

# New Directions Needed for Otolaryngology in the Twenty First Century



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## Opinion

ENT with all of medicine and surgery experienced massive advances over the past 100 years. Improvements in technology spurred by the Industrial Revolution and several wars. Post WW 2 technological achievements have occurred exponentially. Unravelling the genetic map has created multiple fields from genetic engineering to genetic anthropology. Information technology has blossomed with many in the world connected by devices, and artificial intelligence [AI] having an ever increasing influence on the world. Gung ho futurists predict a future dominated by bureaucracies administering directives from an all knowing 'godlike' AI 's. Some predict that medicine will devolve from a profession to a service provider. I disagree vehemently for several reasons. One, humans are cognitively ill equipped to make long term complex predictions. There are multiple examples of this , but a simple one is The Jetsons tv program of the sixties which imagined a much more technologically advanced society. Computer models even are problematic for multiple reasons [1-3]. Two, cognitive thought is plagued with multiple distorting thought patterns [biases] which hinder rational thought [4,5]. Some examples are confirmation bias i.e. seeking information that confirms one's view to hindsight bias as seeing past events as more predictable than what it actually was. The military term 'fog of war' illustrates this point [6]. Three, there has always been stories over millennia concerning the unintended and sometimes tragic consequences of using new approaches to conquer space Tower of Babel [7], Dr Frankenstein [8] trying to conquer death , and Mickey Mouse in the Sorcerer's Apprentice conquering drudgery [9]. Four, Kant [10] the philosopher noted that the physical world and a timeless moral order are the only constants in our lives.

The rest are mental constructs. Even money is as Milton Friedman stated decades ago [11]. Therefore, the entire medical system is a construct as other important sectors of our culture. Five, how patients are seen and evaluated is also a construct that has radically changed this century. William Osler at The Johns Hopkins Hospital in the early 20<sup>th</sup> century [12] and George Engel [13] later in Rochester NY, both recognized the importance of observation and human connection in diagnosing and treating disease. They both noted that this approach is responsible for the placebo effect. There is now a push for uniformity in decision making, supposedly to improve patient care by using new technologies, while deemphasizing traditional methods. Despite some improvements, multiple negative consequences are apparent. It deemphasizes the MD's role in dx/tx [14,15], and the human approach. Instead algorithms are applied. This assumes that most problems in medicine can be solved by applying the most up to date information, but what if the information is tainted or the overall understanding of the problem is incorrect? There are multiple examples of serendipity and challenging the prevailing thought from invention of penicillin [16] to the anti-microbial of peptic ulcers [17].

Endoscopic nasal surgery [18] for sinusitis is an excellent example in ENT. However, there are still related questions for nasal surgery. I presented my experience of CT directed minimally invasive nasal surgery [19]. For decades thought was that nasal flow was from the top of the inferior turbinate to the bottom of the middle turbinate. Zhao & Jiane [20] in 2015, found that flow patterns were more varied that previously thought. The vomer and perpendicular plate of the ethmoid bones often needed surgical attention in my patients to correct their issues, consistent

with their findings. Six, asking 'why' is an important question in most of my patients seen in a basic ENT practice. Why otitis media now, why nasal drainage now, why a sore throat now, are several examples I saw. I found in many cases, this led to a root cause which had to be treated along with the chief complaint. This idea was recently presented in the business literature [21], buttressed by recent advances in the neurosciences [22]. I close my discussion by stating that ENT is a wonderful field that can treat everybody throughout their life's journey. It requires exhaustive cognitive knowledge, precise surgical ability and personal skills to establish a trusting relationship. Remember, most people consider their center of being between their eyes and ears, and thus a new complaint can often cause anxiety. Treating patients competently with compassion, and a professional demeanor, is our constant goal.

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