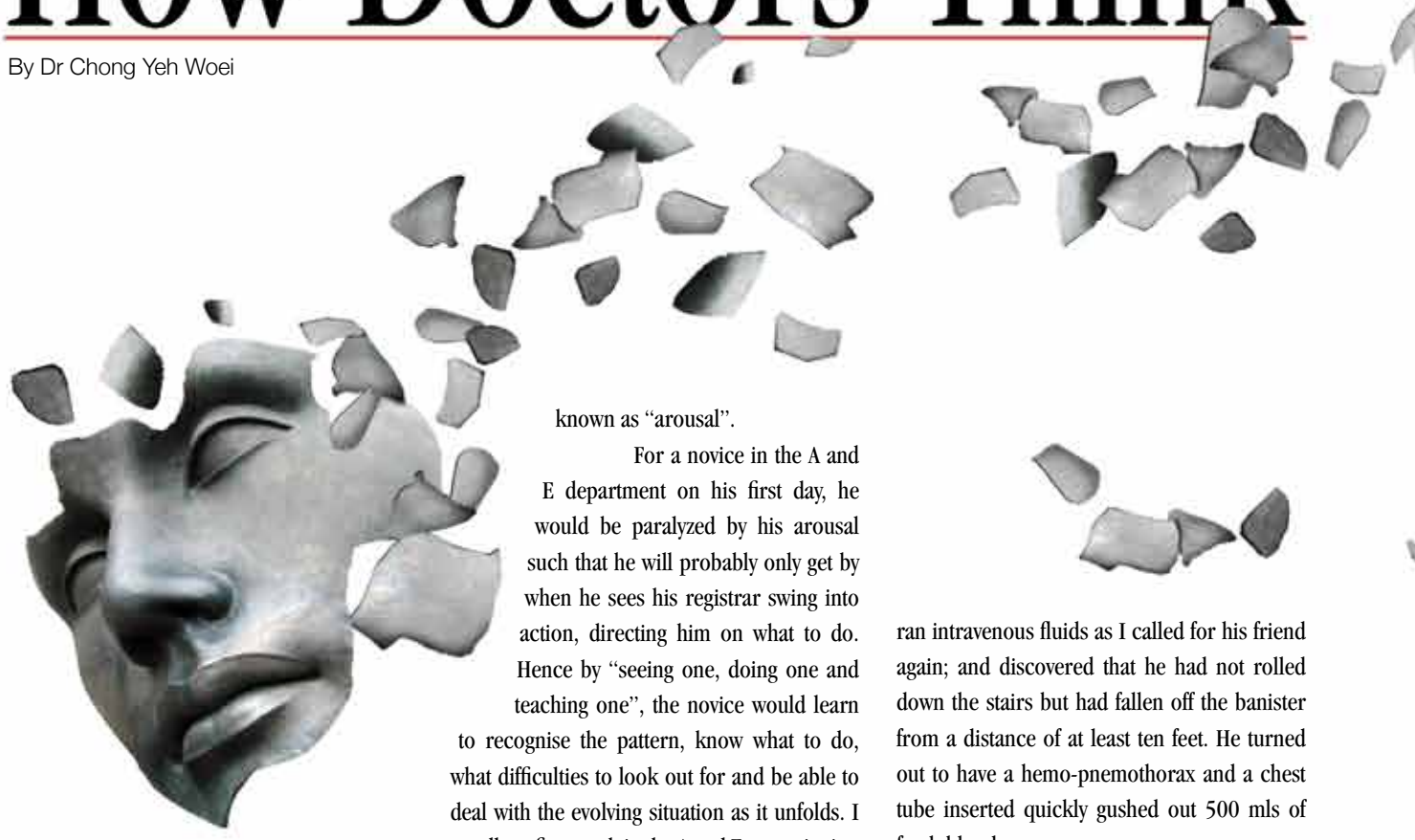
How Doctors Think

By Dr Chong Yeh Woei



I looked at my shelves the other day and picked out a book that I had read before. The book was written by Dr Jerome Groopman, entitled *How Doctors Think*. In fact, this column may well be a book review in disguise with some of my thoughts thrown in.

In his book Dr Groopman talks about the errors that we usually fall into during the course of our work, how our temperament shapes our diagnosis and how biased our minds can be when it comes to certain stereotypical patients.

I found the book a fascinating read as it reflects the pitfalls that we encounter in our daily work. Some of the interesting scenarios occur in the contrast between urgent and elective situations. In a patient who is desperately ill in front of us, we would use pattern recognition or what is also termed as "heuristics". In these urgent situations the state of mind of the doctor is not unlike that of an athlete. There is a need for performance in the midst of the adrenaline rush or what is also known as "arousal".

For a novice in the A and E department on his first day, he would be paralyzed by his arousal such that he will probably only get by when he sees his registrar swing into action, directing him on what to do. Hence by "seeing one, doing one and teaching one", the novice would learn to recognise the pattern, know what to do, what difficulties to look out for and be able to deal with the evolving situation as it unfolds. I recall my first week in the A and E resuscitation room when one would literally feel totally inadequate when the first pulmonary edema is wheeled in on a trolley.

Other interesting things I learnt included **attribution errors** especially when a patient fitted a negative stereotype. I remember at the end of my posting when a drunken young man was wheeled into the resuscitation room and he was reeking of alcohol, confused and yelling obscenities. One felt disgusted at such a sight and the tendency was to write the patient off as yet another drunk to be warded and sobered up. His friend following him did not help the negative impression as he too was incoherently drunk and mumbled that the patient had fallen down the stairs.

It was only when we took the vital statistics that I noted that he was tachycardic and his blood pressure was low. I reexamined him and discovered that he was hypovolemic and his chest had diminished breath sounds on the left side. I called for the portable X-ray and ran intravenous fluids as I called for his friend again; and discovered that he had not rolled down the stairs but had fallen off the banister from a distance of at least ten feet. He turned out to have a hemo-pnemothorax and a chest tube inserted quickly gushed out 500 mls of fresh blood.

Yet another variant of the errors we make is the **confirmation bias**; this is where a patient comes in and there is distorted pattern recognition. This is the situation where we cherry pick the things we want to see. We consider many diagnoses but quickly latch onto one in a phenomenon called **"anchoring"**. I liked the example that Dr Groopman uses in his book of a Navajo woman in her sixties who came into the hospital with a low-grade fever and was tachypneic. Her chest was clear while her chest film and blood counts were normal. She had mild acidosis and the intern made the diagnosis of viral pneumonia. She turned out to have salicyclate toxicity as she had taken several dozen aspirin. In our surrounding region, doctors would diagnose all fevers as malaria, dengue or typhoid and treat accordingly. In Singapore, we diagnose malaria less but seem to find more mycoplasma!

I recall seeing a patient who was the father of my friend. He was an articulate and clever

In fact, embracing uncertainty and transmitting this to the patient allows us to be more effective in a therapeutic sense as it demonstrates honesty and signals our commitment to be engaged in a frank manner with our patients. In so doing, we acknowledge the reality of the situation on the ground and are less likely to have to resort to half truths, evasions and even blatant lies in a bad outcome.

man who kept discussing his symptoms and the knowledge he had gleaned from reading, surfing and reasoning. His anxious wife did not help the situation either. For some reason I kept thinking he had pneumonia and the signs from the lungs and the chest film confirmed the diagnosis. However he did not get better and over the course of a week, complained of orthopnea. I kept anchoring my mind on infection and in the end referred him to my respiratory physician colleague, who promptly diagnosed cardiac failure due to incompetence of a heart valve that required surgery. It is true that emotional situations do colour one's judgement. Perhaps I did not wish to hoist such a diagnosis on him. There were two errors I committed – one was an attribution error and the other was a confirmation bias. On hindsight I had committed an attribution error pertaining to positive stereotype, and confirmation bias with anchoring. I am glad to say that despite the delay and missed diagnosis, I still have the friendship intact.

In the final analysis, the reality of the practice of medicine is the uncertainty. In Dr Groopman's book there are three types of uncertainty; the first is that of incomplete mastery of all available knowledge, the second is that of limitations in current medical knowledge and the third is actually derived from the first two. There is difficulty in deciding whether one is ignorant or whether one is hitting the wall in terms of the boundaries of medical knowledge. Uncertainty can be paralyzing as one pontificates and takes no action. On the other hand, to deny uncertainty is to court a single minded action that seems crystal clear. The danger in such a course is the momentum that carries the situation forward to an end regardless of good or bad outcome.

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Ultimately patients are not gullible or stupid, and they can pretty much tell a mile away what your intentions or agenda are. On our part, we need to understand that despite the odds stacked against the patient in terms of information asymmetry, they do have rights, enough savvy and EQ to discern and figure out the truth. At that point in time, all your good intentions, ethical agenda and goodwill generated will help save the day. SMA

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