectedly happened causing the system to physically change. Minor failures are slips, trips, and finger cuts, while at the other end of the spectrum are catastrophes, disasters, fatalities. We label them in popular vernacular as Black Swans and Black Elephants. The latter is a major event we know about, just not when or how big. Following this definition, the COVID-19 pandemic is a black elephant.[4]

GARY WONG

Complex systems in nature such as a tornado, wildfire, or lightning storm eventually dissipate their energy and extinguish. Living organisms survive by mutation or adaptation. A CAS is a special class of complex system that is able to adapt and evolve.

"New safety" is in both the Order system and Complex systems. Safety-II is the ability to succeed under varying conditions. It's making performance adjustments to match current conditions, thus enabling safety to emerge but being on alert if danger inadvertently emerges.

There are many definitions for resilience. In anthro-complexity, I focus on 3 capabilities to build resilience:

Fast recovery: This is the most common definition for resilience: bouncing back to the original operating point. It is a reactive response after a failure has occurred. For example, a vehicle has crashed into an electric utility pole causing a power outage. An emergency restoration crew quickly responds to get the lights back on.

The downside is if system constraints and patterns are not changed, it sets up the risk of a repeat failure in the future, a concern called practical drift, normalization of deviance,[5] or drifting into failure.[6]

Speedy exploitation of an emerging opportunity

Serendipity is the emergence of a positive opportunity from a sudden failure. Fervent objections over aesthetics were raised during past efforts to relocate the electric pole. However, when people actually experienced the agony of a power outage, resistance disappeared and the pole was relocated with customer blessings.

Resilience can also be exploring breakthrough opportunities to improve the CAS through "exaptive discovery." Exaptation occurs when we develop for a specific function and then that new capability is used for a completely different purpose. In 1945, Raytheon engineer Percy Spenser noticed that a chocolate bar melts in his pants pocket when maintaining the magneto of a radar machine. From that discovery we get microwave ovens.

GARY WONG

Consider exapting an implementation idea from Buurtzorg that highlights how innovation moves when we don't try to force it. Instead of assigning a task force, piloting a project, or announcing it as a company-wide initiative, CEO Jos de Blok did something else entirely. He asked the team to write a story about what they'd created and publish it to the company's internal social network, along with a guidebook for how to stand up the program. If the idea was good, he reasoned, it would spread. Before long, thousands of Buurtzorg's nurses were working in what are now called Buurtzorg teams: delivering home care and accident prevention. [7] This is understanding complexity and deploying the CAS phenomena of fast feedback loops and the Butterfly Effect [8] or "going viral." Small changes can lead to huge impacts. And people willingly self-organize.

Early detection to avoid a plunge into the Chaotic domain

Proactive resilience is detecting weak signals in the Order system that indicate the nearness of a dangerous tipping point. A worker tells an "I've got a bad feeling about this" story and so you take immediate action. This is activating the HOP principle "Response matters."

HOP offers a set of principles, a set of building blocks that don't really tell an organization what to do, but rather help an organization know what to avoid (*what not to do*).[9] Aesop's Fables and Grimm's Fairy Tales serve a similar purpose by providing morals to young readers - avoid eating the poisoned apple, beware of wolves wearing sheep's clothing, and so on. Stories are powerful, contextual, and easily remembered.

3 How would you recommend a safety professional begin implementing new safety?

The need for trusting relationships cannot be underestimated. You can't ask someone to trust you; that individual has the freedom to choose whether to trust you or not. Like safety, trust is an emergent property of a CAS. Trust emerges from interactions between trustworthy people over time. You earn trust by being reliable, consistent, and keeping promises.

A simple way to build trust is active, heightened listening. Humans are equipped with two ears and one mouth. Use them in that proportion. Humans are natural storytellers so learn to be an ethnographer - a story listener to make sense of what is going on. This is the "anthro" part of "anthro-complexity."

GARY WONG

Listen for stories about decisions made that led to negative consequences. Avoid the blame game and be curious about the CAS constraints and local work conditions that enabled danger to emerge and turn into physical failure when the tipping point was reached.

Listen for success stories about experiences when uncertainty, ambiguity, and confusion existed. It might be a dilemma or paradox caused by the unexpected arrival of uncontrollable external forces, a safety rules conflict, or a novel situation never seen before. Explore the key decision made in the story. Ask about the heuristics that were used.

Heuristics are intuitive shortcuts or rules of thumb developed from years of experience. In nature when birds flock, they follow 3 rules: follow the next bird; match speed; and avoid collision. US Marines are indoctrinated to follow 3 simple rules when confusion arises on the battlefield: keep moving; capture the high ground; stay in touch. Heuristics do not guarantee that safety will emerge, but these conditions improve the likelihood it will. For one organization I worked with, heuristics for a safety watcher were: stay out of the bight; watch for unexpected changes in work conditions; keep everyone in communication.

Gather these as tacit knowledge gems and test their validity with seasoned workers and safety professionals. Distribute the valuable ones as explicit knowledge but suspend sharing those that seem dubious or questionable. It's conceivable that the heuristics in these particular success stories didn't push back the tipping points so it was really a matter of luck. Instead of the Darwinian phrase "survival of the fittest," it could be "survival of the luckiest."

When talking to the safety leaders, connect new safety with the organization's safety vision. Demonstrate how it can contribute in achieving. To make it easy to comprehend, give them maps showing progress. In anthro-complexity, I use visual maps generated from stories to set a vector direction with a heading and speed towards the safety vision. Safety change interventions then focus on adapting CAS constraints informed by where we want more favourable stories and fewer undesirable stories. These maps serve as a forward-looking dashboard, dynamically changing as new stories and information arrive. The process was developed by Dave Snowden, co-founder of Cognitive Edge and is called the *Vector Theory of Change*.[10]

GARY WONG

New safety does not perceive safety culture as a "fix-it" problem in the Order system. Safety culture is complex; it is what it is. In a CAS, relationships and interactions are messy and entangled. Attempting to "engineer" a safety culture by separating out components can damage sensitive relationships. Case in point is excluding safety meeting discussions on bullying and harassment on the premise that those conversations belong to HR. Psychological safety is an entangled thread gaining prominence in the workplace. Trying to remove the thread may lead to the entire fabric falling apart.

Lastly, diversity is a key characteristic of a CAS. New safety harnesses the melting pot of various perspectives. People are dispositional, not rational decision-makers. Cognitive science tells us our brain is designed to make decisions based on emotions and "first-fit pattern matching." The research fits with the safety concept of Local Rationality.[11] Our behavioural tendencies also reflect our formal safety education,[12] on-the-job training, and real-life experiences.

More information on operationalizing new safety applying an anthro-complexity approach can be read in a book chapter I co-authored, A Cynefin Approach to Leading Safety in Organizations. [13]

4 What resources do you recommend people check out to learn more about new safety?

Note from Editor: Gary provided the footnotes within his submission as his resources, they are listed below.

[1] Classical Management Theory YouTube primer.

[2] How Complex Systems Fail. Richard Cook. 1998. Also see LinkedIn posting and his 2013 presentation

[3] Emergence of Safety-III. Safetydifferently.com. 2015.

[4] Black Elephants in our Safety Systems. Blog posting on website: http://gswong.com/

[5] Richard Cook On Resilience In Complex Adaptive Systems. Safetydifferently.com. 2013.

[6] Drifting into failure: theorising the dynamics of disaster incubation. Sidney Dekker and Shawn Pruchnicki. 2013.

GARY WONG

[7] Brave New Work. Aaron Dignan. 2019. Chapter on Innovation, The Operating System Canvas.

[8] The Butterfly Effect. Wikipedia. Also recommend reading this article.

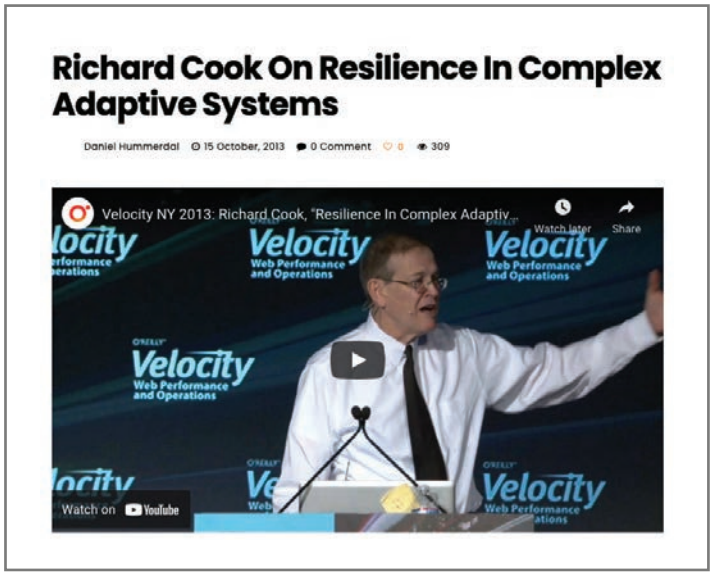
[9] The 5 Principles of Human Performance: A contemporary updateof the building blocks of Human Performance for the new view of safety. Todd Conklin. 2019.

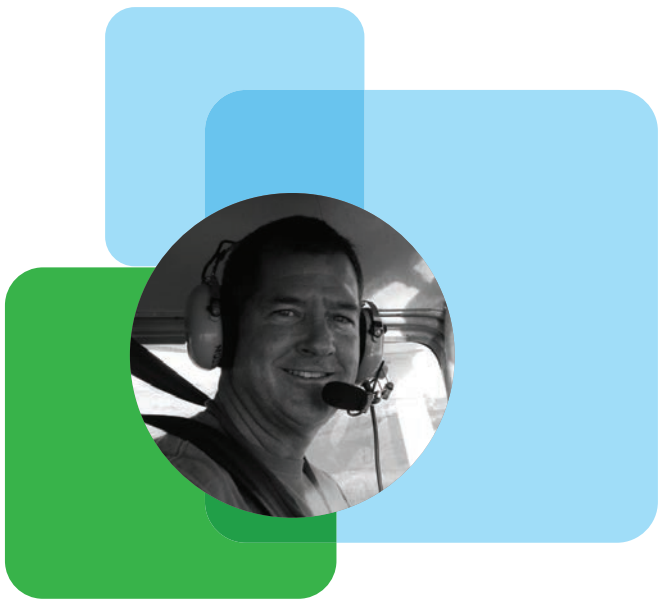
[10] The Vector Theory of Change. 2021 Jan 13. Presentation made at the Change Management Network conference.

[11] Local Rationality. Skybrary.aero Aviation library.

[12] Schools of Thought and Practice in Safety. Rob Long. Modified in 2017 by adding Cognitive Complexity.

[13] Cynefin: weaving sense-making into the fabric of our world. 2020.





MARC YESTON

Consultant

Marc Yeston Training & Consulting, LLC

1 How would you define "new safety?"

Mostly importantly, I'd begin by stating what "new safety" is not. It's not a program to be purchased or "rolled-out." Rather, the new view presents a framework for thinking and implementing safety in a different and much improved manner. It's a way of thinking and approaching the manner in which organizations create safety and resiliency in their systems. It's also about gaining priceless operational insight from the people who implement our best-laid plans---the workers. At best, and with some maturity, the approach benefits the organization by opening and growing the dialog between workers and management.

2 What's the most important thing a safety professional should know about new safety?

New approaches and strategies don't necessarily mean that what the safety professionals have been doing was somehow wrong or misguided. Getting better at what we do by directing our attention toward curiosity and operational learning pays great dividends in safety improvement, efficiency, and even business competitiveness. It's an opportunity for greater and more meaningful engagement among safety professionals

MARC YESTON

and staff. Partnering rather than simply enforcing and auditing for compliance opens the door to many opportunities for safety pros and workers to work better as teams with unified goals.

3 How would you recommend a safety professional begin implementing new safety?

Start with a bit of humility and curiosity. Work to understand how work is actually taking place. Ask questions out of curiosity and avoid showing up to interrogate and investigate only after something has gone awry. Be present when things are going well. Seek opportunities to hear workers stories. Everyone likes a good story. With a bit of inquiry, safety pros will have stories to tell their leaders about how things are progressing in the workplace. Concentrate efforts on this piece and you'll likely enjoy at least three salient benefits. First, you'll be better and smarter at YOUR job. Second, your leaders will begin to see you as more of a resource rather than an "implement" and the workers will begin to trust their insights to you. Plus, you'll sleep better.

4 What resources do you recommend people check out to learn more about new safety?

Read, listen, and network with peers in other organizations who've been at it for a while.

For reading, start with any or all of the topical books by Drs. Todd Conklin, Sidney Dekker, Eric Hollnagel, and David Woods. Specific to Learning Teams, look for works by Bob Edwards and Sutton, McCarthy & Robinson.

For listening, start with Conklin's "Pre-Accident Podcast." Todd has spoken with nearly all of the leaders and practitioners working and thinking about this topic world-wide. You'll be introduced to people you'll want to learn more about and you'll discover other podcasts relevant to your learning.

For networking, look for conferences and events sponsored by industry leaders who have been working with these concepts for a time. The annual HPRCT conference is a gold mine, as is the National Safety Council's ORC-HSE HOP Conference.

ADDITIONAL RESOURCES AT THE VECTOR SOLUTIONS BLOG

Since one of the four questions each contributor answered provided additional resources where you can learn more, the reader of this guide certainly doesn't lack for suggestions of what to read or listen to next.

That said, we mentioned in the introduction that many of the contributors have collaborated in various discussions published (in written or video form) at the Vector Solutions blog as well. We've provided links to those additional resources in the section below. Check them out and keep coming back, as we hope our collection will continue to grow over time.

Andrea Baker

Safety, Discipline & Accountability

Carsten Busch

The 'Safety Mythologist' Discusses 10 Safety Myths

Safety Metrics & Safety Measurement

Todd Conklin

The 5 Principles of HOP

Bob Edwards

HOP, Operational Learning & Learning Teams

Joe Estey

Incident Investigations

Incident Analysis & Root-Cause Investigations

Develop a Risk-Competent Workforce

What Is HPI?

Pre-Task Pre-Mortems

Why Apply HPI? (On-Demand Webinar)

Ron Gantt

What Is Safety Differently?

Safety Differently & Incidents

Safety Differently & Safety Training

Is Safety Differently Really Any Different?

Safety Classics Reconsidered

Adam Johns

Complicated, Complex, Emergence & Systems Thinking in Safety

David Provan

The Safety of Work, Safety Work, and Safety Clutter

Pam Walaski

Systems Thinking, Risk Management & Safety Management Systems

5 Steps to Implementing Risk-Based Safety Management

Risk-Based Safety Approaches for Reducing SIFs

Safety Performance Reconsidered (On-Demand Webinar)

Additionally, check out Helen Harris discussing Implementing HOP in the Oil and Gas industry and Jennifer Serne discussing Bias in Incident Investigations, Reducing the Effects of Bias in Incident Investigations, Why Decisions Sometimes Lead to Incidents, and Reducing the Chances that Employee Decisions Will Lead to Incidents as well as this recorded, on-demand Incident Investigations and Cognitive Bias webinar.

For even more good stuff on workplace performance improvement, check out the Vector Solutions blog.

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