

Conceptual slippage and the science fiction of neuropsychanalysis

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Abstract:

This paper is a response to Brett Clarke's recent publication in the IJP *A cat is not a battleship: thoughts on the meaning of "neuropsychanalysis"*. Following Clarke's lead, a further attempt is made to bring logical analysis to bear on the claims of the relevance of neuroscience to psychoanalysis. While neuroscience cannot be judged as completely irrelevant to psychoanalysis, the claims of authors such as Solms are found wanting on epistemological grounds; subjective knowledge of conscious experience and objective knowledge of brain processes are not, and never can be, interchangeable. Psychoanalytically it is suggested that the claims made for the relevance of neuroscience are instances of a wish-fulfilling vision; one which began with Freud. Some speculations about Freud's emotional motivation for pursuing this vision are offered.

'It is a sign of weakness to combine empirical and logical arguments, for the latter if valid, make the former superfluous'

(Bertrand Russell 1946)

In his recent paper in the IJP, Brett Clarke (2018) comprehensively, and with scholarly precision, addresses the conceptual problems posed by the neuropsychanalytic 'vision'.

Following his punchy introductory comments, Clarke offers a summary of Blass and Carmeli's (2015) critique of neuropsychanalysis and their refutations of the arguments put forward by Yovell, Solms and Fotopoulou (2015) for the validity of the neuropsychanalytic vision. Clarke finds Blass and Carmeli's arguments persuasive, but seems to feel that they have pulled their punches and don't deliver a knockout blow: 'While these are carefully argued, consequential criticisms, I want to suggest that, by not explicitly anchoring their discussion in the central philosophical issues they have already implicitly put in play, Blass and Carmeli make it easier for the proponents of neuropsychanalysis to keep on in their familiar position, along with its categories of language and its philosophical assumptions' (Clarke 2018, p. 428). Clarke, by shifting his discussion towards the fundamental philosophical issues, attempts to put neuropsychanalysis on the ropes and does land some powerful hits, but I was ultimately left with a similar feeling, that he does not quite deliver the decisive blow.

It may be that a decisive blow is not possible and the idea that neuropsychanalysis is going to be knocked down and out once and for all is a wish-fulfilment, just as the investment in the neuropsychanalytic vision began as Freud's wish-fulfilment and has been taken up by many others since, in what I will contend is essentially a wish-fulfilling vision.

'Wish-fulfilment' was, of course, one of Freud's theoretical constructs aligned with the 'pleasure principle', which he contrasted with the 'reality principle'. It is relevant here to consider Freud's ambivalence about his reality principle, which seemed to remain something of a compromise. Maintaining contact with reality offers the best chance of our wishes being fulfilled, suggested Freud, and ultimately he endorsed the value of relationship to reality in terms of his pleasure principle. In his

theoretical framework the ‘reality principle’ is an evolution and a more sophisticated version of the pleasure principle: ‘Actually the substitution of the reality principle for the pleasure principle implies no deposing of the pleasure principle, but only a safeguarding of it’ (Freud, 1911, p. 223).

The discoverer and inventor of psychoanalysis is often invoked in support of the neuropsychanalytic vision. Freud’s investment in his wish-fulfilling ‘biological’ vision of the mind remained more or less intact until the end of his life and I will return to this interesting question at the end of this paper.

In the following arguments I will endeavour, *as far as I am able*, to maintain a disinterested position; in Bion’s terms, a ‘K’ position in relation to *all* aspects of reality (Bion 1962). I will attempt to adopt the position that, while our wishes exist as one aspect of reality, beyond this fact, wish fulfilment is one thing and the relationship to reality is quite another.

The title of Clarke’s paper, *A cat is not a battleship* invites association. I recall being taken as a young child to my school sports day, fete and market. Most wonderful and potentially wish-fulfilling of the objects for sale was a grey wooden destroyer battleship, clearly made with much love and care by some local craftsman. I implored my parents to buy this for me and I will ever remain grateful that they did so and, in this and subsequently, did not seek to block play and exploration of my own aggressive fantasies/phantasies. Perhaps as a consequence of this freedom, today I much prefer the company of cats to destroyers, but to take up Clarke’s image, this short paper will constitute my attempt to bring the destroyer function of conceptual logic to bear on the task of, if not sinking, at least putting a hole in the formidable neuropsychanalysis battleship.

The neuropsychanalytic vision.

It is important to clarify at the outset what the neuropsychanalytic vision in question is. The neuropsychanalytic vision which I will address is the one Clarke makes explicit in his paper. He quotes Nobel prize winner Eric Kandel’s 2005 view that psychoanalysis’ error has been not to align itself with neurobiological science: ‘Because psychoanalysis has not yet recognised itself as a branch of biology, it has not incorporated in the psychoanalytic view of the mind the rich harvest of knowledge about the biology of the brain and its control of behaviour as it has emerged in the last 50 years’ (Clarke 2018, p 425). Clarke quotes Turnbull and Solms in 2003: ‘The high road for psychoanalysis is to engage with the neuropsychanalytic issues which should now directly interest it’, and ‘A radically different psychoanalysis will emerge’ (Clarke 2018, p. 426).

Clarke again quotes Solms 2003 in a *slightly* more nuanced vision: ‘[T]he things that we study in psychoanalysis are in fact the very same things that are studied by our colleagues in the neurological sciences. The differences in these disciplines arise only from the fact that they use different perceptual channels to study the unitary underlying thing. Psychoanalysts study the workings of the mind though internally directed perceptual channels, whereas our colleagues in the neurological sciences study it though externally directed channels’ (Clarke 2018, p. 431).

The neuropsychanalytic vision then is that neuroscience and psychoanalysis are looking at the same entity from different but compatible perspectives.

Ontology and Epistemology

Clarke’s position, in contrast, is that, ‘because the merging of mind and brain is fundamental in the discourse of neuropsychanalysis, the teasing apart of these terms likewise has to take place at this fundamental ontological level’ (2018, p. 429). My view differs slightly in that I believe the fundamental

issue is more cogently framed as an epistemological one. Ontologically there may, or may not, be a valid argument that we are looking at the same entity from different perspectives, but epistemologically we are not, and never will be, looking at comparable phenomena. Mind phenomena can never be directly translated into brain phenomena, or vice versa, and it is here that the neuropsychanalytic vision breaks down.

Clarke offers compelling arguments in the realms of ontology and epistemology, but perhaps fails to sufficiently separate the two. He also does not acknowledge elements of *possible* ontological validity in the neuropsychanalytic vision. In a pugilistic contest it remains realistic and expedient to recognise and acknowledge the potential power of the opponent's punches.

I will attempt to address first the ontological dimensions of the debate and then the epistemological dimensions.

Ontology

It is important here to keep in mind that when philosophers and scientists address these questions they are usually conceptualising the mind in terms of consciousness and this framework is assumed in the following arguments.

In the for or against neuropsychanalysis debate, ontological arguments will never prove decisive or conclusive either way, simply because we don't know and can't. We don't have an answer to the problem of the nature of the mind/body or mind/brain. Since classical antiquity philosophers, and in recent centuries scientists, have debated the question of how we are to understand the nature of mind, and how we conceptualise the nature of the relationship between mind and brain. The problems however remain in essence conceptual and philosophical and amenable to scientific investigation in only limited aspects. Even Solms and Turnbull have written they were 'of the opinion that the nature of the relationship between brain and mind (body and soul) is *not* amenable to scientific proof. Statements such as "body and soul are one" (the monist position) or "the soul does not really exist" (the materialist position) are not, in our view, scientifically testable statements' (2002, p. 55).

Ontological questions about the nature of mind brain relationship have no solution to date, and would seem highly unlikely to ever have one. The problem remains one in the realm of metaphysics rather than physics (Schimmel 2001). From a conceptual philosophical perspective, rather than a scientific one, we already know all we are ever going to know about the nature of their inter-relationship. As far as it is possible to know such things, we 'know' that the functions of the conscious human mind correlate with and are contingent upon the functions of a living human brain, or to use the language of philosopher David Chalmers (1996), the function of the conscious human mind supervenes upon the function of the human brain biologically, but not logically. Chalmers view that consciousness is naturally or biologically 'supervenient' upon the function of the brain captures the situation precisely, and I think today most of us of a 'scientific' disposition assume such a position.¹

In whichever way we conceptualise the nature of the relationship, with the exception of spiritualists and any remaining idealist philosophers, most of us would conclude there can't be a functioning mind

1 Chalmers offers the suggestion that the mind is naturally supervenient upon the functioning brain, but not necessarily logically supervenient. By this he means that the presence of a mind is biologically contingent upon the presence of a functioning brain, but that there is nothing in the observable characteristics of the living brain that would seem to logically entail the necessity of consciousness.

without a functioning brain. No doubt in the future, with more sophisticated techniques of investigation into the brain, we will clarify the details of this relationship in finer and finer grain, but from the ontological perspective, this cannot in principle add anything fundamentally new. It is only likely to confirm what is already clear; that the mind is contingent and supervenient upon the functioning brain. It is hard to imagine further research results will challenge this position.

If, as I suggest, further research cannot clarify the ontological nature of the mind/brain, what is the current situation? The current philosophical situation is that various possibilities for a ‘solution’ to the mind/body problem remain, *at least in theory*. For example, as unlikely as an idealist ‘solution’ might seem to most of us, it *cannot* be discounted on logical grounds; as unlikely as a materialist ‘solution’ would seem, to me at least, it *probably cannot* be discounted on logical grounds either.²

Some purported solutions to the mind/body problem, in particular the parallelist and epiphenomenalist positions have, in practice, if not entirely in principle,³ been effectively ruled out by scientific research. Parallelism, the system proposed by G. W. Leibniz (Woolhouse and Francks, 1998) suggests there is no causal connection either way between brain and mind. Epiphenomenalism is the view that mental events are disembodied phenomena (epiphenomena) that accompany brain events, but which have no causal effect in themselves; conscious experience is considered a kind of passive accompaniment and register of brain activity, but has no causal effect on subsequent events, in either brain or mind. The fact that the theory of epiphenomenalism specifically entails a one way limitation of causal interaction (brain to mind) and parallelism an absence of causal interaction between mind and brain, lends them to empirical scrutiny, and given that research has confirmed, what we presumably infer logically, that mental events are a potential influence on what happens in our brains, and vice versa, both can be discounted, at least in practical terms. As a further interesting aside we might reflect that, while not endorsed in principle, in practice the epiphenomenal approach remains ‘alive and unwell’ in psychiatry, so that many practitioners approach clinical situations as though brain events are the determinants of subsequent brain and mind events, and are effectively *the* determinants of experience.

Most of us today would probably tend towards something like a dual aspect theory of brain and mind; that at some level we are dealing with a unity, a mind-brain entity, but that we are confronted epistemologically with the duality of our experience of mind and body.

In my understanding, the lack, or limitation of *causal* formulation in parallelism and epiphenomenalism open these theories to empirical scientific research in a way that other standard ‘solutions’ to the mind body/brain problem are not. Any critique of these other solutions remains in the province of logical and conceptual analysis. To take up the debate that has crystallised out of so-called Cartesian Dualism, we have no evidence that ultimately can decide the question in a ‘monist’ or ‘dualist’ way. We simply cannot say whether mind and brain are the same ‘stuff’ or different kinds of ‘stuff’. We are dealing

2 Despite the lack of common sense appeal of both idealist and materialist solutions, an idealist solution is possibly less easy to dismiss on logical ground than a materialist one, for the reasons formulated by Descartes. In Bertrand Russell’s words: ‘“I think, therefore I am” makes mind more certain than matter, and my mind (for me) more certain than the minds of others’ (Russell, 1946).

3 Again, despite the apparent contradiction of common sense these implausible positions could be supported, as Leibniz did, by recourse to a divine presence that orders the world in this way.

with something, a ‘noumenon’⁴, in essence unknown and unknowable, that we might call the ‘mindbrain’ entity. It is for this reason that I suggest ontological arguments ‘for or against’ the relevance of neuroscience can never prove definitive.

As a further aside here, I believe it is important to understand that the mind-brain problem was not created by Descartes, as sometimes seems to be suggested. Descartes, perhaps perplexed and disturbed by awareness of our experience of duality, attempted to address this problem in his philosophical speculation, however dualism is an inevitable consequence of the possession of a self-aware and self-reflective mind, and so potentially inherent in the human experience; it is part of the price we pay for possession of a ‘modern’ mind. We simply experience material reality as one thing and conscious mental reality as another, and cannot conceive of how they interact. Clarke puts this well: ‘a certain “dualistic” sensibility persists in all of us’. And ‘Our sense of having or being a separate mind needn’t be seen as residue from Descartes’ substance dualism ... It can be seen instead as evidence of the powerful claim made on us by our *immediate* experience of ourselves in the world’ (2018, p. 435).

At this point the ontological problem ‘becomes’ an epistemological one, because our ways of gaining knowledge about brain stuff and mind ‘stuff’ remain different and disconnected.

Epistemology

It is in the epistemological frame that the ontologically shaky neuropsychanalytic vision disintegrates. This is simply because we have no way of transforming knowledge of one system into that of the other; more specifically, we have no way of translating neuroscientific observation into direct knowledge of subjective experience, or vice versa. This is at the heart of the mind brain problem and in my view will always remain so.

If we consider a simple but discrete subjective experience, it might be that you drop a brick on your toe and in consequence experience pain, or that you see an orange and register the image of an orange in your mind. Nothing in our observation of what is taking place in the brain in these circumstances can give the external observer this experience. The brain phenomena are presumably the correlates of the mental experience and upon which the mental experience is contingent, but they can never give us the experience in and of itself. Even if an observer of the brain of someone who is feeling the pain in the toe was able to infer an experience of pain in the subject, this is not the experience itself. The observer will not feel the pain in the toe. The observer of the brain perceiving the orange cannot see an orange. ‘The problem that science probably cannot reach is how to give a satisfactory explanation of mental experience, or the phenomenology of consciousness, in terms of the brain. There does not seem to be a way. Any attempt at explanation inevitably ends up leaving out the mind’ (Schimmel 2001, p. 485). As philosopher John Searle insists in *The Rediscovery of the Mind* (1994), study of the phenomena of the mind is not possible without studying consciousness.

Searle observes that when reading many materialist philosophers, ‘it seems clear that when they assert the identity of the mental with the physical, they are claiming something more than simply the denial of Cartesian substance dualism. It seems to me they wish to deny the existence of any irreducible mental

4 Emanuel Kant’s concept of the noumenon refers to the thing in itself; the ultimate reality that is manifest indirectly in the phenomenal world.

phenomena in the world. They want to deny the existence of any irreducible phenomenological properties, such as consciousness, or *qualia*' (1994, p 27).⁵

Searle continues, 'Now why are they so anxious to deny the existence of irreducible intrinsic mental phenomena? Why don't they just concede that these properties are ordinary higher-level biological properties of neurophysiological systems such as human brains?' (2014, p. 28). Searle's rhetorical question 'why are they so anxious', is a psychoanalytic one, and while his concern is not to pursue psycho-analytic investigation, I think we can infer the implication that something wishful is involved. But a wished for outcome is not the same thing as extant reality.

Searle concludes, 'one can accept the obvious facts of physics – for example, that the world is made up entirely of physical particles in fields of force – without at the same time denying the obvious facts about our own experiences – for example, that we are all conscious and that our conscious states have quite specific *irreducible phenomenological* properties' (2014, p. 28).

If mental states have specific *irreducible phenomenological* properties as Searle asserts, and I believe to be *a self-evident fact*, then the neuropsychanalytic vision as expounded by Solms above is in big trouble. It is in trouble because we cannot reduce knowledge of the mind to knowledge of the brain, or vice versa. Whatever we believe the ultimate nature of the mind-brain system to be, that is whatever we conclude about its ontology, epistemologically we are investigating the system(s) from two non-interchangeable perspectives. The mind does not appear to be logically supervenient upon the activity of the brain, and it is simply not possible, and never will be possible, to reduce conscious experience to explanation in terms of neurophysiological properties. The best we can ever hope to do is achieve correlations between one system of knowledge and the other.

To return to Solms manifesto, he states, as quoted: '[T]he things that we study in psychoanalysis are in fact the very same things that are studied by our colleagues in the neurological sciences' (Clarke 2018, p. 431). Solms position here is fundamentally confused in that even though we cannot be certain that a mind is not the same thing as a brain, (although common sense suggests they are different and any dictionary will testify to this position), nevertheless our channels of investigation remain radically different, and incompatible. Even if we were to allow some slippage, and grant the ontological ground to Solms in accepting that at some level the mind and brain may, or could, be the same stuff, this doesn't advance his position, because there is not, and never will be, any way of directly translating knowledge of one into knowledge of the other; our channels of investigation remain incompatible. As stated, we are simply stuck with our duality of experience; it would seem to be inherent in the having a self-aware and self-reflective mind. It may be that certain 'primitive' (I use the word advisedly) peoples do not experience the 'problem' of dualism, and perhaps are fortunate in this, but the other side of this reality is that such peoples would not possess a developed self-consciousness, such as is inherent, for example, in the nature of a psychoanalytic awareness. If we wished to do away with the experience of dualism we would have to be willing to forego the capacity for thoughtful self-awareness inherent in the possession of a 'modern' mind.

Solms continues: 'The differences in these disciplines arise only from the fact that they use different perceptual channels to study the unitary underlying thing. Psychoanalysts study the workings of the mind through internally directed perceptual channels, whereas our colleagues in the neurological

⁵ *Qualia* refer to the subjective qualities of experience, in my examples the quality of the pain or the image of the orange.

sciences study it through externally directed channels' (Clarke 2018, p. 431). This difference is however far from trivial. As stated, it is unbridgeable, at least when it comes to attempts to equate mind and brain phenomena; the best we can do is to achieve greater correlative understandings of the relationship.

This much can be conceded to the neuropsychanalytic vision: correlative studies of mental and brain phenomena are possible and on logical grounds can potentially offer endorsement or challenges to psychoanalytic metapsychological theory. In so far as a practitioner is influenced by metapsychological theory, this could potentially have some indirect impact on clinical work.

For this reason I do not object as strongly as Clarke does to Fotopolou's stated position that, 'in time, neuroscience can influence the universal metapsychological models that are put forward, discussed and debated within psychoanalysis, and then applied, and in this sense neuroscience can *indirectly* influence the fate of psychodynamic therapies.... Given that neither of the two facets [neuroscience/psychoanalysis] is sufficient to fully describe the actual phenomenon (the so-called "mindbain" entity), collaboration and dialogue may *constrain and enhance each other's models*, without eliminating each other's unique scope and practice' (Clarke 2018, p. 437).

As Clarke points out, Fotopolou's language is unfortunate in suggesting a far more potent role for the findings of neuroscience than is possible. We need not to lose sight of the fact that psychoanalytic metapsychological theory can only be forged out of the clinical encounter with patients. Nevertheless, on logical grounds, while neuroscience cannot determine psychoanalytic theory, it might offer challenges, or endorsements, to elements of theory.

It should be noted that at present the nature of neuroscientific research is probably too coarse grained to offer much that could be correlated with psychoanalytic metapsychology. For example, some practitioners and scientists have pointed to neuroscience observations that confirm the potential for psychotherapeutic interventions to lead to alterations in the function of the brain, as detected on brain scans and so on, as confirmatory of the efficacy of these interventions. This level of research is however *redundant and irrelevant for a psychoanalyst*, at least for a thinking one. The efficacy of psychoanalytic or psychotherapeutic endeavours can only be assessed on the basis of psychological parameters. Furthermore, if a practitioner believed that the finding of a brain scan was necessary to 'prove' the efficacy of his or her interventions, this would suggest a problematic level of doubt on two fronts. First and most importantly, if a practitioner believes they possess clearly observed evidence for a change in the mind of their patient, and if the practitioner believed with conviction in a theory of the mind-brain as a system, such belief would logically entail that changes must have taken place in the brain of the patient. This would be necessarily true, hence 'known' on purely logical grounds, and whether or not we have brain scans to 'confirm' the existence of these changes would be an irrelevance. The therapist who holds a mind-brain theory with conviction would not be subject to such anxiety. As Bertrand Russell has astutely observed, '*it is a sign of weakness to combine empirical and logical arguments, for the latter if valid, make the former superfluous*' (Russell 1946).

A second difficulty is that the investment in such findings would seem to suggest the practitioner was unable to tolerate the uncertainty of attempting to form an independent psychological assessment of the impact of what has taken place. However, such 'psychoanalytic' uncertainty cannot be done away with by observation of the brain, nor should it be.

The practitioner who cites the evidence of such brain research would appear to be either insecure in their judgement about their work (a problem only in so far as the fantasy is that this can be clarified by

the kind of research represented by a brain scan) or doubtful about the contingent (biologically supervenient) nature of the mind-brain relationship (a problem in and of itself).

As suggested, if we believe that we are dealing with reality, and an aspect of this ultimate reality is that the mind and brain form some kind of unity, albeit one unknowable in itself, some ground has to be given to the findings of neuroscience. They cannot in and of themselves establish any psychoanalytic theory, but logically we would expect the findings of neuroscience and psychoanalytic investigation to remain compatible. Any apparent logical incompatibility of theory should lead to a reassessment of the findings in both areas of research, as Fotopoulou seems to suggest.

Conceding this however does not deal with the epistemological gap that exists between the phenomena of neuroscience and the phenomena of psychoanalytic observation; a gap which will remain unbridgeable. For this reason, the impact of neuroscience on clinical practice will remain secondary and limited to considerations of metapsychological coherence, hardly the brave new world of a ‘radically different psychoanalysis’ as suggested by Turnbull and Solms (Clarke 2018, p. 426). Psychoanalysis can never be a science based in biology as Kandel naively suggests. Even if it were possible, as Solms suggests, that psychoanalysis and neuroscience study the same entity they do not study the same manifestations of this entity, and phenomenologically and practically, therefore, do not study the same thing.

There is a confusion of tongues, and it is interesting to observe what takes place with language. Our patients may be excused for saying ‘my brain thinks’, as in my experience they often do, however a philosopher or a psychoanalyst cannot be so exonerated. Whatever our brains are doing, it is in our minds that we are thinking and feeling. Clarke quotes Bennett and Hacker (2007), who point out that the ‘neuroscientific attribution of psychological qualities to the brain makes no sense. “[T]he brain,” they write, “cannot be conscious, only the living creature whose brain it is can be conscious - or unconscious. *The brain is not a logically appropriate subject for psychological predicates*” (2018, p. 436). He further quotes Dominique Scarfone (2012), who ‘remarks “that there are no ‘words’ in Broca’s area and no ‘fear’ in the amygdala, although these brain structures are vital for speech and for feeling fear respectively”’ (2018, p. 439).

Yet a confusion of discourse remains throughout much neuropsychanalytic writing. Youvell, Solms and Fotopoulou write: ‘However, as a result of the neuroscience revolution of the last three decades, these two disciplines have come to investigate the same territory – namely the functional organisation of the human mind – each from its own perspective’ (2015, p. 1523). To reiterate my central point, it is incoherent to suggest that neuroscience can study the functional organisation of the human mind; *neuroscience can only study the functional organisation of the human brain*. The ‘togglng’ back and forth between the two that Clarke identifies, is a conjuring trick.

At times Youvell, Solms and Fotopoulou seem to acknowledge this epistemological reality: ‘Thus, understanding the mind (first person subjectivity) and gaining knowledge of the brain (third-person objectivity) are scientifically independent practices (epistemological dualism)’. But then again they lapse into a blur of merger: ‘They concern different ways of arriving at the necessary insights, and hence they ultimately form different types of inferences of mental processes (e.g. psychoanalytic models of mental processes, and neuroscientific models of mental processes)’ (2014, p. 1526). To repeat: neuroscience does not study mental processes. The blur here is further confounded by a subtle confusion between models and theories. Neuroscientist ‘theories’ of what underpins mental processes are obviously possible, but I am sceptical about the possibility of valid ‘neuropsychanalytic models of mental processes’. A case in logic could be made that, because of the non-material nature of mental

processes, any such model must remain a projective anthropomorphism; the attribution of human mental phenomena to where they do not belong. Such a model would be a very different thing from, for example, a model of a destroyer. It may be that any model of mental processes, and this would include metapsychological models such as for example the idea of internal objects, will inevitably entail such anthropomorphism, but nevertheless if models (rather than theory) are to be of any use at all, *what may be of practical utility for psychoanalysts are psychological models of mental processes, of the kind formulated in a psychoanalytic metapsychology which has its origin in clinical experience.*

Whether or not my conjecture as to the inevitability of the anthropomorphism of a neuropsychanalytic model of mental processes is correct in general terms, it certainly was the case for Freud's speculation in *The Project for a Scientific Psychology* (1895).

Freud and neuropsychanalysis

I have elsewhere suggested that Freud's speculations about the brain in his *Project* were in fact speculations about the function of the mind re-framed in neurological terms. The origin of Freud's most brilliant and inspired guesses lay in his understandings of the mind. Projected into hypothetical brain functions it constituted an anthropomorphic fallacy. The extremely limited understanding of the brain function at the time made this inevitable, although as suggested it may be that the nature of the mind also renders any attempt to formulate this kind of model an anthropomorphism. Many elements of Freud's *Project* are concretized representations of abstracted conceptions of mental processes:

It is as if Freud is projecting his emerging ideas about the mind onto the known reality of the brain. To this extent the *Project* is an anthropomorphic fallacy; the fallacy of ascribing human psychic characteristics somewhere they do not belong. Even Frank Sulloway, who in his book *Freud - biologist of the mind* emphasised the conceptual validity of the biologically based elements in Freud's theories, has acknowledged that, 'much of the *Project's* supposedly neurological cast was indeed little more than a projection of previously formulated psychophysical constructs onto hypothetical neurophysiological structures' (Sulloway 1979: 130).

(Schimmel 2014, p.70)

I believe Freud's relationship to neuroscience and biology has generally been profoundly misunderstood, especially in its emotional dimensions. It has been repeatedly suggested that the reason for Freud's abandonment of his *Project* was the limited knowledge of brain and neurology available to him. While this was certainly relevant, I think it is clear from the letters to Fliess that Freud's *Project for a Scientific Psychology* was part of a manic defence (Schimmel 2014 and 2018) and, that the partial breakdown of the manic defence became the fundamental reason for Freud's abandoning his essay. Freud had some, albeit partial and fluctuating, awareness that his project was impossible in its conceptual essence, and that this impossibility would not be altered with more knowledge about the brain. It was, as he wrote to Fliess, 'a kind of madness' (Masson 1985, p. 152) 152).

During the period of Freud's self-analysis his attention shifted to the dream and his new project would remain on 'psychological ground' (Freud 1900, p. 536). However, while his experience of mourning for his father and his self-analysis offered containment, these emotional processes did not completely do away with Freud's manic defence; a residue of the 'madness' would persist throughout his life. As Yovell, Solms and Fotopoulou observe, 'Freud said similar things, in different ways, on many different occasions throughout his working life' (2015, p. 1538). He never relinquished what Robert Caper has

identified as, his ‘wistful tendency to regard psychology as a kind of physics and to treat emotions, ideas, and states of mind in general as epiphenomenal expressions of the energetic state of the mental apparatus’. (Caper 1988, p. 75)

As suggested, for Freud wish-fulfilment remained *the fundamental* organising principle of the mind, and was of course a powerful current in his own life. Consider his letter to Fliess in June 1900 and reference to the house where he dreamed the dream of Irma’s injection:

Do you suppose that someday one will read a marble tablet on this house:
Here , on July 24, 1895,
the secret of the dream
revealed itself to Dr. Sigm. Freud.
So far there seems little prospect of it.’

(Masson 1985, p.417)

The desired marble tablet has since materialised. While not minimising Freud’s success in this arena, wish-fulfilment is always subject to collapse and at times his wish fulfilling vision broke down dramatically, such as his embracing of what he came to view as his own illusions about the nature and course of the First World War and the extent of human destructiveness (Freud 1915).⁶ While Freud was able to confront his illusion about human destructiveness, other wish-fulfilment beliefs, such as his investment in biology and the possibilities of neuroscience, remained more intact.

Yovell, Solms and Fotopoulou state: ‘There is no generally accepted definition of what does and does not qualify to be called “psychoanalytical”. However, one body of clinical, scientific, and scholarly work that is surely beyond doubt in this respect is the work of Sigmund Freud’ (2015, p. 1538).

They suggest it is instructive, therefore, to compare Blass and Carmeli’s assertion that neuropsychanalysis “ascribes to biology a kind of significance that does away with the value of meaning and psychic truth which is at the foundation of psychoanalysis” (2007, p. 36) with the following statement by Freud:

The deficiencies in our description [of the mind] would probably vanish if we were already in a position to replace the psychological terms by physiological and chemical ones ...
Biology is truly a land of unlimited possibilities. We may expect it to give us the most surprising information and we cannot guess what answers it will return in a few dozen years to the questions’ we have put to it. They may be of a kind that will blow away the whole of our artificial structure of hypotheses.

⁶ Freud’s self-confessed ‘illusions’ in relation to the war, can be further understood in terms of his tendency to conceive of morality as an identification with a ‘superego’ attitude which ultimately determined action according to what was expedient. Freud’s superego is an identification with an overbearing external figure or object, and hence is unlikely to represent a fully integrated inner state of mind. Conscience, for Freud, was not considered as a disinterested faculty, and not therefore a potentially independent function within the mind (Symington, 2004). It remained a ‘super’ ego rather than a conscience. As a result he did not anticipate the extent to which the super-ego function, as he conceived it, might break down and be transformed into violence in warfare, and did not fully conceptualise how this function might be differentiated from a mature more robust conscience which would offer judgements as moral ‘categorical imperatives’, not subject to collapse.

(Freud 1920, p. 60)

What should we make of statements such as that the work of Freud is ‘beyond doubt’, and Yovell, Solms and Fotopoulou’s subsequent question, ‘Is it possible that Freud, like us neuropsychanalysts, did not understand the true, unique mission of psychoanalysis, or the inherent irrelevance of the neurosciences to it?’ (2015, p. 1538).

When a thinker, even one as brilliant as Freud, is elevated to the status of an infallible god, we are clearly in the territory Bion designated as -K. My answer to this question ‘Is it possible that Freud ... did not understand ... the inherent irrelevance of neurosciences to it [unique mission of psychoanalysis]?’ is that it is not just possible, but absolutely clear that he did not.

The 1920 quote cited by Yovell, Solms and Fotopoulou is from *Beyond the Pleasure Principle*. Without diminishing the brilliance of Freud’s reflection on the fort-da game, the intuitive brilliance of his recognition of the nature of the repetition compulsion, and the reality oriented attempt to come to grips with the nature and extent of human destructiveness, *Beyond the Pleasure Principle* remains as conceptually incoherent as anything Freud ever wrote. This is in no small degree because of his muddling of conceptual explorations of mind on the one hand, and speculations about biology on the other. As Freud writes revealingly, biology is for him ‘the land of unlimited possibilities’. This is, after all, the essay in which Freud offers the aside: ‘It looks suspiciously as though we were trying to find a way out of a highly embarrassing situation at any price.’ (Freud 1920, p. 54) As clinicians I imagine we are all familiar with the patient, hopefully including the self, who has a genuine intellectual insight to which only lip service is offered emotionally.

When Freud wrote, as quoted, ‘They may be of a kind that will blow away the whole of our artificial structure of hypotheses’, his conscious reference is to the hope he invests in biology as the land of unlimited possibilities. But can we really rule out an unconscious resonance to the ‘artificial structure’ of his elaborate biological speculations in *Beyond the Pleasure Principle*? Clearly such a question has no answer, but as a practising analyst this hypothesis has for me more *prima facie* plausibility than the whole structure of Freud's convoluted biological hypotheses in this essay. We might, at this point, raise the question of how such a psychoanalytic intuition on my part could ever be investigated or clarified further by the techniques of neuroscience!

When Yovell, Solms and Fotopoulou state: ‘There is no generally accepted definition of what does and does not qualify to be called “psychoanalytical”, I would venture the view, quite possibly another wish-fulfilment on my part, that in the 21st Century the psychoanalytic endeavour is settling on the pursuit of truth as the essence of what is “psychoanalytical”. This suggestion carries the necessary qualification that truth is always multifaceted and often extremely difficult to discern. In the clinical context truth is apprehended through exploration of our individual capacity to deny or modify what is true. Elusive as ‘the truth’ may prove to be, nevertheless the pursuit of truth can often be sharply distinguished from violence towards the truth, the pursuit of lies, ‘science fictions’ and ‘fake news’.

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