

# Freud and the Science of the Mind

Freud was born in Freiburg, Moravia in 1856, the first son of the third wife of a travelling wool merchant. The family settled in Vienna in 1861, just after Austria abolished legal restrictions on Jews. Freud was to remain there until, together with other psychoanalysts, he fled the Nazi occupation. He died in London in 1939.

Freud approached the mind via the study of the nervous system. At the Vienna Medical School he heard the lectures of the physiologist Ernst Bruke, who followed Helmholtz's Darwinian and physicalistic approach to nature. He began research in Bruke's laboratory, and soon began publishing papers in neurology. (See Freud 1966, XX, 10ff; references to this *Standard Edition* are by volume and page.) When Freud got engaged he realized that he could not support a family in research, and he began to prepare for practice at the General Hospital. Here he studied disorders of the nervous system under Meynert, one of the first to emphasize the role of neural connectivity in the brain.

Freud's neurological publications led to an appointment as Lecturer in Neuropathology, and in 1885 he was awarded a bursary to study in Paris under Charcot (I, 5), whose work on *hysteria* included the use of hypnosis for producing and removing symptoms. (For further information on italicized terms see Laplanche and Pontalis, 1973). Freud espoused Charcot's psychological approach, and supported it with an observation based on his understanding of the nervous system. The regions of the body liable to hysterical paralysis or loss of feeling failed to correspond to functional physiological demarcations. Hysteria, as Freud remarked, knew nothing of anatomy (1, 49).

## 1. Early Work with Breuer: Symptoms, Memories, and Motives.

In practice Freud found extant physical remedies for psychological disorders useless. He attained some success with hypnosis (I, 117); but his senior colleague Joseph Breuer told him of a treatment which apparently cast light on the underlying disturbances. Breuer had enquired into the symptoms of one of his patients in great detail, so that, as he remarked, her life 'became known to me to an extent to which one person's life is seldom known to another' (II, 22). This enabled patient and doctor to discover together that her symptoms had meaningful connections with past events which she had forgotten, but which had stirred feelings which she had not expressed or mastered. When she remembered the events and expressed the feelings her symptoms were eased.

One symptom was aversion to drinking. Despite 'tormenting thirst' she would push away a glass of water 'like someone suffering from hydrophobia' (II, 34). Under hypnosis she traced this to an episode in which she remained silent despite great disgust, while a companion let a little dog, a 'horrid creature', drink from her glass. After reliving this event and expressing her feelings she drank without difficulty. Again, she suffered from a paralysed arm. She and Breuer traced this to a distressing occasion when the arm had gone to sleep, so that she could not move it, while she was nursing her dying father. A whole series of symptoms, including hallucinations and disturbances of speech, were also rooted in experiences from this episode. When she went over these with Breuer the symptoms were relieved.

Although Breuer's patient relapsed before finally recovering, her case suggested that symptoms could be expressions of memories and motives of which the patient was unaware. This struck Freud as of cardinal importance, and he began to question his patients about their lives and feelings in great detail, seeking memories related to their symptoms. In this he abandoned hypnotism, and for a time substituted a technique, derived from Bernheim, of pressing patients to remember significant events (II, 109). His work corroborated Breuer's sufficiently for them to publish a series of case reports illustrating the theory that 'hysterics suffer mainly from reminiscences' (II, 7), which were kept from consciousness by a process of *defense* or *repression*. Hence they could be helped by a *cathartic* therapy, which enabled them to recover memories of traumatic events and *work through* the feelings connected with them.

## 2. Recovered memories and sexual abuse.

Freud now found that *obsessions*, *phobias*, and delusions of *paranoia*, were also linked with unconscious memories or motives; and these were often sexual in nature, and went back in time (III, 45ff). Thus a patient with hallucinatory images and sensations, and a delusion that she was watched while undressing

...reproduced a series of scenes going back from her seventeenth to her eighth year, in which she had felt ashamed of being naked in her bath in front of her mother, her sister and the doctor; but the series ended in a scene at the age of six, in which she was undressing in the nursery before going to bed, without feeling any shame in front of her brother who was there...it transpired that scenes like this had occurred often and that the brother and sister had for years been in the habit of showing themselves to one another naked before going to bed...I then succeeded in getting her to reproduce the various scenes in which her sexual relationship with her brother had culminated...After we had gone through this series of scenes, the hallucinatory sensations and images had disappeared...(III, 178-180)

Still, as in the case of Breuer's patient, the removal of individual symptoms left a disposition to produce further symptoms intact. So Freud sought to cure the underlying disposition by uncovering the earliest and most basic disturbing memories. Under the pressure of his technique a number of his patients recovered apparent memories of sexual abuse, dating from early childhood. And as he pressed further, with a series of female patients, the role of abuser was constantly assigned to the father. For awhile Freud thought he had discovered that neurotic disturbance was rooted in childhood sexual abuse, frequently of an incestuous kind (and comparable experiences have been repeated, and the same conclusion drawn, by many therapists since). In considering these *scenes of seduction*, however, he finally concluded that while parental abuse could cause disturbance, it was less widespread than the readiness of patients to recollect it might suggest. For there were 'no indications of reality in the unconscious, so that one cannot distinguish between truth and [emotionally charged] fiction', where this might even include 'sexual fantasy [which] seizes on the theme of the parents.' (I, 260; see also Masson, ed., 1985, p. 265).

After this Freud both altered his technique and formulated the concepts central to his later work. It was now clear that he had to guard against the effects of suggestion; and it seemed also that the most relevant

and reliable material emerged not when patients were pressed for memories, but rather when they made connections spontaneously, in following out their own trains of thought and feeling. So he began asking his patients simply to communicate each idea or thought which occurred to them, whether or not it seemed sensible or significant, and without censorship. This immediate and unconstrained self-description, called *free association*, led to the topics previously shown important by questioning, and to others which he had not yet investigated.

### 3. The first paradigm of psychoanalysis: self-analysis and dreams as wishfulfilments.

Freud also noticed that his patients' dreams, like their symptoms, could be understood as related to the memories and motives which emerged in their associations. In investigating this topic, moreover, he could make use of his own case as well; so he began to conduct the same kind of *psycho-analysis* on himself as on his patients, focussing on the interpretation of his own dreams. As this progressed, Freud realized that his and Breuer's findings about symptoms, as well as the material he had encountered relating to childhood abuse, were better understood via the model he was developing for dreams. In consequence he was able to frame an account of these matters, published in *The Interpretation of Dreams* (IV, V) which was relatively simple and unified, and which could be extended to other phenomena in which he had taken an interest. So Freud's discussion of dreams can be seen as introducing a theoretical paradigm which enabled him to consolidate the first phase of his psychoanalytic work, and which we should pause to understand more thoroughly.

For this purpose it will be useful to remind ourselves of the way we understand human behaviour in terms of such notions as belief and *desire*. We take it that when persons act intentionally, they do so in order to change things, that is, to bring about a situation which they desire or prefer to that which would obtain if they did not act. Accordingly we can describe a person as desiring or intending *that P*, where 'P' is replaced by an indicative sentence which describes an aspect of the overall situation which the person thinks desirable, and which the action is aimed at bringing about. Thus to take a very simple example we may see a person moving in a characteristic ordered way, and take him to be performing an intentional action of getting a drink of water. In this we take (hypothesize) his movements to stem from a particular desire, namely, the desire that he get a drink of water; and we use a particular sentence ('he gets a drink of water') to describe the worldly situation towards which the desire is directed.

This *that P* mode of description converts our limited vocabulary of words for motives -- such as 'desires', 'believes', 'hopes', 'fears', etc. -- into a potentially infinity of distinct sentence-embedding descriptions of motive; and such descriptions implement our conception of the mind as having intentionality, that is, as representing, and engaging causally with, the world. A motive described by a sentence 'P' is thereby specified as related, both normatively and causally, to the situation in which 'P' is true. Thus a desire described by 'P' is thereby registered as one which will be satisfied just if P, and we understand this as the situation which the desire will bring about (cause) if it governs action as it should; likewise a belief described by 'P' is one which is true just if P, and this is the situation which the belief will track (causally covary with) if it operates as it should; and so on.

Our commonsense mode of describing desire thus already involves a complex but tacit theory of the working of desire, as marked by a pattern in the sentences we use to describe it. We can summarize part of this very roughly by noting that if a person is acting on a desire that P (that he get a drink of water), we take it that this will, if successful, bring about the situation P (that he gets a drink of water) in which the desire is satisfied; and this in turn should give rise to the belief that P (that he has got a drink of water), and this, finally, should pacify the desire, that is, cause it to cease to operate. This is the pattern of the life-cycle of desire in intentional action. Designating the agent by 'A', and using some natural notation and abbreviations, we can set this out schematically as follows:

D: A des that P -[causes]-> P -[causes]-> A bels that P -[causes]-> A's des that P is pacified.

We can compare this pattern with another, which Freud found in dreams, and illustrated with a particularly simple example. When he had eaten anchovies or some other salty food, he was liable to have a dream *that he was drinking cool delicious water*. After having this dream, perhaps several times, Freud would awake, find himself thirsty, and get a drink. Probably many people have had this experience, or its counterpart concerning urination. And anyone who has such a dream will naturally take it to be caused by, and to represent the satisfaction of, the wish or desire to drink felt on waking.

This natural conclusion turns on the obvious relation in sentential content between desire and dream. Schematically, the desire is that P (that the dreamer have a drink) and the dream is also that P (that the dreamer is having a drink). This similarity provides reason to suppose that desire and dream are not coincidentally related, but that the one is a cause of the other. Also it seems that such a dream has a pacifying influence -- perhaps only a fleeting one -- on the desire which prompts it. The dream-experience of drinking provides the underlying thirst with a form of genuine but temporary relief and pause, the insufficiency of which is indicated by the repetition of the dream, and dreamer's finally having to wake to get a drink which is real.

Dreaming is a form of imaginative representation which is experience- or belief-like. So the pattern which we find in this simple dream is that in which a person's desire or wish that P prompts (causes) a belief- or experience-like representation that P, which in turn serves to pacify the desire. Abbreviating the notion of belief- or experience-like representation by 'b-representation' we can set out this pattern as follows.

W: A des (wish) that P -[causes]-> A b-represents that P -[causes]-> A's des (wish) that P is pacified.

This is the pattern of Freudian *wishfulfilment*, which is evidently closely related to D above. In both desire is ultimately pacified via the representation of satisfaction. In our instance of D the agent's desire produces a real action resulting in a real drink, and thence in a pacifying belief that he is drinking. W, by contrast, represents a kind of short-circuiting this route to pacification, in which the mind (or brain) bypasses the route through intentional action, the alteration of reality, and real satisfaction, and simply produces a pacifying representation directly. Hence the pacification produced in W, as in our example, is liable to be relatively temporary: the representation is not backed up by the real satisfaction which

renders the pacifying belief veridical.

The notion of wishfulfilment, or the production of pacifying representation as schematized in W, plays an important role in Freud's work. We can start to see this by considering part of the first specimen he analyzes in *The Interpretation of Dreams*, his own dream of Irma's injection (IV,104ff). In this dream Freud met Irma, a family friend and patient, whom he had diagnosed as hysterical. He told her that if she still felt pains, this was her own fault, for not accepting his 'solution' to her difficulties. As she continued to complain, however, he became alarmed that she was suffering from an organic illness which he had failed to diagnose, and this turned out to be so. Freud examined Irma, and then she was examined by some of Freud's colleagues, including his senior colleague M; and it became manifest not only that she was organically ill, but also that her illness was caused by a toxic injection given by another of Freud's colleagues, his family doctor Otto. At the end of the dream, therefore, Freud censured Otto strongly, saying that 'Injections of that kind ought not be made so thoughtlessly...and probably the syringe had not been clean.'

Unlike the simple dream of drinking this dream does not appear to be wish-fulfilling: in fact it dealt with topics which were not pleasant to Freud. It concerned the continued suffering of a patient who was also a family friend, and for whom, therefore, the question of his responsibility was particularly acute; and also the possibility that he had misdiagnosed an organic illness as hysteria, which he described as 'a constant anxiety' to someone offering psychological treatment. But Freud systematically collected his free associations -- the thoughts, feelings, etc., which occurred to him -- in connection with each element of the dream; and in light of these we can see that the treatment of these topics in the dream is in fact wishful, and in a way which is radical.

The topics of the dream had arisen on the day before. Otto had just returned from visiting Irma and her family, and had briefly discussed Irma with Freud, commenting that she was looking 'better, but not yet well'. Freud had felt something like a reproof in this, as though he had held out too much hope that Irma might be cured; and in consequence he regarded the remark as thoughtless, and felt annoyed with Otto. (Also, as it happened, Otto had been called on to give someone an injection while at Irma's -- cf the topic of the dream -- and Freud had just had news indicating, as he thought, that another of his female patients had been given a careless injection by some other doctor, and had been contemplating his own careful practice in this respect with a degree of self-satisfaction.) That night, in order to justify himself, Freud had started to write up Irma's case to show to M, who was respected by both himself and Otto, and who appeared in the dream as diagnosing Irma's illness and becoming aware that it was Otto's fault.

In considering the dream Freud noted that his desire to justify himself in respect of Irma's case, and in particular not to be responsible for her suffering, was apparent from the beginning, in which he told Irma that her pains were now her own fault. Also, he felt that his alarm at her illness in the dream was not entirely genuine. So, as Freud realised, it seemed that he was actually *wishing* that Irma be organically ill: for as he undertook to treat only psychological complaints, this also would mean that he could not be held responsible for her condition, by Otto or anyone else. This theme, indeed, seemed carried further in the rest of the dream, in which M found that Otto, not Freud, bore responsibility for Irma's illness. The whole dream, in fact, could be seen as a wishful response to Otto's remark. According to the dream, and

contrary to what Freud had taken Otto to imply, Freud bore no responsibility whatever for Irma's condition. Rather, Otto was the sole cause of her suffering, and this was a result of Otto's bad practice with injections, a matter about which Freud himself was particularly careful.

We can see here the contrasting roles of desire and wishfulfilment as set out above. In accord with D, Freud's desire that he be cleared of culpable responsibility should operate to bring about a situation in which he is cleared of such responsibility, thus producing the belief that he has been cleared, and so pacifying the desire. This is approximately the sequence of results which Freud was seeking to bring about, in accord with standard medical practice, in writing up Irma's case history to show to M, whose independent authoritative judgment about the case would serve to clear him. Freud's dream apparently shows the same motive at work, but in a very different way. There the desire seems to have given rise to a series of (dreamt) belief-like representations of his being cleared, and in a number of ways: Irma was made to be physically rather than psychologically ill, Otto shown as engaging in culpable malpractice which caused her illness, and so on. So these can be understood as pacifying b-representations, produced as in accord with W. In holding that dreams are wishfulfilments Freud was claiming that this dream was typical: that very many apparently non-wishful dreams can likewise be seen to contain such pacifying representations, and so as instantiating the same pattern. And as this example also illustrates, Freud also found that instances of D and W tended characteristically to cohere with one another, so that a typical dream or action would be underlain both by realistic desires and by related wishes which might be unrealistic, ruthless, egoistic, etc.

Now it should not surprise us that the mind (or brain) should operate in accord with a pattern like W. For, as D already makes clear, the operation of desire in action is aimed not only at satisfaction but also at pacification, which the mind/brain achieves via the production of representation (experience and belief). We know that human desire far outruns the possibilities of successful action. So it is natural that desire should admit of pacification other than via satisfaction, and also that there should be forms of desire, or motives related to desire, which are characteristically pacified by representation alone. Hence once we reflect on the matter, we can also see that the pattern in W is already familiar to us. We know that there are many other cases in which we respond to a desire or wish that P by seeking to have an experience as if P, or by imagining that P, making believe that P, or the like; and it seems that we often do this because the experience, imagining, or whatever, serves to pacify -- to give some sort of pause or relief -- to the desires which prompted it. Thus people regularly day-dream about the satisfaction of their desires, and we also observe that children frequently use play to represent the same thing. Again, it seems that people find similar imaginative pleasure or relief in fiction, films, television, theatre, video games, and so forth. Hence we already use a series of related notions -- make-believe, suspension of disbelief, cinematic illusion, virtual reality -- to describe the way these modes of representation are belief- or experience-like, so that by representing the satisfaction of desire they also serve to pacify it.

The process of reasoning by which we find new instances of this pattern can be indicated as follows. We compare the *manifest content* of the dream with the dreamer's free associations. These range over intimate details of the dreamer's life and thought, and give information about incidents and emotions (Otto's giving someone an injection while at Irma's, his remark about Irma, Freud's annoyance, etc.) which, as it happens, turn out to be connected in content with the dream. In scientific terms, these

apparent connections between associations and dream constitute data which require to be explained; and Freud's account of the dream as a wishfulfilment provides the explanation which is required.

We can illustrate this by starting to list some obvious connections between desire and dream as follows:

Data from the Associations	Data from the Dream
Freud wants not to be responsible for Irma's suffering.	Freud says to Irma 'If you still get pains, its really only your fault.'
Freud wants not to be responsible for Irma's suffering.	Irma is suffering from an organic complaint, for the treatment of which Freud is not responsible.
Freud is annoyed with Otto, for his remark implying that Freud was in some way at fault in his practice with Irma.	Otto is at fault in his practice with Irma.
Otto had given someone an injection while at Irma's, and Freud has been contemplating that his injections never cause infection.	Otto gave Irma an injection which caused an infection.
Freud desires to clear himself of responsibility for Irma's suffering.	Otto bears sole responsibility for Irma's suffering.
Freud was hoping that M's opinion of his treatment of Irma would clear him of responsibility.	M observes Otto's bad practice and recognises that Otto bears full responsibility for Irma's suffering.
Freud considered Otto's remark to him thoughtless.	Otto's injection of Irma was thoughtless.

This list, although very incomplete, is nonetheless illustrative. It seems hard to deny that the relation in content of elements on the left to those on the right calls for explanation; and also that it would be unsatisfactory to hold that the explanation was simply coincidence. A causal explanation seems called for; and this being so, the question arises as to what kind of causal hypothesis would provide the best account of the observable connections. In this case as in that of the simple dream of drinking, Freud's hypothesis is in effect that these data are linked by wishful imaginative representation, and hence as in accord with pattern W. We can represent this hypothesis in relation to these data as follows:

Data from the associations Data from the dream.
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Freud wants not to be responsible for Irma's suffering.	Freud wishfully represents Irma's suffering as not his fault, but her own.	Freud says to Irma 'If you still get pains, its really only your fault.
Freud wants not to be responsible for Irma's suffering.	Freud wishfully represents Irma as suffering from something for which he is not responsible.	Irma is suffering from an organic complaint, for the treatment of which Freud is not responsible.
Freud is annoyed with Otto, for his remark implying that Freud was in some way at fault in his practice with Irma.	Freud wishfully represents the situation as the reverse of that implied by Otto, so that it is Otto, not Freud himself, who can be accused of fault connected with Irma's suffering.	Otto is at fault in his practice with Irma.
Otto had given someone an injection while at Irma's, and Freud has been contemplating that his injections never cause infection.	Freud uses elements from reality to wishfully represent the situation as one in which Otto, not Freud himself, should be accused of fault connected with Irma's suffering.	Otto gave Irma an injection which caused an infection.
Freud desires to clear himself of responsibility for Irma's suffering.	Freud wishfully represents the situation as one in which he has no responsibility for Irma's suffering.	Otto bears sole responsibility for Irma's suffering.
Freud was hoping that M's opinion of his treatment of Irma would clear him of responsibility.	Freud wishfully represents M as finding that Irma's suffering was Otto's fault.	M observes Otto's bad practice and recognises that Otto bears full responsibility for Irma's suffering.
Freud considered Otto's remark to him thoughtless.	Freud wishfully represents Otto as thoughtless.	Otto's injection of Irma was thoughtless.

Freud's account thus explains the data from associations and dream on the hypothesis that the latter can be understood as a pacifying representation, produced in accord with W. This in turn implies the existence of previously unacknowledged mental phenomena: the processes by which such a pacifying representation is produced, and the wish- or desire-like states which, even in sleep, operate to produce it. Such wishes are thus states introduced by hypothesis, to explain data from both the associations and dream. These here include Freud's wishing that Irma's suffering be her own fault; that her suffering be organic in origin, so not his fault; that it be Otto's fault rather than his, and so forth.

The method which Freud applied to this dream could be applied to others, and with similar results. Under such analysis a typical dream could be seen to have a latent content, involving a whole range of wishfulfilments, related to a series of topics which were emotionally linked in the mind of the dreamer. Thus Freud also found that Irma was connected in his mind with two persons who had actually died as a result of his medical interventions. One of his friends, as he remembered, had been addicted to morphia, used to relieve incurable nerve pain. Freud had suggested that his friend use cocaine instead, not grasping that it too was addictive; and the friend later died from injections of cocaine. Again, as he remembered, Freud had once repeatedly prescribed one of his woman patients a standard medication, which, unpredictably, had killed her.



These memories were connected with many other details of the dream, and so evidently were also stirred by Otto's remark, or Freud's self-justifying response to it. So in saying at the end of his dream that 'Injections of that kind ought not be made so thoughtlessly' Freud was directing at Otto precisely such a reproach as he might have directed at himself, in respect of cases which were particularly significant to him, and which he associated with Irma's. In the dream, however, all reproaches about thoughtlessness, the misuse of toxic substances, damaging injections, and the causing of death, were deflected on to Otto. Thus Freud's dream linked the question of his present responsibility for Irma with comparable but even more serious questions of responsibility from the past, and treated all these questions in the same wishful, ruthless, and self-regarding way. In representing Otto but not himself as responsible for Irma's suffering, Freud also represented Otto but not himself as bearing just the kind of responsibility which he wished not to bear for the deaths of his other friend and other patient. But this deep representational deflection of responsibility, and indeed the whole question of his own role in causing illness or death, was entirely kept from Freud's consciousness in the dream, and came to light only in the analysis which he conducted by attending to his associations.

To put the point in the theoretical terminology which Freud introduced: we can see the image of Irma in the dream as a condensation, involving not only Irma herself, but also the dead friend and patient from the past, in whose cases also Freud would have wished to be free from guilt. So the dream effects a displacement of guilt from Freud to Otto, by projection of the lack of care in the use of toxic substances with which Freud might well have reproached himself onto Otto, by whom Freud had originally felt reproached.

### 3. Phantasy, Transference, Childhood, and Conflict.

Freud was now able to apply the notion of wishfulfilment -- as well as condensation, displacement, projection, and others -- in explaining phenomena besides dreams. These included symptoms, forgetting and other everyday parapraxes (III, 289ff, VI), screen memories (III, 301ff, VI), jokes (VIII), and works of art (I, 263ff; IX). He found that all these sources of data cohered with one another, in locating the same kinds of desires and wishes as underlying dreams, symptoms, and everyday actions. In addition, Freud noticed that in the course of analysis his patients were liable to develop feelings and phantasies about him which repeated those they had felt towards significant figures earlier in their lives, particularly their parents. This transference of feelings onto the person of the analyst proved a particularly striking source of information about the past, and one which cohered with Freud's other data.

This can be seen in the case of Freud's patient the Rat Man (X, 153ff), so-called because his main symptom was a compulsive phantasy in which he imagined that his father (or again the woman he hoped to marry) were being subjected to a particularly cruel punishment, in which hungry rats were placed in a pot on the victim's bottom, and ate their way into the body. Engaging in this imagining made him anxious and depressed, so that at times he felt suicidal; and as he felt that the imagined events were somehow actually happening or liable to happen, he also felt compelled to engage in many rituals and other forms of behaviour which were supposed to prevent their occurrence.

Now it was clear that his rat-phantasy often served as an expression of hostility. Thus when a woman asked him to do something inconvenient, he 'wished the rats on her' in his rage (X 308), and also imagined that he felt a rat at his own behind. Indeed at the beginning of his treatment, when Freud told him his fee, he thought 'for each krone a rat for the children'. Also, there was evidence that he did harbour hostility towards his father, which was somehow connected with sexual gratification. Thus during his first copulation he had thought 'This is a glorious feeling! One might do anything for this -- murder one's father, for instance.' (X 201, 264). Such feelings, moreover, went back into his childhood. As a boy of twelve he had imagined that a little girl with whom he was in love would show him more affection if some misfortune were to befall him, such as his father's death; and even from the age of six he could remember wishing to see girls naked, but feeling that if he thought about such things something bad might happen, such as that his father might die. Thoughts about his father's death had, in fact, occupied and depressed him from a very early age (X 162).

Despite such evidence the Rat Man was unwilling to consider that his symptoms might express hostility. On the contrary, he insisted that he and his father had always been the best of friends. He soon became convinced, however, that Freud would 'beat him and throw him out' because of the unpleasant things he said in his free associations, which included sexual and aggressive phantasies about Freud and his family (X 282-4)). In talking about such things he got off the couch and went down to the end of the room, saying that he was doing this out of delicacy of feeling -- that he could not lie comfortably there while he was saying such dreadful things. It soon became clear, however, that he actually feared that Freud would beat him; and he began to relive a scene from his childhood, in which he had been lying between his mother

and father in bed and had urinated, and his father had beat him and turned him out. As Freud wrote at the time:

His demeanour during all this was that of a man in desperation and one who was trying to save himself from blows of terrific violence; he buried his head in his hands, covered his face with his arm, etc. He told me that his father had a passionate temper, and did not then know what he was doing...He had thought that if there were murderous impulses in my family, I should fall upon him like a beast of prey to search out what was evil in him (X 284-5).

The patient thus recovered a buried image of his father as a punishing figure of whom he was terrified. Such images made it possible to understand his phantasies of his father being punished as wishfulfilments fitting the same pattern as Freud's dream above. Freud's dream could be seen as an extravagant wishful reversal of the feelings of responsibility prompted by Otto's remark; likewise this patient's phantasy of his father being attacked by rats could be seen as a extravagant wishful reversal of his forgotten feelings of childhood terror. But the patient experienced such feelings in the present and towards the analyst before remembering them as relating to his father.

The early motive revealed by Freud's analyses of adults included sensual love for one parent combined with rivalry and jealous hatred for the other, which constellation he called the Oedipus Complex. Little children naturally developed desires to harm or displace each parent, envied and hated as a rival for the sensual love of the other, as well as desires to preserve and protect that same parent, loved both sensually and as a caretaker, helper, and model. Also babies and children apparently attached great emotional significance to their interactions with their parents in such basic co-operative activities as feeding and the expulsion and management of waste. These involved the first use, and hence the first stimulation, of bodily organs or zones -- particularly the mouth, genitals, and anus -- which would later be used in the emotionally charged activities of normal and abnormal sexuality. Analysis showed that early feelings relating to these organs was continuous with those aroused by their later uses. This enabled Freud to frame a theory which systematically linked normal and abnormal sexual phenomena in the development of the individual (VII).

A key idea in this account was that prior to developing conscious sentential representations of matters concerned with sexuality and reproduction, little children naturally employed metaphorical or symbolic representations of them. Freud's hypotheses about this were based mainly upon the analysis of adults, although he discussed a phobia in a five-year-old boy (X, 22ff) and a pattern of symbolic play in child just beginning to speak (XVIII, 14). Later analysts, such as Melanie Klein, were able to analyze children, and to confirm and extend Freud's findings. This can be illustrated by a little girl, who like the Rat Man suffered obsessional symptoms as well as depression. She played at being a queen, who was getting married.

[When she] had celebrated her marriage to the king, she lay down on the sofa and wanted me, as the king, to lie down beside her. As I refused to do this I had to sit on a little chair by her side, and knock at the sofa with my fist. This she called 'churning'...immediately after this she announced that a child was creeping out of her, and she represented the scene in a quite realistic way, writhing about and groaning. Her imaginary child then had to share its parents' bedroom and had to be a spectator of sexual intercourse between them. If it interrupted, it was beaten...If she, as the mother, put the child to bed, it was only in order to get rid of it and to be able to be united with the father all the sooner. (Klein, Vol II, p. 40.)

Freud had noted that adults frequently symbolize their parents in dreams by the figures of king and queen. This play used the same symbolism in representing the child's unconscious fantasies about her parents, whom in real life she treated with excessive but demanding fondness. Here the child's representation of adult sexuality is partly symbolic (e.g. in terms of 'churning' or something knocking something); but the referent of the symbolism can nonetheless be inferred from the context (the activity takes after the wedding, with the parents lying together in bed, and is followed by the birth of a child). Her form of representaiton of sexaul matters which was thus prior to conscious understanding of them. The phantasies expressed in this game were repeated in many others, and in many related psychological constellations; and these made the little girl's obsessions and depression intelligible, in terms of what she phantasized as happening between herself and her unconscious versions of her parents.

Freud's hypotheses about children were thus consistent with his earlier idea that childhood sexual phantasy might 'seize on the theme of the parents'. In their attitudes towards the primary objects of their emotions, children were naturally liable to extremes of both love and hate, and hence to intense ambivalence and conflict. In consequence, Freud thought, some of these conflicting motives were subjected to a process of repression, which removed them from conscious thinking and planning. Repressed motives nonetheless continued to exist and operate in an unconscious system. Normally such motives could express themselves in dreams, slips; but where the conflict between hating and loving was particularly extreme, as in the case of the Rat Man, the expression took the form of symptoms.

Motives subject to conflict could also undergo a process of sublimation, whereby they could lend symbolic significance to everyday activities, and thus be pacified in the course of them. (IX, 187, 189). This idea can be illustrated by a relatively successful teacher and writer, who was surprised when one of his pupils -- who had made a special effort to be taught by him, and was trying hard to master his ideas -- had offered to suck his penis. This offer was neither expected nor welcome, but that night the teacher had dreamt that a lamb had come to suck milk from his finger.... On waking he realised that the lamb represented the pupil who had come to imbibe his ideas, and his milk-giving finger the penis his pupil had wanted to suck. So the dream could be seen as representing the fulfilment, in a more acceptable and symbolic form, of a sexual wish which had arisen on the day before. The symbolism, however, went deeper, for the dreamer also represented himself as occupying the position of a mother nursing a child. In this he represented his finger/penis as fulfilling the role of a feeding breast, and compared his writing and teaching to the production of milk as well as semen. He thus represented himself as enjoying a combination of feminine nurturance and masculine potency which was impossible in real life, and his desires for which had been repressed in early childhood. Still, these same desires could to some degree be pacified in his adult work, owing to the symbolic significance which he attached to it. In writing or teaching he could with some justice see himself -- to use more familiar metaphors -- as potent and seminal, and at the same time as giving others food for thought.

#### 4. Freud's Radical Extension of Commonsense Psychology.

Freud's work effected a radical extension of commonsense psychology. On his view everyday events and actions -- such as Freud's deciding to write up Irma's case history, or the Rat Man's deciding to go down to the other end of the room while talking to Freud -- are determined by networks of motives far more extensive and complex than people can naturally realize. Everyday desires arise partly from motives which are unconscious residues of encounters with significant persons and situations from the past, reaching back into the feeding and management of infancy. The goal associated with many of the most constant and basic desires, moreover, is not realistic satisfaction, but rather representational pacification. Such desires are characteristically expressed in a symbolic or metaphorical form, and in mind-altering wish-fulfilling phantasy, and hence in dreams and symptoms, or through actions upon which they have conferred symbolic meaning. Hence in Freud's account the pattern W, in which a desire that P gives rise to the production of a pacifying (and perhaps metaphorical or symbolic) representation that P (which, as in the examples above, may itself be an intentional action) is the primary process in the pacification of desire, whereas the pattern of intentional action D, in which a desire that P gives rise to the action or situation that P, is a secondary process, to be seen both as developing from the first, and as taking place in the context of it.

Thus everyday conscious desire and action also has a status, in relation to the unconscious, as representation; and this goes with a new perspective on desire. Excessive or frustrated desires, even those of infancy, are not psychologically lost; rather they are continually re-articulated in symbolism, so as to direct action towards their representational pacification during the whole of life. In this Freud provides both a radically holistic account of the causation of action and a naturalistic (and ultimately physicalistic) description of the generation of meaning in life. New goals acquire significance as representatives of the unremembered objects of our earliest and most visceral passions; and the depth of satisfaction we feel in present accomplishments (as in the example of the writing and teaching above) flows from their unacknowledged pacification of unknown desires from the distant past. Thus, paradoxically, significant desires remain flexible, renewable, and satisfiable in their expressions, precisely because they are unalterable and unrelenting at the root.

The kind of phantasy which expresses ancient desire also constitutes or implements many further mental processes, studied mainly in psychoanalysis. Repression, for example, can be effected or maintained through the formation of phantasies in which the characteristic to be repressed is replaced by others, as in Freud's dream his guilt was replaced by personal blamelessness together with a certain strictness on the topic of injections. Likewise persons effect the projection of their own impulses, aspects of mind, or traits of character, by representing others as having, and

themselves as lacking, these impulses, aspects, or traits, as Freud seems to have done in this dream. Finally, persons form lasting and life-shaping phantasies of themselves on the model of other persons, thereby establishing identifications which become constitutive of the self.

## 5. Psychology and the Brain: Freud's Scientific Project.

In clinical work Freud described the unconscious in commonsense terms, as including wishes, beliefs, memories, and so forth. But he also sought to integrate his clinical findings with more theoretical concepts, as well as with neuroscience. In his early Project for a Scientific Psychology (I, 283ff) he hypothesised that the working of the brain could be understood in terms of the passage from neuron to neuron of some form of excitation, or cathexis, via connections which he called 'contact-barriers.' On this hypothesis information was stored in the brain in the form of alterations -- facilitations or inhibitions -- in neural connections, and processed by the passage of excitation through the interconnected networks of neurons themselves. Hence, as Freud put it, 'psychic acquisition generally', including memory, would be 'represented by the differences in the facilitations' of neural connections. [I, 300] In this he anticipated recent work indicating that the brain can be understood as a computational device whose 'knowledge is in the connections' among neuronal processing units [Rumelhardt et al 1988, 75], and also the associated view of mental processes as forms of neural activation, and mental states as dispositions to these, or structures determining them. (See Glymour 1992)

Freud sketched a model representing his early findings in these terms, and framed later discussions to be consistent with this. In this model the signalling of a bodily need -- say for nutrition in an infant -- causes a disequilibrium in neural excitation. This at first results in crying and uncoordinated bodily movements, which have at best a fleeting tendency to stabilise it. Better and more lasting equilibration requires satisfaction, e.g. by feeding; and this causes the facilitation of the neural connections involved in the satisfying events. The brain thus constantly lays down neural records, or prototypes, of the sequences of perceptions, internal changes, bodily movements, and so on, involved in the restoration of equilibrium by satisfaction. Then when disequilibrium again occurs -- e.g. when the infant is again hungry -- the input signals engage previously facilitated pathways, so that the records of the best past attempts to cope with comparable situations are naturally reactivated. This, Freud hypothesised, constitutes early wishfulfilment.

Freud thus identified the wishfulfilling pacification of infantile proto-desire with what can be regarded as a form of neural prototype activation. [For a recent discussion see Churchland 1995]. This provided more stability in disequilibrium than the relatively random enervations it replaced, and also that served to organise the infant's responses, e.g. to hunger, by reproducing those previously associated with satisfaction. Then as the infant continued to lay down prototype upon prototype, the original wishful stabilizations evolved towards a system of thought, while also coming to govern a growing range of behaviour, increasingly co-ordinated to the securing of satisfaction.

This, however, required the brain to learn to delay the wishfulfilment-governed neural behaviour associated with past satisfaction until present circumstances were perceptibly appropriate -- that is, to come increasingly under the sway of what Freud called the reality principle. Delay required a tolerance of frustration, and the absence of the satisfying object, and made room for reality testing, and hence the binding of the neural connections involved in the securing of satisfaction to perceptual information about the object, and later, as Freud hypothesized, to rational thought. The primary process of percipitate wishfulfilment was thus progressively overlaid and inhibited by secondary processes which provided for the securing of satisfaction in realistic conditions. This benign development could, however, be blighted, if frustration (or intolerance of it) too much led to the overactivation of inappropriate prototypes, and this to greater frustration. Such a process could render the mind/brain increasingly vulnerable to disequilibrium and delusion, and hence increasingly reliant on earlier and more wishfulfilling modes of stabilisation, in a vicious circle constitutive of mental disturbance and illness.

## 6. The Mind as Structured: Ego, Super-Ego, and Id.

Freud allocated the task of fostering the sense of reality, and so providing for the satisfaction of desire, to a hypothetical neural structure, or functional part of the mind, which he called the 'das Ich', or the ego. (The literal meaning of Freud's phrase is 'the I'; but the concept has been translated by the Latin pronoun, which has taken a life of its own.) In his final conceptualisations he linked this structure with two others, the super-ego, which judged or criticised the ego, and which included the ego-ideal, representing the ideals or standards by which the ego was judged; and the primitive 'it', or id, the

natural matrix of basic and potentially conflicting drives, present at birth, out of which these other structures developed (XXI, 3ff; XXIII, 144ff). His late discussions of these notions are particularly difficult to understand, partly because they combine a number of different modes of explanation.

Overall it seems that Freud intended the ego, super-ego, and id to be functional neural systems, which can be described in a teleological way, that is, in terms of the goals which their operation secures and the information upon which they operate. This kind of explanation is now familiar from cognitive psychology, in which distinct functional units are often represented by boxes in a flow chart, described in terms of what the functional unit which they represent is supposed to contribute to overall psychological functioning. But Freud combined this kind of explanation with the empirical claim that the way peoples' minds actually function depends upon the prototypes or imagos by which they represent themselves and others. So on Freud's account the ego and super-ego are partly constituted by representations of the parents. Hence the working of these functional systems is partly felt, and can partly be described, in terms of motives, feelings, or actions of the representational figures which they embody. So Freud speaks of the super-ego as reproaching the ego for not attaining the standards embodied in the ego-ideal, the ego as feeling overwhelmed by the demands of the id, the difficulties caused by a super-ego which is overly harsh or punitive, and so forth. The idea in each case is that the operation of the functional system is both apprehended by the subject, and can be objectively described, via the prototypical figures which the system embodies.

Freud thought of the id as the neural system, or ensemble of systems, comprising the infant's innate constitutional endowment of instincts or drives, that is, structures which under the impact of experience would yield basic emotions and motives for action. These he took as divisible into two main categories: those which give rise to the broad group of motives which are creative and constructive, such as affection, love, and care, and hence the behaviour connected with these (the life instincts); and those which give rise to the broad group of aggressive motives, such as envy and hate, and hence the behaviour linked with these (the destructive or death instincts). His final view was thus that the primary conflicts in a person's life -- those which necessitated repression and could become constitutive of mental illness -- were ultimately to be seen as holding between that person's impulses to construct or destroy. This meant that conflict extended to sexuality in a secondary way, that is, as something which could itself be used constructively or destructively.

On Freud's account the ego and super-ego develop out of the id, mainly through the young child's identification with other persons in the environment. Freud took identification to be related to a further process, which he called introjection, in which the admired target of identification is phantasied as taken into the self, which is thereby modified on the model of that object. This process in turn has a basic and bodily representation in the process of incorporation, in which the target is represented as taken into the body. Many Christians, for example, regularly engage in a ceremony which is described as eating the body or drinking the blood of Christ. This is regarded by some as a symbolic act, and by others to involve real flesh and blood, as transubstantiated in bread and wine. In psychoanalytic terms such a ceremony represents the participants as incorporating a common object as their ego-ideal, and hence as furthering their ability to regulate their actions on the model which this object provides.

The main parameters of the original development are set by the child's attempts to satisfy innate desires in the context of the family. This leads to formative identifications with the parents, in which two rough stages can be discerned. In the first the child advances towards self-control by forming images of the parents in their role as regulators of its bodily activities, particularly, as noted, those involved in feeding and the elimination of waste. These 'earliest parental imagoes' (XXII, 54) provide the basis of the self-critical faculty of the super-ego. Since these early images embody the child's infantile aggression in a projected form, the self-critical imagination tends to be far more threatening, punitive, and terrifying than the actual parents; so it can be a cause of great anxiety or guilt, and even, in the extreme, of suicide. (Witness the primitive projected super-ego taken as a 'beast of prey' above.) Later the ego is structured by the child's identifications with the parents in their role as agents, that is, as satisfiers and pacifiers of their own desires. Thus a crucial step in normal development is identification with the parent of the same sex, which entails that sexual desires are satisfied in a way which is non-incestuous and reproductive. For this, however, the child has to relinquish the goal of usurping the place of the parent for that of becoming like him/her; so Freud takes the final establishment of the super-ego and ego-ideal to involve the dissolution of the Oedipus Complex.

## 7. Social Psychology.

Freud also applied these notions to the psychology of groups. The cohesiveness of many groups can be understood via

the idea that their members identify with one another by putting a common figure -- such as a charismatic leader (or in the case of leaderless groups a common cause or creed) -- in the place of the ego-ideal, thus reconstructing their egos in a common way (XVIII, 67ff). This serves to ensure that the individual's sense of worth is determined by relation to the idealized object which binds the group; and hence also aggression in service of this need not be a cause of guilt. The members of groups may also be identified by other means, such as the projection of their bad aspects -- and in particular their hostile motives, derived from the destructive instincts -- into some common locus, which therefore becomes a focus of legitimated and collective hate.

Members of a group who find such a common good or bad object thereby feel at once purified, unified, and able to focus destructive motives in a way which is validated by their ideals. The processes of introjection and projection which Freud described can thus systematically serve to organize people into groups which represent themselves as unrealistically good while representing others as bad -- an unrealistic pattern of good us/bad them common to all parties in human conflict. Rational disagreements between such groups are therefore underlain and exaggerated by projection of destructive motives, and hence by suspicions and hatreds which are both irrational and difficult to resolve.