Editorial

Daring Heroes of the Distant Past

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"One man with courage makes a majority."
Andrew Jackson

Our younger generation in medicine looks up to the present day divine interventionalists and the heroic surgeons, who are all over the media, both print and electronic, to emulate and follow on their footsteps. Modern medicine is suffering because we have been following what others have been doing elsewhere. Such "copy-cat" procedures and interventions do not take knowledge forwards in any field. We need to progress by taking the present inadequate knowledge forwards in modern medicine. That needs a different kind of research, called refutative research, wherein one tries to refute false dogmas that do not stand on very firm grounds. We should not waste time copying others by repeating known facts-repetitive research.

History of modern medicine is replete with such mistakes. One example would suffice. It was in the year 127 AD that the great *guru* of medicine of those days, Galen, thought that blood circulated from the liver. This was repeated by all and sundry for well over one thousand five hundred years till 1628 AD when a thinker refuted that claim and showed that blood circulates from the heart- *De Motu Cordis*- of William Harvey. Many such instances could be cited. One, therefore, needs to look back at the past history to learn from it and stimulate the latent curiosity in our younger generation, lest one should be condemned to relive history. We have no dearth of "copy-cats" in modern medicine who claim glory and fame copying others and not taking knowledge forwards. Some of them are labeled heroic doers; the hero, however, is the hapless patient who has subjected himself for their misadventures. If the patient survives they claim all the credit; if, on the other hand, the patient meets his maker, we could always blame fate.

Here is the true story of one such real daring hero of the distant past, who started life as a poor boy and ended up getting the Nobel Prize. He refuted the existing wisdom of his time by his daring. The notable feature of his daring is his offering himself as the experimental subject instead of using a poor patient. Werner Forssmann in his brilliant book *Experiments on Myself*, first published in German in 1972 and, later translated to English by Hillary Davies in 1974, published by Saint Martin's Press in New York,[1] echoes the sentiments expressed by me earlier thus: **"In my life time powerful men have managed to determine not only political events but also peoples' personal lives *and the progress of science by practising deception. Their methods were sometimes primitive but always effective"*** (Author's text in *italics*)**.**

This is more so in the present time when the whole field of modern medicine is vitiated by deception of the highest order. A recent daring report from the US showed that more than 225,000 people died in one year thanks to the medical establishment in the name of doing good to the public.[2] Doctors have been one of the leading causes of death in the US followed by heart attacks and cancer! Forssmann's life changed because of the events at that time. The First World War made him hate the monarchy and the Second World War made him an ardent pacifist. His seniors, many of them celebrated medical men of his time, were men with feet of clay. The greatest of them all at that time (1929 AD) was the celebrated Herr *Geheimrat* Sauerbruch, the then great general and cardiac surgeon, who went on operating well into his 80s killing hundreds of hapless patients

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but, patients still flocked to him even in his home where he operated upon them on his kitchen table even after the hospital in the then Mecca of German surgery, the Charite in Berlin, compelled him to retire gracefully.

When the young Forssmann knocked on the door of the great man's office, his secretary, Frau Rogetzki, looked at him from top to bottom and stopped polishing her nails to tell him: "In this hospital one does not present oneself to the Herr *Geheinmrat;* one waits to be summoned." Those were the days. The present readers might feel that things have not changed very much, in all these years. Getting a job at the Charite was a very great achievement those days. It would not have been possible for the young Forssmann to get anywhere near there, although he studied in the famous medical school in Berlin's Friederich Wilhelm University. He was brought up by his mother after his father's death in the First World War. He and his mother lived on a hand-to-mouth existence, when all the other students came from very affluent families. His teachers, some of them great men of learning, were the ones that motivated him to be what he became later in life.

Having seen the ravages of the two world wars and the rise of Hitler, Forssmann later in life, became a citizen of the Federal Republic of Germany. Forssmann is known for his daring act of challenging the medical taboo of his time that the heart can never be entered into, to study its function. Determined and very courageous, Forssmann, then a surgeon in training, opened a vein in his forearm, inserted the tip of a long, thin tube, and pushed it along the vein into his own heart. Standing in front of a fluoroscope machine he could see the tip of the catheter in his heart and then he got an X-ray taken to record the tube's presence in the heart for the first time in man, when at a time such an act was thought to be fatal.

Forssmann did not invent the method, though. In the year 1840 the great French physiologist, Claude Bernard, developed the technique for use in animals. Later physiologists, Chauveau, Marey, A. Fick, and N Zuntz developed it further and studied the pressures in the various chambers of the heart as also analyzed the blood samples from those chambers. Despite these reports Forssmann was severely criticized for what he did and was ignored by those powers-that-be in medicine in Germany those days. Undaunted by the hostility Forssmann went on to inject a radio-opaque dye into his own heart and larger vessels and laid the foundation for what we now call angiography. This initiative was picked up by others elsewhere and the methods were perfected to the level that we see today. Discouraged by strong opposition Forssmann stopped being a researcher and trained to be an urologist and practised that art in a small place in Rhineland.

Fate finally rewarded him, nearly quarter of a century later, when he was awarded the Nobel Prize for Medicine and Physiology along with two other Americans who had later perfected the technique. When a reporter went to inform Forssmann of his getting the Nobel, he is said to have joked:" I feel like a village parson who has just learnt that he has been made the Bishop." As a young surgeon Forssmann had to bear the brunt of the war and was imprisoned by the Russians from where he escaped under fire to cross the river Elbe to finally practise urology in a small Rhineland spa. After getting the Nobel he tried to establish himself as the chief surgeon in a voluntary hospital without much success. This book gives the reader a varied picture of a young brilliant student, a nationalist to the core, a dissenter who dared to risk his career for finding the truth, and a man endowed with abundant physical courage if not political sagacity. His wife, also a physician, was a quiet lady who mothered their six children. She was also a wise and dignified lady. They eventually retired to a quiet life in a large cottage in the Black Forest.

Before I close, I must give the reader the first hand version of what happened that fateful day in the operating theatre of Eberswalde, a small Prussian town northeast of Berlin. This account would show the rare courage that the man exhibited risking his own life, the real heroic surgeon-the hero being himself. With great difficulty, and after much influence (even those days!) Frossmann managed to get an unpaid job as a surgeon under Dr. Richard Schneider, a kind hearted man known to Frossmann's aunt. When Frossmann presented his idea of studying the heart's function more clearly by entering the heart with a catheter, Schneider mildly rebuked him and passed an order that Frossmann should not be let into any theatre.

Not to be put off by such acts, Frossmann started to prowl around a beautiful theatre Nurse Gerda Ditzen "like a sweet toothed cat around the cream jug". He wanted to slyly carry out his black deed during the afternoon siesta when the whole hospital would be sleeping. Nurse Gerda was suspicious in the beginning but later, after much flirting, she became very friendly and almost became his close confidant. However, Forssmann did not have romantic ideas at all. She, on the contrary, was living in a romantic world. He used to take her out, give her books to read and one day told her his real plans. Immediately she became very serious and refused point blank.

He told her one day "Nurse Gerda, you need know nothing about what I am going to do. But supposing I were to do the experiment it would be

quite safe." She eyed him closely and said" Are you absolutely sure there is no danger?" "Absolutely" he answered.

"All right then do it to me, I put myself in your hands," she said.

That is what he wanted.

"Well, you will be the first person in the world to have the catheter in your heart" he told her.

His ruse was to get all the instruments. When all the instruments were laid on the table he asked her to lie down. He firmly tied her hands and legs to the operating table and told her his real intention was to do it on himself with her safely tied down to the table. Of course, history was made in Eberswalde that fateful day in 1929. Rest is history.

Here is the story of a great surgeon, whose extraordinary talents were not recognized by his seniors, many of whom did not allow him to publish his data saying that he had no right to publish. They also told him, led by Sauerbruch himself, that he has to include them in the publication, reminiscent of today's world. The only person who encouraged him after the act was Schneider, who had a soft corner for this young man. With all this the poor Frossmann had to go into oblivion in Germany until the Nobel Committee picked him to *share* this great honour with two Americans. Lesser mortals have got away with the Nobel for not so good reasons.[3] Such is the power of mystery and falsehood. However, people like Forssmann are rare and they are the real heroes of the distant past who could motivate generations of young men and women in medicine. May their tribe increase? The message Frossmann gave to the world, in the words of a friend of mine, is "Learn to be wise; if not, you will be otherwise."

"Opinions cannot survive, if one has no chance to fight for them."

Thomas Mann

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