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J. Thomas Pierce, MBBS, PhD

Connecting with People about Occupational and Environmental Health and Safety (OEHS)

This week we welcomed Dr. J. Thomas Pierce to talk about his fascinating background and how we can better connect with people about OEHS. Dr. Pierce has been working in the occupational safety and health arena for half a century and his unique background in medicine, laboratories and the field gives him a perspective that is rare. Some may know him from his long running Action Level column in the Journal of Occupational and Environmental Health or his more recent work writing books that describe OEHS work through his characters. **LEARN MORE** this week on IAQ Radio+.

John Thomas Pierce was born and raised in southeast Kansas. A researcher and physician, he has practiced public health on four continents. He continues to be active in the Occupational and Environmental Health and Safety (OEHS) writing articles, reviewing technical works and most recently as an author. His fifth book “THE ONE-HUNDRED FOOT DROP” is in review now. His first two books were technical entries applicable to industrial hygiene and toxicology and published by the National Safety Council and the American Conference of Industrial Hygienists, respectively.

His third book, Hospital Safari (Leather Publishing – 2005) described sub-Saharan medical care. Between 2017 and 2020 he wrote and distributed a book entitled “Million Dollar Speedway” that pioneered narrative storytelling in the environmental and public health fields. He is the 2012 recipient of the Rachel Carson environmental leadership award (Environmental Management Committee, AIHA, Falls Church, Virginia) and has raced bicycles at most competitive levels.

Who were some of the most important people in mid 20th century OEHS?

But first a little 75-year-old background.... Three persons almost invariably come to mind in terms of mid-20th C occupational health and safety efforts, although for somewhat different reasons: Alice Hamilton (no surprise there), Phillip Drinker, inventor of the ‘iron lung’ and 1946 president of AIHA and a third, Carey Pratt McCord, MD. Drinker and Hamilton’s are both academics, Dr. McCord is not. Carey P. McCord published < 1000 scientific articles and nearly 200 complete books but the ‘Blind Hog’s Acorns’ is his most read. The person on the L is Carey

McCord 'commuting' to work on a RR motor car. He & the car operator are within factory Boundaries in Michigan.

What excites you about being in the OEHS arena?

You spent a good bit of your career in academia. The schools of public health seem to be on a rebound of late for some time there they seemed to be losing steam. How can academia be more helpful in connecting people with the OEHS occupations?

You have an MBBS which Wikipedia describes as undergraduate [medical degree](#) awarded by [medical schools](#) in countries that follow the tradition of the [United Kingdom](#).

Why did you write Million Dollar Speedway?

While many book authors write to encourage general readership or perhaps to sell copies that was not my purpose for creating 'Million Dollar Speedway.' Instead, I needed a 'vehicle' I could use to influence a decision-making audience, one composed by legislative members, other health and safety professors and even members of the general public. While Michigan's lead (Pb) woes are better recognized, Missouri's are perhaps even more longstanding, given the state's prominence in lead (Pb) mining, smelting, refining and manufacturing. Like many of your (listeners, viewers) I have a long background in terms of helping industrial clients understand and comply with a variety of standards. Thus I (ardently) sought a vehicle that would allow me (or us) to initiate and maintain discussion with state law-makers, regulators and interested citizens relative to a school water fountain and drinking supply line program that would effectively cut Missouri children's lead (Pb) exposures. To 'cut to the chase,' I wrote the book, Million Dollar Speedway, which I used as a vehicle to 'sway' public opinion.

As I understand it you feel occupational medicine and industrial hygiene are intertwined today and have been for many, many years. Can you give us an example from your career?

During this era occupational medicine and industrial hygiene are intertwined. Then (& now) physicians are taught that the 'industrial hygiene piece' is essential to diagnosis of an 'occupational' disease. Pumps, measuring equipment and IH labs were/are as essential as traditional medical lab components. Remarkably, nearly eighty years later 'Blind Hog's Acorns' figures among top-100 among 'modern' occupational health and safety titles. I put cumulative sales figures at slightly less than 500 thousand (questionable). No other title in OEHS has sold even 1/10th of the 'Acorns' Figures – Most importantly, most of those who read it had NO connection to OEHS but still learned how OEHS investigations were conducted and often regarded that process as 'fascinating.' Shown is a 'modern reprint,' not the actual volume. But my concerns more surrounded what Carey McCord was able to DO with his collection of about 12 stories describing workers and their exposures?

By some accounts McCord became a best-selling author for the era but another point was perhaps more important – he shared how he had made notes regarding specific industrial

processes. Carey McCord's 'pocket notes' become the basis for others' organization or materials – McCord finds himself serving as the Michigan head of industrial health and other important roles.

This is Carey McCord's auto that I purchased (totally by chance?) from his grandchildren in 1980. While I had a basic knowledge of Dr. McC's life work I had only scanned ads in the Va.-Pilot newspaper for a used car. Purchasing his car allowed me to visit with his grandchildren.

So, what does that have to do with 2023-24 efforts to influence legislation, regulation, scientific developments?

I reasoned that I would either be successful popularizing (modern) OEHS or by 'attempting to do so I would 'find' someone else who would do so? To date (we –not taking any personal credit) have obtained \$26M of funding for improvement of school & municipal water supplies – De-leading, replacement, water filters/de-ionizers...testing

How did others react to – mostly Million Dollar Speedway?

Responses ranged from being asked if someone had mistakenly suggested I knew how to write to actual newspaper reviews. This is a photo taken by the editor of Missouri's Martin City Telegraph depicting trains and bicycles, two important elements in attracting readers to the narratives I created.

I had specifically sought narrative 'vehicles' such as railroads ('rail fans') and track devotees (cars, motorcycle, bicycles). Perhaps the most difficult challenge was one of including dialogues. I'm often asked the question about the 'historical' or narrative nature of fiction. Why bother with 'fiction,' people want facts – Two answers, one dialogues are rarely recorded (even public meetings) because it is always difficult to accurately encapsulate dialogues – Plus, there are privacy laws.

Where is this going?

Million Dollar Speedway was mostly OEHS narratives paired with some STEM. 100-ft Drop is mostly STEM narratives in an OEHS setting.

Where do stories fit in venues stretching from short stories or even novels to film, most notably movies and television?

Most OEHS-relevant 'dramas' utilize courtroom settings as backgrounds. Stage plays and movies both favor courtroom settings. The first principle of narrative story-telling is to introduce 'conflict,' To return to OEHS, or for that matter STEM, origins, my efforts were primarily to depict field survey or even laboratory environments. In my view, that is where OEHS skills are best depicted. Who is interested in what we do in OEHS? Here's the basic principle: a human (family based narrative) regarding the consequences of unsuccessful lead (Pb) abatement techniques based in Kansas City is much more interesting to mid-western

readers than, to say, residents of Baltimore. Why recount (or study) the 1979-81 era – Isn't that just a long time ago and mostly a trip down 'memory lane.' (to the L) this is a recap of US blood lead (Pb) levels (& drops) across the 1976-81 period. 1979-81 turns out to be a pivotal period for basic public health improvement.

Finally, who read your book – or looked at it?

First, I had done three books (Study guide: Fundamentals of IH, IH Program Management and Hospital Safari before I began the Million Dollar Speedway/100-ft. Drop projects. All three sold ~ 1200-1700 copies during their respective publishing lifetime. So similar numbers were hoped for by Million Dollar Speedway. It is over 1000 as we speak and I really haven't begun to promote 100-ft. Drop because it comes out in July 2023. (By comparison, big budget trade press efforts do ~3000-4000 copies with hopes for 10K -usually an exception. The demographics of 'who reads' is interesting – It doesn't line up well with many expectations. I found that many people (apparently most interested) aren't professionally aligned but are otherwise interested. Science-in-fiction is challenging to write and often not well accepted but worth a try. One of the things I believe we've missed is not looking 'outside' the lines. For instance -- I have a healthy readership in the conservation and hunting/fishing communities, groups that I have learned possess a strong interest aligned with many of our views. I am happy to be a regional as opposed to a national author. Many parents and other sponsors (H/s teachers, guidance counselors, and concerned aunts) have approached me regarding counsel for young people considering careers in science, technology and medicine. My little books allow more comfortable 'passage' and 'call-back' promise to help them learn more about 'what' we do and 'why' we do it. I believe what I have learned (and who I have 'met') in this process is key to 'growing' the profession.

Our interview is not so much about books but prospects for OEHS research and bringing new people into the field. I see what you are doing what can others do?

This slide shows # of papers regarding hydrogen sulfide written in any year, perhaps a dozen or so until ~1995 when research re: H₂S 'explodes.' What's going on here? Circa 1995 the neuroscience/gastrointestinal research community discovers H₂S (yes, that 'stuff!') is a key neurotransmitter, just like dopamine, acetyl choline, serotonin & others), And they 'research the dickens out of that – In nearly all cases ignoring (and excluding) OEHS scientists who could bring a lot to the table in terms of detection equipment, statistical protocols and experimental design. Why? – They don't like us? Feel we would be in the way? Devalue our work? No, they don't know we exist and there is no particular communication platform to encourage our contributions. But doesn't NIOSH always represent 'us,' get to that important research table? Yes and no – NIOSH is focused in key occupational and safety concerns, not this type of research. Key conclusion: If OEHS research is to survive we MUST get to the discussion-al table? So if you use H₂S as an example, isn't NIOSH the principal 'funder?'

Many of these NIH institute names are less familiar – But stand for N – Heart & Lung, Neurological disease & stroke. To get to the point, H2S ‘research lives’ primarily in other institutes. Our point is to get OEHS personnel (& researchers) to that table.

To wrap up – ‘Communication builds community’ and if we are to succeed we must better accept that challenge.

Trivia

What state had 3 of the top 5 lead producing mines in 2021?

Answer: Missouri

Answered By: Don Weekes