

Anticipation, Repression and Error in Freud's 1895 Model of the Mind

J. Brendan K. Maloney, Ph.D.
Avenida Septima 56 b2
28022, Madrid, SPAIN
maloney@telefonica.net

Abstract

The model of the mind in Freud's 1895 'Project' is examined to try and answer the question: what kind of Subject makes anticipation possible? It is found that it is a divided Subject, one that undergoes the process of repression, and is therefore capable of a certain kind of error. This arises out of two factors. First, the Subject of anticipation is an embodied Subject deriving the force of its will from *Triebe*. Second, the anticipating Subject arises out of speech acts. It is demonstrated that the biological development of the embodied Subject (maturation) and the inherent ambiguity of language combine to produce repression, and this necessarily, thereby leaving the Subject vulnerable to this specific kind of error: neurotic formations, *Ate*.

Keywords: anticipation, divided Subject, repression, *Triebe*, speech, error

1. Introduction

My goal in this paper is to bridge two groups of thought. The first is the group of scientific, mathematical and technical professionals that comprise the large majority of participants at this conference. The second can be called philosophical anthropology, or, perhaps more accurately, the impact of psychoanalysis on philosophy. This is my own field of expertise. Therefore, my goal is to try and make the results of my own research – which centres on Sigmund Freud's earliest model of the mind, known as the 'Project' (1895) – relevant and comprehensible to those not familiar with the jargon of my specialization, hoping to contribute something to the discussion at hand.

That discussion is on anticipation.¹ I propose to use the question of the Subject as the guiding line of inquiry. Specifically: what kind of Subject can anticipate? What must the human Subject be like in order for anticipation to be possible?

Consider René Descartes' famous formulation of the Subject: *cogito ergo sum*, I think therefore I am. This could, if one prefers, also be called *the subjective formula*. The Subject appears where a process of thought is able to perceive itself. Thought + Self-awareness = Subjectivity.

¹ Dubois distinguishes weak anticipation from strong anticipation on the basis that the latter "is fundamentally imbedded" in the system: it is not necessarily a conscious, biological system and does not employ any kind of model (Dubois 2000: 3). The topic here is how Freud's *model* of the mind can be interesting in comparison with Rosen's anticipation. The principle connection is the role of the model, and for this reason, discussion of strong anticipation is put aside and all references to anticipation will refer to the weak variety.

The identity of this Subject must be stressed. The thought that is taking place is considered to be unequivocally identical with the Subject that is aware of it. To paraphrase Schopenhauer, "I think therefore I am" can be reduced to "I think" which is the same as simply saying "I." This, at least, is what the philosophical tradition has usually presumed the Subject to be.

Consider now George Mobus' amusing reformulation, which he presented at the Third CASYS conference on anticipation in 1999: I need to eat, therefore I think (Mobus 2000: 1). Mobus has captured Rosens' basic philosophical position concerning anticipation: it is thought with a primarily practical and adaptive purpose. "The capacity to think, that is to reason with concepts, derives from the architecture of an adaptive control system for finding food and avoiding predators and accidents" (Mobus 2000: 1). It is about survival, not philosophy. It does not perch upon the lofty height of reflexive self-awareness but is content with a working model of itself, not to better know itself, but to improve the efficiency of its reactive responses (Mobus 2000: 13). The anticipating Subject is not a mental unity so much as it is a single-mindedness: a preoccupation with its own hunger.

Nonetheless, note how the presumption of the philosophical tradition remains intact. Though the anticipating Subject may not be aware of it, it is still identical with the thoughts that anticipate. The *cogito* is preserved, only tacitly.

Consider, finally, how much the thought we use to solve our hunger problems – or to formulate our own self-awareness, for that matter – is determined by language. Biological survival as such may not require it, but humans can't seem to do without it. One cannot conclude that one *is* one's thought – even tacitly – without the cognitive judgment rooted in the decisive adverb, *therefore (ergo)*. We humans cannot determine our reactive responses without the assistance of language, which is the medium of our understanding.

Today, I want to show how these two factors – driven embodiment and language – combine in such a way that the anticipating Subject is susceptible to what Freud called *repression*. Repression undermines the traditional assumption of Subjective identity because it presents a Subject that is divided from itself, at conflict within its own mind. After repression, the Subject can say: there are thoughts in me that are not part of me, thoughts with which I do not identify. Or, in other words: Where it thinks in me, I, therefore, am not. Yet it continues to concern me, in spite of myself.

2. Rosen's Anticipatory Subject

Robert Rosen asserts "that obvious examples of anticipatory behavior abound in the biosphere at all levels of organization, and that much (if not most) conscious human behavior is also of this character" (Rosen 8). Anticipation is present when "present behavior is generated in terms of a predicted future situation" (Rosen vi). More exactly: "an anticipatory behavior is one in which a change of state in the present occurs as a function of some future predicted state, and that the agency through which the prediction is made must be, in the broadest sense, a model" (Rosen 1985: 8).

The anticipatory Subject, then, lies between present behaviour and predictions about the future. Phenomenologically, it is an *intentional consciousness*. Its current actions are guided by an aim – a directed purpose. Predictions are present to it through a specific agency: a model of itself and its relationship with the environment. Note that this is an agent at the Subject's disposal, and does not exhaust its being. The Subject anticipates by employing this agency, using the model for its own purposes.

The main aim is to survive, to be a well-adapted Subject.

To take a transparent example: if I am walking in the woods, and I see a bear appear on the path ahead of me, I will immediately tend to vacate the premises. Why? I would argue: because I can *foresee* a variety of unpleasant consequences arising from failing to do so. The stimulus for my action is not *just* the sight of the bear, but rather the output of the model through which I predict the consequences of direct interaction with the bear. I thus change my *present* course of action, in accordance with my model's prediction. Or, to put it another way, my present behavior is not simply *reactive*, but rather is *anticipatory*. (Rosen 7)

Rosen explains that this requires at least four elements (Rosen 12). (1) An object system, which is the one currently of interest. In this example, we can assume the object system is Rosen himself. Or, more precisely, it is his body walking down the path. (2) A model of the object system. This, I suggest, is the image Rosen has of himself and his place in the environment. (3) An effector system, which allows the model to initiate action when necessary. In this way, the model can bring about changes in the object system (Rosen can run away). (4) Desirable and undesirable states. The model must have a kind of purpose, an aim, a criterion for distinction: a function with certain tasks to perform. Rosen refers to the simple binary opposition of pleasure/pain, which he suggests is axiomatic in all living systems. When, on the basis of its current trajectory, the model predicts an impending negative state for the object system, it determines what action must be initiated through the effectors. A run-in with a bear is, of course, a highly undesirable state to be in, given that it threatens the health and safety of the object system in question. But note: it is the model that presents this conclusion on the object system's behalf.

Rosen calls anticipation an "adaptive system" (Rosen 13). Rosen relies on a general Darwinian argument here (Rosen 4), but, from a psychological viewpoint, it generates more questions than it answers. This is mainly because human infants are born – and pass through many years of development – without possessing anything remotely resembling an adaptive anticipation, to which anyone's observation of young children will attest.

[M]odern human newborns have only 25 per cent of adult brain capacity, resulting in an extended period of helplessness. The many neurological pathways to the rapidly growing brain must be organized and coordinated during a prolonged period of dependency on and stimulation by adults; lacking this close external bond in the early years of life, development of the modern brain remains incomplete. (Encarta Encyclopedia)

Here psychology can contribute to the conversation. Anticipation can only develop in conjunction with instructive interaction with adults. The model – the image the system has of itself – comes from outside of itself, an "external bond." The child can only learn to see itself through the way others see it.

This brings us to the identity of the anticipating Subject. Of the four elements that comprise it, this Subject is none of them singly. It is true that Rosen is the one anticipating his own encounter with the bear, but there is an ambiguity at work here. The name "Rosen" can be used to refer to all four of the elements of the anticipating Subject:

- Rosen (his body) is at stake in the prediction.
- Rosen is the model he has of himself (his self-image) and its predictions of the future. That is: Rosen sees himself in his own predictions.
- Rosen is also the lived body of current behaviour – the effector system of flight – the guy running away.
- Rosen is the subjective awareness (consciousness) of any of his current system states, desirable or undesirable.

Though the name applies, none of these alone are the anticipating Rosen. He only emerges through a complex process that includes all of them. The anticipating Subject, then, transcends each of these individual elements, emerging from them as it coordinates them according to its purpose. It does so, however, only in so far as it succumbs to a little deception: identifying itself with the incongruous elements by which it manifests itself. The anticipating Rosen only exists in so far as he takes his body to be himself as he identifies himself with the image he has of the upcoming future. Without this, anticipation could not result. The body of current behaviour, for example, must believe that it is identical with the image of the body employed by the model. ("That could be me!") Otherwise, an alteration of current behaviour would not be provoked by it. The Subject of anticipation only appears when it believes itself to be identical with all the elements that comprise it. Anticipation is based upon the tacit *cogito*.

Rosen develops the following "proportionality relation":

$$\begin{array}{lcl}
 \text{model} & \text{closed system} & \\
 \text{-----} & = & \text{-----} \\
 \text{system} & & \text{open system}
 \end{array}
 \quad (\text{Rosen 1985: 278})$$

This means that the discrepancy between the predictions of the model and the actual state of the system will grow in proportion to the discrepancy between any closed system and an equivalent system open to environmental interactions (Rosen 1985: 278-9). The agency employing the model cannot include all the factors of real environmental conditions.

In so far as the model is not a perfect representation of the object system, any sort of prediction, planning or anticipation will yield only "system error, malfunction or breakdown" (Rosen 1985: 15). In addition, the process of modelling seems to be linked with the generation of *side-effects*: "unplanned and unforeseeable consequences on system behaviour arising from the implementation of controls designed to accomplish

other purposes" (*ibid*). Rosen asks himself: "are such side-effects a necessary consequence of control?"

These brief comments become even more suggestive when they are placed in the context of psychology.

[F]or any specific planning situation (involving an object system S, a model M, and suitably programmed effectors E), each of the ways in which planning can go wrong will lead to a particular kind of syndrome in the total system (just as the defect of any part of a sensory mechanism in an organism leads to a particular array of symptoms). It should therefore be possible, in principle, to develop a definite diagnostic procedure to "trouble-shoot" a system of this kind, by mimicking the procedures used in neurology and psychology. Indeed, it is amusing to think that such planning systems are capable of exhibiting syndromes (e.g. think of "neurosis") very much like (and indeed analogous to) those manifested by individual organisms. (Rosen 1985: 15)

It is one thing to suggest that an erroneous model will produce erroneous predictions. It is quite another, however, to consider neurosis as a necessary side-effect of psychological control. Psychoanalysis, which emerged from a study of the neuroses, describes them as a conflict between the ego (the psychological agency of control) and the unconscious (alterations outside of the Subject's awareness). Especially so since Freud blurred the distinction between the neurotic and the normal: we are all a little bit neurotic (cf. Freud 1901). Is it a side-effect of our efforts to control our interaction with the environment through anticipation? Is the emergence of an ego coincident with mental conflict? Does the unity of the tacit *cogito* veil a more fundamental rupture?

3. Introduction to Freud's 'Project'

The 'Project' refers to two notebooks Freud hand-wrote and sent as personal correspondence to his friend, Wilhelm Fliess, in 1895 (cf. Masson 1995: 1-13). In this early period of his psychoanalytic work, Freud was preoccupied primarily with traumatogenic hysteria – hysterical neurosis brought on by some kind of traumatic incident. Having seen people obey suggestions given under hypnosis, Freud was convinced that memories could be active but unconscious; he ventured that hysterical symptoms were caused by similarly active but unconscious memories of traumatic scenes.

Psychoanalysis evolved beyond this approach, both clinically and therapeutically. But our focus is upon the commonalities shared by Freud and Rosen from a more general perspective. Freud tried to remain focused upon this perspective by basing his theories in what he observed:

[E]ach individual hysterical symptom immediately and permanently disappeared when we had succeeded in bringing clearly to light the memory of the event by which it was provoked and in arousing its accompanying affect, and when the patient had described that event in the greatest possible detail and had put the affect into words. (Breuer and Freud: 6)

During the therapeutic sessions, however, these memories were not present to Freud or the patient in question. In Rosen's terms, they were not percepts or observables. It was only their emergence after the fact, accompanied by an intense emotion *expressed in words for the first time*, that demonstrated their pathogenic significance. Before that, he found that the patients only demonstrated a sort of resistance – a resistance to having their memories revived. Freud put his clinical experience of this resistance together with his conceptual notion of unconscious memories and was thus led to a theory of repression.

I found confirmation of the fact that the forgotten memories were not lost. They were in the patient's possession and were ready to emerge in association to what was still known by him; but there was some force that prevented them from becoming conscious and compelled them to remain unconscious... The force which was maintaining the pathological condition became apparent in the form of *resistance* on the part of the patient.

It was on this idea of resistance, then, that I based my view of the course of psychical events in hysteria... The same forces which, in the form of resistance, were now offering opposition to the forgotten material's being made conscious, must formerly have brought about the forgetting and must have pushed the pathogenic experiences in question out of consciousness. I gave the name of '*repression*' to this hypothetical process... (Freud 1910: 23-24)

The uncovering of traumatic memories (known as the cathartic method) was prophylactic at best, a purely symptomatic therapy (Breuer and Freud: 262). But the theory of repression promised to be properly etiologic, if it could be given adequate scientific foundations.

As Rosen says, "the concept of a system with an internal predictive model seemed to offer a way to study anticipatory systems in a scientifically rigorous way" (Rosen iii). At the risk of oversimplifying terribly, I would say that Freud had a similar insight. He, too, assumed that the agency of control – what he calls the ego – can anticipate and adapt. He also worked on the presumption that this ego employs an image of itself – what, in effect, works as a model – to achieve that end. Except that, coming from the psychological point of view, he understood that this needs to emerge from a complex process of development. Further, to make things more complicated, he envisioned this ego to also be the agent of repression: "a psychical force, aversion on the part of the ego, had originally driven the pathogenic idea out of association and was now opposing its return to memory" (Breuer and Freud: 269). But this is merely a continuation of the ego's function. When the ego anticipates an external danger (such as an encounter with a bear), it must select a fight or flight response. The same goes for the ego anticipating an internal danger, coming from the realm of memory: "a defence against an unwelcome internal process will be modelled upon the defence adopted against an external stimulus, that the ego wards off internal and external dangers along identical lines. In the case of an external danger the organism has recourse to attempts at flight... Repression is an equivalent of this attempt at flight" (Freud 1926: 92).

Writing the 'Project,' Freud drew upon all the theoretical resources at his disposal. Freud studied and trained as a neurologist at the Institute of Physiology in

Vienna under Ernst Brucke, one of the leading members of the *reductionist* school of thought, also known as the *mechanists* (cf. Gregory 1977, Fancher 1973). They were only willing to accept models of natural systems whose forces were ultimately reducible to attraction or repulsion. Freud's own 'Project,' in turn, tries to develop a kind of reductive, mechanical psychology, based in the concept of the *reflex arc*. The model of the mind in the 'Project' is meant to be compatible with what was then known about the higher nervous system. It is, therefore, a pioneer in neuropsychology (Pribram 1998: 6). He had worked at the Vienna General Hospital on cerebral anatomy for several years and eventually specialized in neuropathology, publishing some of the most detailed studies in that field to date (cf. Freud 1953, Freud 1990). The neuron – the basic unit of that nervous system – had only just been discovered in 1891. Freud attempted to use what was then known about the neuron to build up the artifice of a fully functioning mental apparatus.

The result is a text without equal in the history of science, at once prophetically ingenious and hopelessly obsolete. Many of his suggestions were remarkably insightful, though speculative at the time, an achievement that is still recognized by the scientific community (cf. Pribram and Gill 1976).² However, based in late nineteenth century science, many of the basic neurological and physiological premises were doomed to become obsolete. There was simply not enough information available at that time (Harrington: 245-6).

We put aside the neuropsychological debate about the 'Project.' Whether or not Freud's model is an adequate representation of neurophysiology is one question. It is quite another to ask what his model tells us about anticipation, on the one hand, and the discoveries of psychoanalysis, and repression in particular, on the other. We can only extract this information if we consider his model in purely quantitative terms. That is, if we bracket its (intended) material referent, and examine only its abstract mechanism, what does it tell us about the conflict that divides this anticipating Subject from him or herself?

4. The Psychomechanical Model

The model of the mind in Freud's 'Project' contains the same four elements as Rosen's anticipatory Subject. (1) The object system remains the biological body, with a new twist: it also introduces drives that set the mind to work. (2) There is a model of the object system in the form of a bodily self-image. This image of itself includes an understanding of its own behavioural interactions with the environment. It is used by the ego's practical thought to evaluate the corporeal means appropriate for dealing with drives. (3) Freud's effectors are present as discharges into the muscular centers. As with Rosen's Subject, these allow the ego to take immediate action on the basis of its anticipatory prediction. It can do so, however, only in so far as it has coordinated control

² In particular, the model foreshadows what is today called the theory of *computational intelligence*. "A big part of contemporary cognitive science is pretty much what you would expect to get if Sigmund Freud had had a computer" (Glymour 1999: 44).

of these centers. (4) Desirable and undesirable states are present as pleasure and pain, directly connected to high or low quantities of excitation. The ego takes on the responsibility of avoiding undesirable states.

In what immediately follows, I will show how Freud's model contains (1) (3) and (4). Discussion of the model (2) will bring us to a consideration of the ego, which will follow in the subsequent subsection.

The text opens with two Theorems, 'The Quantitative Conception' and 'The Neurone Theory,' both concisely summarized in his opening lines:

The intention is to furnish a psychology that shall be a natural science: that is, to represent psychical processes as quantitatively determinate states of specifiable material particles, thus making those processes perspicuous and free from contradiction. Two principle ideas are involved: [1] What distinguishes activity from rest is to be regarded as Q, subject to the general laws of motion. (2) The neurones are to be taken as the material particles. (Freud 1895: 295)

The mind is modelled as an open system. Some interaction with the environment produces changes within the system, which is the motion of its neurones. This can occur in two ways: stimulus originating from the outside world or from the inside of the bodily organism (the object system itself). Externally, all stimuli must pass through the sensory organs – a system Freud labels ϕ (phi) (Freud 1895: 300 ff.). External stimulus thereby passes through "Q-screens" that determine the subjective, perceptual character of our sensation. To signify this, he uses the symbol $Q\eta$ to refer to any Q that has been transduced into the system. Internally, however, there is no screen (Freud 1895: 296-7). As Freud puts it, this leaves the system "at the mercy of Q" originating from within (Freud 1895: 317). Both kinds of stimulus set the psychological neurones in motion – a system Freud calls ψ (psi) (Freud 1895: 300). ψ motion, however, is not equivalent to conscious thought. This is reserved for the system of ω (omega) neurones, which are activated only after ψ neurones have reached a certain *level* of motion.

It is only within ψ and ω – subsystems of the mental apparatus – that we will find anticipation.

Whenever a neurone has been set in motion, it is said to have a $Q\eta$ *cathexis* (*Besetzung* – Freud 1895: 298). This cathexis courses along the network of neurones, either originating from ϕ or the interior, passing through ψ , only having the possibility of becoming conscious if their cathexis remains sufficiently great upon arrival (Freud 1895: 312). Cathexis, as well, is said to attract itself, much like water is self-cohesive. " $Q\eta$ passes more easily from a neurone to a cathected neurone than to an uncathected one" (Freud 1895: 319). As a force of attraction, this is consistent with reductionist principles. According to Freud, all neurones, and therefore the entire system as a whole, have only one goal: to reduce cathexis to zero. This is achieved via discharge of the cathexis, from one neurone to another until it travels, eventually, beyond the periphery of the system (Freud 1895: 295-6). Freud calls this the principle of *neuronal inertia* (Freud 1895: 296).³ He also calls this *flight from the stimulus* (*ibid*) which is the

³ Despite its similarity with Newtonian vocabulary, Freud is not talking about matter in motion tending to stay in motion. He means that all motion is abhorred by the mental system, and it makes every effort to remain completely at rest.

system's *primary function* (Freud 1895: 297). This is the reflex arc upon which the entire model is based.

Let us first consider this circuit in connection with external perception. Freud's account is very much in line with the thermodynamic physics of the nineteenth century. (Think, for example, of a piston's reversible cycle in one of Carnot's steam engines.) The quantities introduced via perception do initiate motion within the system, but in the end, the net result is zero, and the cycle comes full circle. There is no involvement of an ego here. Once external stimuli become $Q\eta$, they leave traces of their passing in ψ : he calls these *facilitations* (Freud 1895: 300). These vary depending on their intensity and repetition. The network of these facilitations is the storehouse of memory. Once a facilitation has been established, future perceptual $Q\eta$ s will tend to be associated down the same path. Our mind, in other words, organizes our percepts according to what has already been experienced. It associates what it learns with what it already knows. Perception initiates a cycle that inscribes memories into the mind without, in fact, changing its quantitative state. It requires no ego to take place.

It might, however, if the perception hurts. Freud equates any increase of $Q\eta$ with pain or unpleasure (Freud 1895: 307). High cathexis, therefore, also introduces a kind of repulsive force into the system: intense $Q\eta$ s provoke primary defence, which is an effort to flee the repellent stimulus as quickly as possible (Freud 1895: 322). (Again, as a kind of repulsive force, this is in conformity with reductionism.)

A painful $Q\eta$ might arise from a sudden breach of the ϕ screen (such as, for example, if a nerve is stimulated directly) or might arise "from the somatic element itself – endogenous stimuli – which have equally to be discharged. These have their origin in the cells of the body and give rise to the major needs: hunger, respiration, sexuality" (Freud 1895: 297). According to Freud, "it is thus that in the interior of the system there arises the impulsion which sustains all psychical activity. We know this power as the will – the derivative of the drives [*Triebe*]" (Freud 1895: 317).⁴ The drives are the quantitative tasks given by the body to the mind; they are mechanical work to be done, the price paid for biological embodiment. The action required to unburden this drive $Q\eta$ is called, by Freud, the *specific action* (ibid). It is here that the ego becomes necessary.

Freud therefore postulates two processes specific to the ψ system: the *primary process* that constitutes the impulsive push of the drives and the *secondary processes* of the ego that must deal with them (Freud 1895: 322-327).

It is normally assumed that the mind's regulatory function is concerned with homeostasis: an establishment of an energetic balance favourable to the organism's well

⁴ I have chosen to translate *Triebe* as 'drives' and not, as in the Standard Edition, as 'instincts.' This is because the term instinct usually refers to some kind of hereditarily determined form of adaptive behavior, concerned with self-preservation. However, as has already been pointed out, human beings seem to be born without any significant ready-made 'instincts,' in a state of fragile helplessness. The drive is an internally-generated mechanical push, setting the psi processes in motion. A comprehensive discussion of this problem of translation can be found in Laplanche and Pontalis: 214-217.

being. Freud, however, will assign this task to the ego, which is only a part of the mind, and must emerge from what precedes it. Here is where Freud's clinical concerns become definitive: in neurosis, that which is repressed is exiled to the domain beyond the ego. And anything subject to the ψ primary function undergoes the famous primary processes. Freud designed his model so that its most basic operation would account for the excessively intense ideas at work beneath neurotic symptoms: a compulsive force concerned only with unburdening itself (such as could be witnessed in abreactive therapy).

The ψ secondary processes are those of the ego, which are concerned with adaptation and survival. Secondary processes must develop modes of practical thought to achieve this end. Freud admits that such an ego would require some quantity at its disposal and thereby seems to contradict the primary function. But because of "*the exigencies of life*," the system "is obliged to abandon its original trend to inertia (that is, bringing the level [of $Q\eta$] to zero). For the sake of survival, it must put up with maintaining a store of $Q\eta$ sufficient to meet the demand for a specific action" (Freud 1895: 297). Freud does not say how this change might suddenly come about, relying on the basic convictions of biology (Freud 1895: 322). But when the ego does emerge, it always acts with the aim of achieving the greatest possible discharge, which "shows that the same [primary] trend persists, modified into an endeavour at least to keep the $Q\eta$ as low as possible, that is – to keep it constant" (Freud 1895: 297). In other words, the ego likes to be in standby mode. It puts itself in motion only when external dangers or internal needs make it necessary.

Reactions occur when the $Q\eta$ passes from the ψ system "to the muscular mechanisms, and it that way keeps itself free from stimulus" (Freud 1895: 296). This movement stimulates phi once again and produces a subsequent perception of that movement (Freud 1895: 318, 364). This, according to Freud, establishes the full circuit of the reflex arc that characterizes the system's operation.

Freud's model contains element (1) as the body – stimulated from outside and driven from within. It is guided by an aim to avoid undesirable states (4). It does so by discharging cathexes via its motor responses (3).

In the circuit of external perception, these discharges correspond to corporeal adaptation to stimuli. Such as, for example, when an object is placed in the eye's field of vision: the organ accommodates to the stimulus, focusing its lens, shifting left and right, and so on, in order to bring it into focus. In this way, the body's activity is associated with the objects it is exploring. Every perception is associated with a corporeal accommodation that reveals more about the object perceived. What the body does to learn about its perceptions is also experienced and registered in memory. Freud calls these proprioceptive perceptions *indications of quality* (Freud 1895: 360). They indicate the qualitative link the body has with the memory of lived experience.

In the case of internal drives, the reflex arc is completed – ideally – under the guidance of the ego, which can decide what muscular action is most appropriate. This is the aim of the anticipatory process, the emergence of the anticipatory Subject. Indications of quality of successful discharges provide the information used by the modelling agency for its predictions.

5. Anticipation and the Freudian Ego

In the 'Project,' Freud makes frequent references to processes of anticipation (*die Erwartung*).⁵ This, however, is not equivalent to the ego. For Freud, an *anticipatory state* arises and the ego must deal with it. The ego must first perceive this state. It must then consider it and all the possible options it can imagine for dealing with it (survival and adaptation to reality). Only when this anticipatory state is coordinated with the ego does cognition of it become a full – and thereby successful – *anticipatory process*, which Freud equates with ordinary thought or practical thought (Freud 1895: 363, 377). The state of anticipation provides "a piece of practical knowledge" that the ego can use when it needs to "set the process of practical thought going" (Freud 1895: 378).

A bifurcation in anticipation is necessary because the "whole thought process" can also "make itself independent of the anticipating process [*Erwartungsvorgang*] and of reality" (Freud 1895: 378). There is an aspect of anticipation, therefore, that can evade secondary processing and be subject to the primary processes. This is how the anticipating state is also vulnerable to repression. The ego must perform a repression when "it has permitted a primary process where it did not anticipate one [*das Ich... hat einen Primarvorgang zugelassen, weil es keinen erwartete*]" (Freud 1895: 358). Repression occurs when the anticipation process is surprised by its own anticipatory states.

The full and successful anticipatory process requires at least three components: (1) cognitive judgment, (2) a narcissistic body-image and (3) speech (language). I will discuss these in what immediately follows, trying to emphasize along the way where this process might fail. I will return to the theme of anticipation and repression in the following subsection.

5.1. Cognitive Judgment

Cognitive judgment does not primarily refer to external perception. That does not imply any kind of thought for Freud. The bodily organism, however, makes demands upon the mind that do require work. This, for Freud, is the true origin of all thought – an embodied intelligence – whose aim is eminently practical: to relieve ψ of its Q \dot{h} burden (Freud 1895: 332). I need to eat, therefore I think.

It is cognitive because it is a kind of perception, what he calls "observing thought" (Freud 1895: 363). But the observation is of the thought processes, not what triggered them. That which is cognized here is thought itself. The instigator might be an external perception, but the cognition refers to the memory the Subject has in

⁵ Freud uses, for example, the terms *Erwartungs-zuständen* (which the editors of the Standard Edition translate as "states of expecting" – Freud 1895: 361), *Erwartungszustand* (translated as "state of expectation" – Freud 1895: 376) and *Erwartungsvorgang* (translated as "process of expectation" – Freud 1895: 372 - and "the expectational process" – Freud 1895: 378).

connection with similar objects he or she has perceived in the past (represented by the association of neurone facilitations – Freud 1895: 196).

It is a judgment because it is a two-fold conceptual *determination*. It determines what the essence of the *object* is (the Thing, in contrast to its qualities) and is also a *decision* about how to interact with it: “its basis is obviously the presence of bodily experiences, sensations and motor images of one’s own” that assist the secondary processes in finding the specific action (Freud 1895: 333).

Anticipation requires cognitive judgment because the anticipating Subject must be able to perceive the urge of its anticipatory state, perceive (i.e. remember) the reactive responses that have been successful in the past and judge which is most adequate for the current situation.

5.2. Body-Image

In psychoanalysis, discussion of the ego’s self-image and bodily integrity is synonymous with the problem of *narcissism*. Like the myth, the ego is fascinated by the beauty of its own reflection. It is held together – stabilized – by an image it receives from outside of itself. This is why psychoanalyst Jacques Lacan calls it the *Imaginary* order: the ego is an agent that is guided by the image.

The predictions of the anticipatory Subject are necessarily of the imaginary order. This is the secret success of the tacit *cogito*. Because it identifies with the image it has of itself, the anticipating Subject is implicated in the prediction.

Freud does not use the term narcissism in the ‘Project,’ but it is perhaps the most explicit of Freud’s texts on the problematic it poses (Laplanche 1970). The narcissistic ego is formed when it is modelled on the image provided by an other: an adult.

[I]t is in relation to a fellow human being that a human being learns to cognize. Then the perceptual complexes proceeding from this fellow human-being will in part be new and non-comparable – his features, for instance, in the visual sphere; but other visual perceptions – e.g. those of the movements of his hands – will coincide in the subject with memories of movements experienced by himself... Thus the complex of the fellow human being falls apart into two components, of which one makes an impression by its constant structure and stays together as a *Thing [als Ding]*, while the other can be *understood* by the activity of memory – that is, can be traced back to information from [the subject’s] own body. This dissection of a perceptual complex is described as cognizing it; it involves a judgment and when this last aim has been attained it comes to an end.” (Freud 1895: 331)

The adult is a Thing that remains constant and whole in spite of its many various behaviours and actions. This is what the growing child must become. The image provided by the other Thing establishes “the nucleus of the ego” as it develops (Freud 1895: 328). But the key moments in which this image is passed on do not always correspond to the holistic *Gestalt* that often comes to mind.

Let us consider the example of the hungry child crying to be breast fed by its mother. Crying, kicking and screaming – though significant discharges via motoric

actions – will not relieve an infant of its hunger. But this is all it knows how to do. This is the newborn's "initial helplessness" (Freud 1895: 318). The mother must interpret the crying as a plea for nourishment and offer the breast to the child for suckling.

The adult behaviour, here, is entirely reducible to a breast-feeding function. The mother holds the child, positions her body, etc., in order to facilitate the procedure. In turn, the child must coordinate the reactive response of suckling. (Establishing this process is a task which, in fact, can take the mother and baby some time to master). This narcissistic relation can easily be read as the famous oral phase of later psychoanalytic theory: the young ego is a mouth relating to part objects, not whole persons (cf. Freud 1905).

Freud calls success an *experience of satisfaction*. After the experience of satiety, the memory image of the successful feeding can come to be associated with future states of hunger. Then the anticipating Subject will be able to cognitively judge a proper response to the next state of hunger. Some course of action will come to mind. There will be a memory of the external object that was necessary for relief, a memory of the means used to procure it and an image of the other who was able to provide it.

The anticipating Subject can only remain unified through the narcissistic identification that holds this together.

More specifically, Freud distinguishes three components of this experience: (1) a discharge of the painful $Q\eta$ which is felt as relief, (2) a perceptual cathexis of the satisfying object (i.e. the breast), and (3) a perceptual cathexis of the corporeal movements that comprised the specific action (Freud 1895: 181). Following this course of association, the $Q\eta$ thereby establishes a facilitation between all three of these components. In this way, when hunger arises again, the $Q\eta$ will tend to cathect these memories, its intensity guaranteeing a passage from ψ to ω – i.e. the infant will consciously remember what it needs and how to get it. This is what Freud calls a wishful cathexis (Freud 1895: 322).

The crucial question is whether there can be wishful cathexes that are not narcissistic ones.

Freud calls the first trace of a satisfying object "neurone a" or "the Thing [*das Ding*]." On the first occasion, the child may have perceived only some of its attributes ("neurone b"); but on a later occasion, the child may observe something else about it that it hadn't noticed before ("neurone c") (Freud 1895: 328). The challenge, then, is an imaginary one. The child must try and achieve *identity* between the image it has of the memory of satisfaction and the images (perceptions) currently given to it.

Assume, for example, that the hungry child was first presented the mother's breast and a front view of its nipple, and that the [current] perception is a side view of the same object, without the nipple. In the child's memory, there is an experience, made by chance in the course of sucking, that with a particular head movement the front image turns into the side image. The side image which is now seen leads to the [image of the] head movement; an experiment shows that its counterpart must be carried out, and the perception of the front view is achieved. (Freud 1895: 328-9)

To perceive the nipple (neurone b) starting from the side view (neurone c), a memory of one's own bodily movement (the neck) must be interpolated between them. Only in this way can these various attributes be identified with the desired object (a).

Let us presume the existence of an anticipatory state. This is when there is the presence of a wishful cathexis in the mental system. It is perceived – comes to awareness – as a sort of proposal: “a perceptual image (the wishful image) and information of a movement (the reflex portion of the specific action)” (Freud 1895: 369). The drive behind the wish suggests how it might be sated.

Let us now presume a successful outcome of the anticipatory process. It depends upon narcissistic identification.

Thus judging, which is later a means for the cognition of an object that may possibly be of practical importance, is originally an associative process between cathexes coming from outside and arising from one's own body – an identification of information or cathexes from ϕ and from within. (Freud 1895: 334)

As regards judging, there is further to be remarked that its basis is obviously the presence of bodily experiences, sensations and motor images of one's own. So long as these are absent, the variable portion of the perceptual complex remains understood - that is, it can be reproduced [i.e. consciously remembered] but does not point a direction for further paths of thought. (Freud 1895: 333)

Successful anticipation, therefore, depends on the assumption of a coordinated understanding of one's own body – corporeal familiarity. One does not simply know how to identify an object, but one understands how to physically interact with it. The assumption of a narcissistic image defines the boundary where the ego believes itself to end (where its effectors stop) and the outside begins (the object).

One might have impressions of what was present at the time of satisfaction, but without this bodily image, one would not know how to use that information to react in the future. It is this practical information – both what is wanted and how to get it – that are the building blocks for anticipation.

There is a gap between the anticipatory state and the successful anticipatory process. What if object (a) is the object of a repressed wish? What is its correlative Other, if not the ego's self-image?

Narcissism becomes problematic when we introduce repression. It threatens the ego's image of its bodily identity. Consider Freud's discussion of hysterical conversion (what is today grouped under the category of somatoform disorders) – when a bodily ailment arises from purely psychological causes. One such phenomenon is hysterical blindness. When a wish to see (a scopophilic desire) is repressed, “there will be a general disturbance of the relation of the eye to and the act of seeing to the ego and consciousness. The ego will have lost its dominance over the organ,” which is now completely at the disposal of “the repressed pleasure in looking” (Freud 1910b: 216). The organ does not malfunction physically. It continues to receive perceptual stimuli. Instead, “in their unconscious, [hysterics] see,” given that symptomatic reactions can

emerge through visual stimuli, even though the hysteric is not consciously aware of having perceived them (*ibid*: 212).⁶

In other words, through repression, the ego does, in fact, redraw its boundaries such that what was once an intimate part of its corporeal identity becomes estranged from it. By altering the image it has of its own boundaries, the tacit *cogito* reveals that its unity is not, perhaps, *a priori*.

5.3. Language and Speech

Freud's infant in arms, turning its head back and forth, seeking what it has lost, is reminiscent of Lorenz's water shrews, who always retraced their original steps when refinding some preferred location, even if a far shorter route was readily available (Lorenz 2002: 102-3). In other words, it is, at best, a very basic survival mechanism. As Freud puts it: "There is not much judgement about this as yet" (Freud 1895: 329).

Full judgement – which is a successful anticipatory process – comes only with the intervention of language and the emergence of speech. This is the elegance of human Being. It comes, however, at a price.

Lacan says that language is the Other that has no Other: no metalanguage can be spoken (Lacan 1977: 310-16). Once one has entered language by speaking it, there is no way to refer it to some external reality to which it corresponds. "[L]anguage is a differential network of signifiers that refers in the first place to itself" (Van Haute 2002: 14).

Every speaking subject (*sujet de l'énonciation*) must find its place in this phonological semiotics that is indifferent to its unique subjectivity. It is subsumed by it, yet cannot grasp itself fully in it. Consider, for example, that one can only refer to one's self through the grammatical shifter "I." For a term signifying one's most intimate being, it is not that personal. Anyone can use this shifter, and one need not even use it when speaking.

Language establishes meaning only through a *deferred action*. The meaning of a sentence, for example, comes about only after the final punctuation is provided (Lacan 1977: 303; Van Haute 2002: 67). Yet there is no final punctuation, no terminal enunciation – that could exhaust all possible meanings. Connection between any two signifiers is therefore not governed by the self-sufficient presence of the signified, something that, as we saw, is rendered impossible in any case by the differential determination of the signifier. Signifiers signify only by force of their difference from other signifiers.

This implies that in the final instance there are no positive terms in language. Every signifier is only a moment in an endless series; and it will (must) be supplemented by other signifiers, which again and again fail to definitively determine the signified. (Van Haute 2002: 15)

⁶ One can think of the "perceptions without attention" that are allowed to circulate amongst the memory traces without consciousness (Freud 1895: 363).

Language enters into narcissism and irremediably alters it. The ego can no longer have an image of itself without the medium of its linguistic understanding. It, too, comes from without. It provides the Other to which repression refers – the Other of the ego that remains imminently intimate to it.

For Freud, language makes the anticipatory process more efficient (Freud 1895: 364-5, 378). Passage from the clumsy shrew-like mode of cognition to full anticipation only happens when wishes can be expressed in words. Language can encode the associations of memory. Responses are then not so compartmentalized. Linguistic signs “are limited (few in number) and exclusive,” providing an infinite possibility of meaning from a small set of fixed elements (Freud 1895: 365). Above all, language allows one to ponder options and reach judgments *in advance*. “For in fact it proves expedient not to have to set the process of practical thought going only when it is needed in the face of reality, but to have it ready in advance” (Freud 1895: 378).

According to Freud, language is introduced to the system via speech acts – via the activity of the speaking subject. As we learn to speak, words replace the cumbersome method of simple perceptual recall. The practical information gained from experience can become a logically formulated as an abstract plan of action.

Speech acts take place with a very slight motor expenditure, thereby making the memory of them less plastic and enduring than those of external perceptions (Freud 1895: 367). Therefore, they require low levels of $Q\dot{\eta}$ to produce their motor movements. But, as discharges, they still leave faint memories of their passing, with very small facilitations towards motility, like any proprioceptive indication of quality (Freud 1895: 366). This is a different indication of quality, distinguished as an indication of speech, or an indication of thought. The memory of speech acts stands in for the highly facilitated perceptual memories that are represented by them. As speech, they come to awareness as a mere idea, a suggestion, and do not necessarily provoke action, but only propose it (SE 1895: 378). That is, children learn to stop screaming and ask politely.

In this way, Freud defined thought as a kind of internal speech. Through the introduction of language, the cognition of thoughts passes from being a passive repetition to being an active, associative chatter about what one has perceived. And one can be aware of it because, in some small way, one can hear and feel this talk taking place within one’s self. “As is well known, indeed, what is called conscious thought takes place to the accompaniment of slight motor expenditure... If thought is intense, no doubt people even speak out loud” (Freud 1895: 367)

Because the ego relies on language in this way, the anticipatory process is vulnerable to wishes that are spoken by something Other than the ego. When primary processes are applied to linguistic traces, “the whole thought-process is able to make itself independent of the anticipatory process and of reality and is able to advance in quite an unadulterated manner as far as identity” (Freud 1895: 378). That is, via language, the object (a) of desire is dissonant with the guiding narcissistic image.

Freud envisions the possible conflict as follows. A drive, cathecting the memory of satisfaction, introduces a push into the system. The ego, in turn, must have a store of its own cathexis. Excessive cathexes are avoided, so the ego uses the attractive force of its own $Q\dot{\eta}$.

The ego's binding cathexis can only judge if a wish needs inhibition thanks to language: when examining the memories associated with the wish, "the ego does not cathect the motor images immediately," but only the indications of speech that represent them (SE 1895: 370). The ego's activity can be pictured as a light ego cathexis passing over all the linguistic formulations of inner thought (Freud 1895: 373). Practical thought, therefore, is an experimental one. It tries out different thoughts before committing to any of them. "It is a question, however, of receiving discharge of this kind from all cathexes" – receiving the information from all the indications of speech accompanying the various wishful proposals present in the anticipatory state (SE 1895: 364).

This is the agency of prediction, which measures every anticipatory state against the image it has of itself (its current state, the means at its disposal, the others with which it has currency). Just as Rosen's anticipatory Subject, Freud's ego predicts what consequences might result from a suggested course of action. Mechanically, indications of speech quality "cause the ego to send out cathexis to the point at which a [wishful] cathexis emerges" in the mind (Freud 1895: 372). They do this until there is "a feeling of unpleasure and an inclination to discharge, the combination of which characterizes a particular affect, and the passage of thought is interrupted" (Freud 1895: 380). The ego considers its options until they represent "a *threat of unpleasure*": "those neurones which lead to a release of unpleasure are not cathected. This is *primary defence*," upon which repression is based (Freud 1895: 370).

6. Anticipation and Repression

The reward for having worked so painstakingly through both Rosen and the 'Project' can be seen when we consider how anticipation and repression come together, such as in the Emma case history recorded in the 'Project.'

Emma came to Freud complaining of a disturbing phobic fear that was disrupting her life: she was terrified to enter any sort of shopping store alone. After spending some time with her, Freud was surprised to discover that she also recalled having been sexually molested, but at a much earlier age.

On two occasions when she was a child of eight she had gone into a small shop to buy some sweets, and the shopkeeper had grabbed at her genitals through her clothes. In spite of the first experience she had gone there a second time; after the second time she stopped away. She now reproached herself for having gone there a second time, as though she had wanted in that way to provoke the assault. (Freud 1895: 353-4)

It is the continuity between the traumatic experience and the later phobic symptom that underscores anticipatory Subjectivity here, despite its appearance of malfunction. It resembles the side-effects of system breakdown, a neurotic processing error. But, as such, this error still tells us something about the system that has backfired.

The sexual assault provoked what Freud called, in rigorously logical terms, a *proton psuedos*: a preceding falsity upon which a certain process of reasoning is based, producing a false statement as a result (Freud 1895: 352).

As a reason for [her phobia, Emma produced] a memory from the time when she was twelve years old (shortly after puberty). She went into a shop to buy something, saw the two shop assistants (one of whom she can remember) laughing together, and ran away in some affect of fright. In connection to this, she was led to recall that the two of them were laughing at her clothes and that one of them had pleased her sexually. (Freud 1895: 353)

At the origin of her phobia, when she first felt the fear of entering shops alone, the *proton pseudos* had already brought Emma to two false conclusions.

[Emma's] thought operating consciously had made two false conclusions in the material at its disposal (shop-assistants, laughing, clothes, sexual feeling): that she was being laughed at on account of her clothes and that one of the shop assistants excited sexual pleasure in her. (Freud 1895: 355)

That is, these four perceptions – assistant, laughter, clothes, and sexual pleasure – reminded Emma of her sexual assault. But, because that memory was repressed, she reached the wrong conclusions about them. No one was laughing at her clothes; she was not sexually aroused by anybody in the room.

In the 'Project, the preceding falsity is the sexual assault. It produced no effect as an experience, and would have no importance even as a memory for some time afterward. It would therefore give no indication of its true importance. One might say that, after such an assault, the anticipating Subject proceeds on the basis of a very mistaken assumption. His or her memory quite falsely suggests that nothing significant has happened at all.

After sexual maturation, however, if the memory is recalled for any reason the deception will be unveiled. Things won't add up as they used to, and the anticipating Subject will find him or herself with far more to deal with than he or she bargained for.

Here the importance of driven embodiment is revealed. Only after puberty do certain sexual responses become possible. And judging the adequacy of these responses is the role of cognitive judgment, whose "basis is obviously the presence of bodily experiences," which is why "no sexual experiences produce any effect as long as the subject is ignorant of all sexual feeling" (Freud 1895: 333).

Sexual development, then, produces drives that generate anticipatory states that cannot be incorporated into the ego's efforts to carry out the full anticipatory process. The late onset of human sexuality means that "no human being can avoid" this psychological blind spot (Freud 1895: 384). Unpreparedness is therefore a necessary part of the human condition.

Although it does not usually happen in psychical life that a memory arouses an affect which it did not give rise to as an experience, this is nevertheless something quite usual in the case of a sexual idea, precisely because the retardation of puberty is a general characteristic of the organization. Every adolescent individual has memory-traces which can only be understood with the emergence of sexual feelings of his own; and accordingly every adolescent must carry the germ of hysteria within him. (Freud 1895: 356)

Any judgments made before puberty about the assault would contain the *proton pseudos*. Having aroused little or no reaction at the time, the scene would have initially

brought about nothing other than observing thought in Emma. She may have reached some conclusions (formulated linguistically); but they would never have been intense enough to attract too much attention to themselves. These conclusions would not occupy her consciousness for long, but would sink into preconsciousness, remaining as speech indications awaiting future cathexis. Their purpose would be to shorten thought-association and make the system more efficient. But they would contain a flaw, one that could only be revealed at a later time.

If we grant that Rosen's neurotic side-effect occurs at the point of Freud's primary defence, then consideration of wishful anticipatory states becomes very interesting. Emma may have been abused, but she also felt compelled to *return* to the scene of the crime soon after. It was only after she started to feel remorse – an attempt at psychological self-control over this impulse – that the foundation for her phobia was set. Perhaps Emma did not merely lack a corporeal understanding of the assault; perhaps its trace in her memory formed the kernel of a wish structure abhorred by her ego's narcissistic self-image. The repression may not merely be a processing error but a self-defence against conflicting anticipatory states. The phobia itself is the anticipatory process, avoiding shops in order to avoid being reminded of the temptation.

7. Conclusion

This paper has achieved its purpose if the preceding consideration has left numerous questions in its wake. Rosen's and Freud's presumptions about adaptive psychological behaviour share a great deal in common. It seems to be a remarkably similar concept of anticipation. A comparison of their work should inspire further connections and insights. But my achievement here can only be preliminary on that score.

To conclude, it helps to keep in mind the broader philosophical implication of their commonality: the anticipatory Subject is both highly adaptive and prone to malfunction. Its secret power is its secret weakness: embodied language. The anticipatory Subject – human Being – is both poetic and tragic. Though gifted with reason and the lyricism of speech, the cogito is also prey to its own impulses, deluded by folly (*Ate*), blinded by its own desires.

Yes, for once Zeus even was deluded, though men say he is the highest one of gods and mortals. Yet Hera who is female deluded even Zeus in her craftiness... (Homer, Iliad 19. 85 ff)

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