It is no secret that psychoanalysis truly revolutionized the field of psychology in numerous ways. Its pioneer, Sigmund Freud, a neurologist turned psychotherapist employed the technique of free association to access the depths of the individual’s unconscious, consequently deriving enough evidence to formulate his subsequent theories on a single animal instinct: sexual drive. While this new science, as Freud described it, was both controversial and groundbreaking at the time it was founded, Karl Popper was among the many critics who were skeptical about the so called ‘scientificity’ of psychoanalysis. Hence, this paper will explore the extent to which Popper’s criticism of psychoanalysis as a ‘pseudoscience’ is valid, while taking into account key elements that make Freud’s approach scientific.

Popper’s study of psychoanalysis – as well as Marxism and Adler’s individual psychology – led him to establish falsifiability as the single most important benchmark of a scientific theory. In other words, Popper was interested in the testability of a theory through experimentation; in order to be scientific, the theory should be operationalized in a manner that, upon observation, can render it either true or false. In *Conjectures and Refutations*, Popper references Einstein’s theory of relativity to illustrate his argument. He describes Einstein’s theory as “risky” because it stated very clear hypotheses, which, if did not come to be supported with empirical evidence (especially with differing Newtonian theories in the air at that time), would completely nullify Einstein’s claims. Conversely, Popper argues, psychoanalysis built its foundation on theories that were fundamentally untestable, i.e. it claimed to provide an explanation for every possible behavior. He criticized the complacent confidence of its practitioners who used every finding as a confirmation for their theories – a supposed strength of psychoanalysis that Popper saw as its primary failure. All “observations” were derived from oral accounts of patients that could not be tested scientifically. Therefore, according to Popper, the main difference between the physical sciences and psychoanalysis is, that while the former generates theories that are put to the test in order to be disproved (seek to be falsified), the latter only seeks corroboration for its theories, thereby concluding every finding in its favor In his own words, “Every 'good' scientific theory is a prohibition: it forbids certain things to happen. The more a theory forbids, the better it is.”

While Popper accepts that psychoanalysis, with regards to its explanatory power, can be quite useful, he questions its claims to scientific status by arguing that its basic foundation, i.e. the ‘unconscious’ is unobservable, therefore making the concepts of the Id, Ego, and Superego analogous to “primitive myths” which cannot be refuted or falsified. Moreover, Popper argues that psychoanalysis derives its conclusions through induction, something that compromises its validity. Every new observation is explained by generalizing findings from older case studies. In this respect, Popper also uses the term “conventionalist twist” to condemn how some proponents of the theory “reinterpret” their findings in a way that it escapes any chance of being falsified. This happens due to their presuppositions or “horizon of expectations” about the observations. Since their personal, preconceived prejudices taint their understanding of new findings, this entire process is devoid of objectivity. Analysts can therefore perpetually apply their theories to any given findings, which is what makes psychoanalysis unscientific.

Yet another major drawback of psychoanalysis lies in its rigid approach. Popper highlights this by detailing the distinction between a “dogmatic” and “critical” attitude. He argues how psychoanalysis employs the dogmatic approach by fixating upon verifying its theories, subsequently dismissing any criticisms that come its way. These theories are therefore inflexible, set in stone, and unfalsifiable because they will always claim to be right, no matter what. Every finding will be adapted to fit the theory’s expectations and nothing will ever seem to contradict it. A critical approach on the other hand ensures flexibility and willingness to reform our theories; it welcomes rebuttal and involves the acknowledgement that alternate perspectives can and should exist, and that the one I endorse is not necessarily the correct one. With this in mind, Popper likens the critical point of view to a scientific or rational standpoint, and the dogmatic, opinionated attitude to a “pseudoscientific”, or in other words, a “prescientific” one. While both possess a set of theories, the former welcomes criticism and rectification. Hence, in this regard psychoanalysis is what we would call deterministic; by its very nature it rejects the ability to be questioned or wronged.

Following from the above, Popper issues one final criticism of psychoanalysis’ claims to be scientific in *Conjectures and Refutations*: since every scientific theory is codified to include and exclude specific observations, he asks proponents of psychoanalysis whether or not they have developed said “criteria of refutation”, and whether there is consensus regarding this criteria. Moreover, he argues that there is no way to ensure that patients’ responses are free of the personal biases or suggestions of analysts, projected onto them in order to adapt their answers to the analysts’ theories.

Proponents of psychoanalysis, on the other hand, use various clarifications to counter the claims made by Popper. They argue that, contrary to Popper’s allegations, psychoanalysis is based on a careful understanding of patients’ narratives, not just mere assumptions or personal biases of the therapist. According to Freud, the discipline employs the “hypothetical deductive model” or the scientific method which seeks to establish hypotheses and test them. Hence, psychoanalysis gives an individual the liberty to express their own thoughts through free association which the therapist then puts together into a coherent narrative. Another key criticism by opponents involves the notion that psychoanalysts impose their own expectations onto patients through the ‘power of suggestion’ which leads them into the direction favored by the analyst. However, Freud – earlier a practitioner of hypnosis – ceased to pursue it as a form of treatment because hypnosis employed the aforementioned tactic of suggestion to guide the patient – something he felt interfered with the objective process. He therefore developed free association whereby the patient was granted the liberty to express their own chain of thought (including reports of their dreams) without being prompted by the analyst. He used a method known as “transference” which allowed the patient to project their feelings onto a therapist, all on their own terms without the interference of the therapist. These clarifications suggest that perhaps Popper incorrectly extended the criticisms of Adler’s individual psychology to Freud’s psychoanalysis despite their theoretical and practical differences.

For Popper, the biggest drawback of psychoanalysis lies in its inability to be falsified. To counter this, it is important to note that Freud developed psychoanalysis as a “new science” to gain insight about an entirely different set of data: a person’s deep rooted and unconscious mental processes. Since no one had attempted to do this earlier, we have to accredit Freud for devising a consistent approach that could be used to gather such information. This approach consisted of careful observation of the patient’s spoken and unspoken communication, along with a non-judgmental and empathetic attitude on the analyst’s part. Psychoanalysis prides itself on being able to inspire unfiltered communication by the patient, strengthened by the confidentiality of the therapist as well as the knowledge that this conversation is unlike conventional ones – without any rules and guidelines. Therefore, all these factors put together create a safe, judgment free space for individuals to engage honestly with the therapist without being influenced by the opinions and expectations of the therapist.

Another vehement criticism directed at psychoanalysis involves its failure to live up to its claims of being compatible with the scientific method. This is not completely justified because Freud developed psychoanalysis as an offshoot of neurobiology – the neurobiology widespread at his *own* time. Hence, in seeking to establish a connection between his theories and the dominant scientific approach at that time, it is self-evident that most of his theories do not substantiate our existing scientific knowledge since they were based on the neuroscience of his day. It was still an evolving domain of human biology, so the discrepancies discovered in Freud’s theories naturally followed from the incorrect suppositions made by the scientists at the time. So, while it would be correct to argue that Freudian psychoanalysis conflicts with modern science, it should be conceded that it did not always clash with scientific principles – at least, not those of the late 18th and early 19th centuries. Moreover, the development of PET scans helped to track physical changes in the brain, with a special focus on the activation of areas associated with the “defense mechanisms” described by Freud. This has aided our understanding of the unconscious mental processes that he theorized about, thereby proving the accuracy of his views.

Freud’s discovery of the crucial link between the developmental years of childhood and our adult personalities is also among his key scientific contributions. He aimed to discover the origin of certain repetitive behaviors and found that childhood experiences lead to the development of certain “structured mental dispositions” that shape our future personalities and behaviors. Thus, Freud’s discovery of the mechanisms involved in storing memories and their impact on our development is what forms the link between his psychoanalytic assumptions and the workings of the brain.

Finally, one of Freud’s most significant contributions to the neurological aspect of therapy is his emphasis on the process of “working through” once an individual’s repressions are unconcealed. This idea stresses the importance of training a person to gradually adapt to new thought processes, substituting them for older ones. Since we condition our mind to respond to stimuli in a certain manner, the brain forms specific neural connections which then automatically structure our thought processes and subsequent behavior. Freud’s concept of “working through” thus aims to aid patients in unlearning old ways of thinking and behaving – unraveling their deepest thoughts and making them intelligible is only the first step. This idea has led to significant implications for therapy by allowing us to understand how we can retune the workings of our mind to permanently affect those of the actual brain. Moreover, his insight allowed room for more compassion and tolerance in therapy by correcting our assumptions about the brain being a quick and flawless adaptor to change.

To conclude, although psychoanalysis has had several important highlights, such as facilitating our understanding of unconscious mental operations and defense mechanisms, it still does not qualify as a fully scientific domain due to its lack of falsifiability – Popper’s main critique. Despite its relatively standardized procedure, psychoanalysis is not the most objective form of treatment for it relies on inductive explanations derived from only a handful of case studies. Moreover, it certainly does not live up to Popper’s precise and accurate criteria of a scientific discipline, which renders Freud’s claimed dedication to the hypothetical deductive model refuted. There is no way to empirically observe or test someone’s dream, for example, and therefore theorizing about that is a matter of utter subjectivity; not even two therapists will have similar explanations for the same dream.

However, it is also justified to argue that Freud’s scientific contributions should be measured in terms of the many intriguing inquiries he posed – which were later tested scientifically – and not solely on the basis of how scientifically correct his own assumptions were. But it is necessary to understand that Freud’s work has had primarily social, rather than scientific consequences: his work played a more significant role in revolutionizing our moral outlook regarding subjects like sexuality, the de-stigmatization of mental illness, and openhearted acceptance of therapy without the attachment of labels. Therefore, despite its various (indirect) contributions to science and the development of certain technology to study unconscious mental activity, Popper’s justifications for calling Freudian psychoanalysis pseudoscientific are valid to a high extent. Something that can be easily reinterpreted and adjusted to explain every observable situation does not really qualify as scientific, but rather, as wishful thinking. Most Freudian theories have also been criticized for their misogynistic ideas, which is why modern psychoanalysts have discarded many classical Freudian concepts clearly reflective of a particular kind of mindset that was dominant in the last century and a half. With that in mind, Popper’s condition of falsifiability also determines the universality of a specific theory, which unlike psychoanalysis, other branches of psychology such as experimental psychology certainly adhere to.

**2039 words**

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