

The story of psychiatry (part IV)

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The first half of the 20th century, in Psychiatry, clearly belongs to Sigmund Freud. Freud brought in some new ways of thinking and changed the intellectual understanding about humans for ever. His ideas not only changed Psychiatry, but all other natural sciences. From mental illness to mob psychology, from how to bring up children to understand cultural phenomenon, his theories could form a basis for explanation. Thus Freud was able to shook the human thinking for ever.

Sigmund Freud (6 May 1856 – 23 September 1939), a Neurologist by training, started, in 1885, on a fellowship to study with Jean-Martin Charcot, a renowned neurologist and researcher of hypnosis. Charcot specialised in the study of hysteria and susceptibility to hypnosis, which he frequently demonstrated with patients on stage in front of an audience. Charcot questioned his own works on hypnosis towards the end of life.

When Freud started working on hysterical patients in his own practice, he turned away from hypnosis as a potential cure for mental illness, instead favouring free association and dream analysis. He found 'talking freely' served a better purpose than hypnosis. In late 1895 Freud arrived at the view that unconscious memories of sexual molestation in early childhood were a necessary precondition for the psychoneuroses (hysteria and obsessional neurosis), now known as 'the seduction theory'. However he later lost faith in the theory and that led in 1897 to the emergence of Freud's new theory of 'infantile sexuality', and eventually to the 'Oedipus complex'.

In 1899 he published 'The Interpretation of Dreams,' and interest in his theories began to grow. From there Freud's theories began to take certain shapes. Freud's major ideas were, 'the topographical theories of mind', 'the structural theory of mind', 'stages of psychosexual development' and 'defense mechanisms'. Since, this article is intended to be read by psychiatry people, we would not discuss these theories as readers already know them all. Rather we plan to discuss the basis of his theories from a historical perspective.

Some authors around 1950s first postulated certain analogies of Freud's concept of mind to 'thermodynamic systems'. Thermodynamics was the most important

scientific principle during Freud's academic years, so it seems a valid hypothesis that Freud was deeply moved by this branch of physical science.

We need to recapitulate a bit of thermodynamics from the +2 science text-books. In thermodynamics, a 'heat engine' is a system that performs the conversion of 'heat' or 'thermal energy' to mechanical work. It does this by bringing a working substance from a 'high temperature state' to a 'lower temperature state'. We can further shorten it to fit our purpose, that: energy should flow from one part of high energy to another part with low energy, and the change would come out as work done.

Freud's 'structural theory of mind' (comprising id, ego, and super-ego) is basically a manifest of a 'heat-engine'.

The id, Freud described as our biological needs and drives, as: hunger, thirst, and sex, etc. The id provides energy for the system just as fire provides energy in thermodynamics. The superego, Freud explained as society's rules, our voice of conscience. In thermodynamic terms, the superego would be a lid on the apparatus that contained water, which was to be converted into steam. The ego is the conscious mind that contains one's thoughts, judgements and memories. In Freud's thermodynamic metaphor, the ego was the wheels and the escape valves where the steam is released.

But, a heat engine, running on thermodynamics principle, needs 'energy', as the first law of thermodynamics states that "Energy can neither be created nor destroyed".

So, the next question arises: from where the 'energy' comes from, what is the nature of this energy. To get a psychic energy, Freud did not have to delve very deep, he had another most dominant idea of modern science at hand, 'the theory of Evolution'.

Charles Darwin (1809–1882) proposed his laws of evolution in 1859, in his book 'Origin of Species'. The laws provide that in order to be successful as a species, the species must produce off-springs with stronger characteristics, so that they are able to withstand 'natural selection'. This would only happen if every member of the species engages in sexual relation and actually compete with same gender individuals to mate

with a better opposite gender. So, to have successful evolution, the species must have a built in urge to engage in reproduction, in simple terms, 'to have sex'. It seems sarcastic, but inevitable to consider that 'a sexual drive' is a must for every individual of every species for the survival of the species. Thus, 'sex' comes out as the strongest element needed for species survival. And, Freud postulated that 'the drive to have sex' (the libido) is the energy that runs the heat engine of mind. Freud later claimed that 'libido' is not exactly sexual drive, but for our discussion we keep it simple.

Now, the thermodynamic basis of Freud's theories may seem historically fitting, but is there better evidence than that? Interestingly, it is found that Freud actually used some of the terms of thermodynamics, to describe his 'theories of mind'. 'Dynamics' itself seems a direct link to thermodynamics, other than that, terms like drive, introjections are also taken from thermodynamics. But, there could be two other explanations, for usage of those terms. First, he simply used terms that were in current usage in his times. As already mentioned, thermodynamics was the most important science in his times, so he used similar terms. Another explanation says (proposed mainly by strong anti-Freudians) that Freud simply laded his thoughts with scientific jargons, just to add a scientific touch to his theories.

Another more stronger evidence comes from the fact that, Freud was greatly influenced by the works of a scientist named Hermann von Helmholtz (1821-1894), whose interests were in physics, physiology and psychology. The laws of thermodynamics were of great interest to von Helmholtz and thus Freud also showed a great interest in the thermodynamics of steam power. He saw similarities between thermodynamics and the human personality. Freud's first year supervisor, Ernst von Brücke (1819-1892), a strong follower of Helmholtz, supposed that all living organisms are energy-systems also governed by the thermodynamics principle.

Whatever be the origin of Freud's theories, we must admit that his theories had tremendous influence on all academic fields of 20th century. His theories not only provided a frame-work to understand mind but also ways to treat them, by psychodynamic therapies. So, suddenly psychiatrists turned to Freudian theories to understand and to treat psychiatric disorders. It almost converted psychiatry from a strong medical discipline to a psychological one. Hence it drew strong reactions from many scholars.

Freud had some critics and there were two different charges on him. One group approved his methods but did not believe in his theories, and so, they

modified his theories. Jung, Adler, Horney were in this first group. The second group attacked Freud charging that his theories are not based on experimental methods and hence their exactness is not beyond doubts. Behaviorists, including John B Watson (1878-1958, Father of Behavioural Psychology) were in this group. Behaviorism would be next in the series, so, we leave it here for now.

Emergence of biological psychiatry has aggravated the attack on Freud's theories, as till now his theories are beyond the scope of experimental methods. This is definitely a very serious charge on Freud and actually has made him somewhat irrelevant in today's psychiatry, at least to the younger generation of psychiatrists. And to understand more, we need to examine this again from a historical perspective.

We do not feel how recent the methods of medical experimentation are. In today's world of 'Evidence based medicine' we feel the research methods were available since ages, which sadly is a myth. It's only in the last fifty years, that medical science has got some research methods. In the early part of 20th century, the important method for medical scientific work was to observe and analyse empirically and to put forward theories. The observational science was not strong enough to look into living organisms, and 'mind' as being a dynamic 'organ' is simply impossible to study in dead tissues. So, observational techniques were not considered for any study of the mind. Mind was more of a philosophy, and Freud put forward his theories as 'applied philosophy'. He himself liked to call himself a philosopher than a physician.

Secondly, he used psychodynamics to treat patients, but had no means to observe how successful he was in treating the conditions. Readers please note that Randomized Controlled Trials (RCTs) were first constructed in the later part of first half of 20th century. Prior to that there were no ways to determine the efficacy of a treatment with strong statistical evidence other than case-reports. It is more interesting to note that most of the biostatistics methods are products of later half of the century. So, even if Freud doubted himself, he had no statistical means to prove or disprove him.

So, it was the practice of the time that made Freud to work the way he did, and for those blaming Freud is not fully justifiable. But, the same cannot be applied to strong followers of Freud. Some die-hard followers of Freud, put him in a celestial place and guarded him with all their might, and did some serious damage to Freud's image for the modern psychiatrists. Freud did himself said that someday his theories might have to be

modified based on findings that could observe them directly.

It is hot debate that Freud actually hampered the progress of psychiatry. Freud and his followers continued with theories for about fifty years, and psychiatrists were practicing based on Freud's principles. And if we look into the history of psychiatry, since Kraepelin in 1905, till the mid of 1950s there are no significant contribution in psychiatry, except the advent of ECT. It's only in 1948 that an anaesthetist found out the calming effect of Chlorpromazine, who inspired psychiatrists to use it in psychotic patients and psychiatry took a new turn.

The question arises, did no one find Freud unscientific? It was medical students who pursued psychiatry, and why they did not re-consider his theories. The answer probably lies in the socio-economic domain of the era. It's worthwhile to remember that before Freud, asylums were the main

work-place for psychiatrists, and asylums as a career option were never very lucrative. But, Freud brought psychiatry outside the asylum, he made private consultations possible in psychiatry and also established psychiatry as a posh scientific discipline with the cool, calm and intelligent psychiatrists who knew a lot, who could tell more about you than yourself and earn a lot of money too. So, probably, it was the status and money that most Freudian psychiatrists loved and was not able to shed it off even if they wanted to.

But, the sure fact is, what Freud did about treatment of psychiatric patients were confined to the neurotic diseases. The psychotic patients were still suffering in the asylums and some desperate psychiatrists still tried whole heartedly to help them. Then chlorpromazine came and changed psychiatry again. That's how science progress - that is by questioning itself again and again.