II. HYPNOTIC ANALOGIES

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Scarcely anyone familiar with the Freudian psychology can fail to be impressed with its suggestiveness, although many misgivings may arise in his mind as to its truth. My attitude from the beginning of my acquaintance with it has been one of deep interest in the mental mechanisms it suggests, and an earnest desire to test the reality of these mechanisms and their objective validity. I hoped to satisfy my mind on this matter by the test of experience. If psychoanalysis produces an evident benefit in a patient, this alone is a fact in favor of the objective validity of the mechanisms that it supposes.

One cannot, however, take that as conclusive evidence. The fact, e. g., that a drug cures is no proof of our theory of the way in which it acts. Thus, also, psychoanalysts may cure, but the reason for the beneficial effects may be far different from what is supposed by the Freudian psychology.

To test conclusions we must examine evidence on which they are based.

By way of introduction, let us analyze the evidence on which a couple of Freudian conclusions are founded. Let us take, for example, the theory of forgetting, as propounded in the first pages of the *Psychopathologie des Alltagslebens*. The argument may be analyzed as follows:

In many psychoanalyses I have observed the following associations: When apparently indifferent words, etc., are forgotten they are found to be associated with unpleasant memories. Therefore, whenever words are forgotten they are associated with unpleasant memories.

This is a typical example of what is known in logic as the analogical argument. Let us compare it with an example developed by Bosanquet from one given by Mill.

Newton guessed that a diamond was combustible, because of its high refractive index relative to its density, a feature which he had observed in many combustible bodies.

Enumerative induction :

Oil, Canada balsam, etc., are combustible ;

Oil, Canada balsam, etc., have a high refractive index relative to density ;

∴ High refractive index may be connected with combustibility.

In the case of the diamond the combustibility had not been observed, so that when applied to it the conclusion was a prediction or discovery. But the essential import of the conclusion would have been the same if no new case would have been in question.

The next step would have been to say :

"Combustibility has to do with such-and-such attributes of oil, Canada balsam, etc.

High refractive index has to do with these same attributes.

∴ High refractive index is fundamentally connected with combustibility."¹

It is precisely this step which Freud's irresistible impulse to generalize has made him take in the case of forgetting.

Cases a, b, c, etc., were found to be connected with an unpleasant memory. Therefore, all such cases are connected with unpleasant memories.

It is an example of an argument from analogy based upon incomplete induction which all logicians regard as inconclusive.

However, we must agree with Mill when he says: "There is no analogy, however faint, which may not be of the utmost value in suggesting experiments or observations which may lead to more positive conclusions."²

To strengthen the underlying argument one must find a principle governing all the events of the class in question. This Freud does, and his principle is: The mind tends to repress all unpleasant events. The number of instances that he gives are very suggestive and so appealing that one is inclined to forget the logic of the situation and agree with him. But to do so would be unscientific. We should merely be stimulated to seek still further evidence and test in various ways the ingenious conception. A work of this kind is now in progress in this laboratory

¹ B. Bosanquet, *Logic*, 2nd edition, 1911. Vol. II, Book II, Ch. III, p. 88.

² A *System of Logic*, Book III, Ch. XX, Par. 3.

and, so far as it has yet proceeded, the Freudian principle is confirmed.

Let me take another example more clearly related to the present subject. Let us examine the character of the evidence for the censor theory of repression in dreams.

This is an example of another type of analogical argument. As far as the type itself goes, Mill looks upon it as in itself a valid argument. It asserts a resemblance in relation between two situations. In the instance in question the parallelism is as follows:

As the public censor is to the press, so the mind is to the fabric of the dream. As the public censor will not allow open, plain, and palpable reference to certain matters which are offensive, but lets them slip by when they creep in as innuendoes, so the mind will not allow what is objectionable to focal consciousness to appear openly in a dream, but permits the same thing to creep in unexpunged if it appears in a symbolism which the waking mind cannot understand.

The argument is valid if there is a real parity of conditions. If one country, for instance, is improved by the education of its citizens and by affording them all equal opportunities to life, liberty, and the pursuit of true happiness, so also another country, whose citizens are at a similar stage of development, would be improved by education and political freedom.

The difficulty in many cases is the establishment of the parity of conditions, and it is precisely here that we find the weakness of the Freudian parallel. It is a long way from the political censor of the press to consciousness and its dreams.

With these preliminary remarks about the logic of psychoanalysis I may proceed to outline a neglected field of experience, from which new evidence may be found to throw light upon the difficulties which confront us.³

Anyone accustomed to dozing off in the daytime must have experienced over and over again the phenomena which are here

³ Hollingworth, H. L., in an article entitled the Psychology of Drowsiness (*Am. Jour. of Psychol.*, 1911, xxii, pp. 99-109) has already opened this field of study. He gives references to the previous literature.

entitled Hypnotic⁴ Analogies. They are generally crude, comical, fantastic, more rarely beautiful and poetic similes, by which the well-knit fabric of our normal waking thought passes over into the apparently frazzled and disconnected structure of our dreams. For a long time I have noticed these most interesting analogies, but only recently has it occurred to me that their study would be likely to throw some light on our dream life in general. Most of those who study dreams are interested in the obscure and complex phenomena of the night. The hypnotic analogies, however, occurring as they do while we are dozing off in the midst of our work, present to us the dream in its incipient stage and in immediate connection with important causal factors.

The earliest example of such a hypnotic analogy that I remember in my personal experience occurred at a period of my educational career when I was very much interested in botany. I dozed off one evening when saying the rosary. All its mysteries seemed expressed in a wonderful language of flowers. Over and above this figurative expression it seemed clearly evident to me that it must be impossible for anyone who did not understand botany to say the rosary. The superficial analogy between "flowers" and the "rosary," I presume, scarcely needs to be pointed out. I regret very much that I did not write down at the time the details of this interesting analogy. It will suffice, however, to indicate the appropriateness of the term "analogy" and will show how a more or less accidental association may give rise to a peculiar symbolic expression of thought.

This analogy between flower and the rosary approaches very near the language of poetic metaphor. It has, however, a crude element which relates it to the delusions of the insane—the idea, namely, that no one who does not know botany can possibly understand the rosary. The analogy has so occupied the field of consciousness as to impress the mind with its own importance and in the drowsiness of dozing off to sleep the normal critique of judgment is suspended. The crudeness of the analogy and its conflict with experience is not noticed, for the mind is no

⁴"Hypnotic" is here used in a novel sense. I would have its signification here limited to "pertaining to sleep" and not imply producing sleep.

longer in the world of experience but in the land of symbols and of dreams.

The following analogy approaches much more closely the beauty of poetic metaphor, and is free from any element of crudeness offensive to the critique of real life.

"I was reading to-day Newman's sermon: "Love the safeguard of faith against superstition." I dozed off and saw a star—shining as it were in darkness. There was a conscious direction to the star of Bethlehem, unexpressed by any words and not even clearly and explicitly present in thought. I heard the words as if repeated in a low tone by myself: The star, the star alone will guide. I awoke thinking that there must have been some reference on the page to a star or the guiding principle of faith. But I could find none—neither in the page I was reading when I fell asleep, nor in the whole sermon up to that point. Only the general idea of the sermon—faith guided by love—seemed to be the basis of the symbol.

We have here an exemplification of the general tendency to continue in sleep by figures and symbols the train of thought of our wide-awake mental life. That the figurative expression is here poetic and unoffensive to our aesthetic taste may be due to the fact that the train of thought from which it proceeded was itself literary, artistic, and religious. Or it may be due to such a multiplicity of conditions that we can only say that the lack of offence to our aesthetic sensibilities is accidental and the previous waking thought might just as well have been continued by crude analogies offensive to the mind of our every-day life. This latter alternative appears to me the more likely.

By way of contrast I may give the following analogy:

This morning I was reading just before breakfast. My mind wandered from the subject matter of the book and I started to think about the possibility of detecting one who might feign insanity. I thought of the reaction time to pictures. It occurred to me that one might very easily say that he did not know what they were, and still a practised observer would notice a difference in his reaction as compared with that of one who really could not interpret the drawing. I was gradually dozing off. Without any intermediate stage that I remember, I thought that one could boil a bone or a piece of meat. The exact nature of what was boiled was not clear to me. Then while the patient was not looking he could transfer it to another pot. It seemed to me that this would afford a test of his sanity. If he kept looking for it in the original pot he would be insane. If he found it in the other pot, he would not be. It occurred to me even in my drowsiness that an insane person might find the bone in the other pot by a kind of natural impulse to look for it elsewhere. I had a poor visual image of a pot boil-

ing—it seemed to be on a gas stove. A larger coal stove was just beyond it. I seemed to be standing near another pot to the side as it were of the gas stove. The patient was localized at a little distance from the boiling pot with a few lines of his coat visible in my image. All imagery very poor. I awoke for no known reason and realized that I had been dreaming about something in connection with my previous thoughts. It took a little time to get the connection. The dream seemed to be fading more quickly than the distraction (to my reading) that preceded it. I cannot think of any reason for the analogy. June 20, 1915.

One can scarcely speak of an analogy here. The drowsiness starts with the distraction in reading—with the very problem of detecting one who might feign insanity. A crude and insufficient method is conceived, but still in conceptual rather than imaginal terms. This is followed by one that is still more crude, but capable of being expressed by a visualization of a situation. It is really not analogous to the old solution, but a new pictorial solution of the problem. In neither case was the critique of experience entirely suspended. I was not satisfied with either solution of the problem even while dreaming.

A more typical analogy, and one scarcely less crude, is the following:

I was reading in White's *Outlines of Psychiatry* about endogenous and exogenous delusions; *allopsychoses*, *autopsychoses* and *somatopsychoses*. I dozed off and thought I ought to explain that matter in my lectures next summer. To do so I thought it would be necessary (or useful) to hold up the humerus before my class. I had a faint visual image of myself on the platform where I used to lecture and of the lower end of the humerus with its external and internal condyles. Suddenly I realized here is one of these "hypnotic analogies" and I at once tried to find the association. The *external* and *internal* condyles brought up to my mind the *exogenous* and *endogenous* delusions. It also recalled my review last night of fractures of the lower end of the humerus and a picture of the superficial anatomy of the cubital fossa and my attempt to orientate myself as to the outer and inner side. I am expecting an oral examination in surgery any morning this week.

On further thought this may possibly indicate a desire to have a perfectly definite, tangible subject matter to speak about. Psychology is very vague. But the anatomy of the humerus clear cut and definite.

Here again we have an evident continuation of the thought of wideawake life in a symbolic fashion. The analogy is so superficial and accidental that we would never think of making use of it in every-day life. The source of the analogy seems to be the mere spontaneous arousal of an image. In dozing off to sleep I

was thinking of words commencing with *ex* and *en*. Because I was studying a bone with external and internal condyles its image recurs and I at once grasp at the analogy with my thought. I do this all the more readily because it affords a chance to make my pet science of psychology as precise and definite as the study of bones.

Another rather interesting analogy is the following :

I was reading this morning the epistle of St. Clement to the Corinthians. I looked up the word *παράπτωμα* finding the sense "a fall beside" metaphorically a transgression. A little later I dozed off and saw a shoot such as one sees in a depot where trunks are allowed to slide along a curved inclined plane to the floor below. Numbers of red mattresses, rolled up and tied with cord, were tumbling down the inclined plane and as they reached the floor below fell off at the sides. At first I could see nothing with which the peculiar scene could be connected, presently I thought of *παράπωμα* and the "fall beside."

The railroad station seemed in some manner to be connected with the Union Station at Washington where I came in last night at about eleven. I do not remember any association with red mattress—except the red bags of feathers used in Germany. I was very sleepy on the car on my way from Baltimore. This might have something to do with an association between the station and the mattress—*via* my desire to get to bed. I therefore did not see trunks going down the shoot, but mattresses instead. Dec. 20th, 1915.

Here again we may conceive of what the Germans would call "frei steigende Vorstellungen" as playing a roll. The image of the railroad station comes up, because I was there the night before. I do not think I saw the shoots for the trunks, though I did go by the baggage room on my way out. Here my previous line of thought exercises its influence. The image of the shoot is reproduced; the concept of the *παράπτωμα* comes to my mind. My sleepiness on the previous evening enters into the situation, for I am still sleeping and dozing at the present moment; and so the mattresses roll down the shoot and fall off, to illustrate for me the meaning of *παράπτωμα*.

The following instance shows how a thought may be illustrated by a visual image which apparently has no connection with any actual experience :

This evening I was thinking while reading of how my advice to a student had miscarried. She wanted to make a protest to the faculty and I, though not entirely agreeing as to the advisability, helped her to do it as best I could. The results were not satisfactory. I dozed off and thought how

protests miscarry. I was thinking while asleep of protests to Rome—perhaps in relation to the protests of the vicar apostolic in Challoner's time against the actions of the regulars. I was reading of this this morning. Suddenly I saw a shower of dashes—as bright yellowish lights against a yellowish-grey background—and either heard the words or thought of the meaning expressed by the words: "all things topsy turvy." The shower of lights represented something turned topsy turvy. I awoke realizing the appropriateness of the symbol to what I had been thinking of. I was also conscious of a train of thought intermediate between the miscarriage of my advice and the shower of lights, that I have not been able to recall better than above indicated.

Was the shower of lights produced *ad hoc* to illustrate the meaning which I had in my mind; or was it one of those things that Meyers has termed hypnagogic hallucinations, which was seized upon as an illustration, and then its appropriateness verbally expressed by the words "all things topsy-turvy"? I am inclined to believe the latter, though I would not maintain it as certain.

The following dream was connected with a line of thought which was present an hour or so before dozing, and with imagery based upon an experience which occurred about ten days prior to the dream.

I fell asleep in my chair and thought I saw spread out before me various kinds of wood arranged according to size from very small to very large. This scene disappeared and was succeeded by a similar display of coal. On awaking I remembered having dreamed of another display of something else before that of the wood but could not recall what. In the dream I thought I was studying a transformation or a development in each class but what impressed me most was the distinctness of the classes and the number three.

When I awoke I sought in past experience some connection with this idea of three and recalled an effort made a couple of hours previous to fix in memory three parties composing the council of Nicaea with the tenets of each party. I also recalled having seen about ten days before the dream, a miniature mining town exhibited in the National Museum.⁵

There are certain points in the theory of dreams on which these hypnotic analogies seem to throw some light.

1. The Freudian concept of the dream as proceeding from the experience of the day just passed seems to be confirmed. Just as the hypnotic analogies continue a line of thought which we were following prior to going to sleep, so also the dreams

⁵ This is the only one of the analogies here reported which was not a personal experience of the writer's.

which occur in the night are likely to be continuations of the thoughts of the day. There is, perhaps, no break in our conscious life; and though it ebbs very low in a deep sleep, it never sinks so low as to make a new start entirely independent of what has gone before.

2. The Freudian concept of the censor, instead of being confirmed, is called in doubt. I must say that this concept has always seemed rather questionable. It is poetic and ingenious, but is it true?

I may recall to your minds the Freudian expression of the concept of censorship.

"The correspondence between the phenomena of the censor and those of dream distortion, which may be traced in detail, justifies us in assuming similar conditions for both. We should then assume in each human being, as the primary cause of dream formation, two psychic forces (streams, systems), of which one constitutes the wish expressed by the dream, while the other acts as a censor upon this dream wish, and by means of this censoring forces a distortion of its expression. The only question is as to the basis of the authority of this second instance by virtue of which it may exercise its censorship. If we remember that the hidden dream thoughts are not conscious before analysis, but that the apparent dream content is remembered as conscious, we easily reach the assumption that admittance to consciousness is the privilege of the second instance. Nothing can reach consciousness from the first system which has not first passed the second instance, and the second instance lets nothing pass without exercising its rights and forcing such alterations upon the candidate for admission to consciousness as are pleasant to itself."⁶

Jung expresses the same thought thus: "To what purpose are dreams symbolic? . . . Dreams are symbolic in order that we may not understand them; that the wish, which lurks behind as the source of the dreams, may not be understood."⁷

⁶ *Interpretation of Dreams*, trans. by Brill, p. 121.

⁷ "Wandlungen und Symbole" der Libido, Leipzig, 1912, p. 10.

This seems to me to suggest a rather complicated mental mechanism. If you ask a patient to write out all his dreams you will find that some will be highly symbolic, and on analysis be found to have this or that sexual significance. Besides such dreams there are others which are openly and frankly sexual, without any censorship whatsoever having been exercised. How was it that so much happened to escape the censor?

The hypnotic analogies which I have reported in this paper suggest the possibility of a different kind of mechanism. Any thought whatsoever may be expressed in symbols, and is likely to be so expressed if it is the last thought in mind just before going to sleep. Symbols are the language of sleep, logical concepts the inner language of our every-day life. Dreams, therefore, are symbolic not that we may not understand them, but simply because they must be expressed in the language we are capable of using when we are asleep.

But, you say, look at all the cases of suppressed wishes that find symbolic expression in our dreams—is not this evidence of the censorship? No. It makes no difference how you may multiply such instances, you will do nothing more than record facts and never show the reason why such facts take place as they do.

Why, of course, suppressed wishes find a symbolic expression in our dreams. But this is not the whole story. The suppressed desires of waking life often find a simple, non-symbolic expression in dreams. Furthermore, any thought whatsoever, whether it has to do with a suppressed wish or not, may be expressed symbolically. So when the symbolism of a dream happens to hide from view the fulfillment of a suppressed wish, this is not to be taken as evidence of the activity of some mysterious censor.

What looks like suppression takes place, because in our dream life we continue the thought of the day, whether conscious or subconscious, in a symbolic manner. Censorship is the voluntary control of our *waking* life. It ceases when we sleep, and all manner of things find pictorial and symbolic expression in

our dreams. There is no need of keeping the censor on duty both night and day.

If the theory of censorship does not account for the symbolism of dreams, can one give any more plausible explanation? This, I think, can be done, although I do not regard the theory that I am now to propose as anything more than a possibility. Still, it is a possibility which has something to recommend it, and so far as I know nothing to exclude it.

I have already referred to the phenomena termed by Meyers hypnagogic hallucinations. I think most, if not all, people have them, though comparatively few notice them. When I first read of the phenomena in Myers' work on Human Personality, it seemed to me that I had never experienced them. It was not many nights after this that I noticed them—so far as I know—for the first time in my life. Others to whom I have spoken have professed never to have had any such experiences, but have later confessed to having noticed them. I think that these hypnagogic hallucinations are rather common, perhaps universal, phenomena.

What have they to do with dreams? What have they to do with the hypnotic analogies? They furnish the sensory basis of the hypnotic analogy. When one is falling asleep all sorts of hypnagogic hallucinations are produced. These are revived mental images. The periodic character of our imagery was noticed as long ago as 1859, when Fechner's *Elemente der Psychophysik* was published. He there points out that mental images have a certain periodicity, even though the periods are not regular; and he regards sensation, after image, and mental image as different stages of one and the same process. Müller and Pilzecker, in their classic work on memory, referred to the same phenomenon under the expression of the *Perseverationstendenz der Vorstellungen*.

The hypnagogic hallucination is often far too weird to be looked upon as the exact replica of a previous sensation. But all such hallucinations have their origin in sensations, and we will not go far astray if we look upon them as evidences of the

rhythmic activity of the sensory centres. This activity is not the result of any one stimulus, but of the myriads of stimuli of a whole lifetime. It is not strange, then, that we should see weird sights and hear strange sounds when we become aware of this rhythmic activity on falling asleep.

Is this activity one that goes on only when we fall asleep? I doubt this very much. It goes on all the time, perhaps, but only in the relative quiet of incipient sleep are we aware of it. It is not always that we are conscious of the flow of blood in the middle and inner ear that makes us "hear the silence" of some desert spot whence noise is banished and where all sound is hushed. But still the blood always flows, and the sound of our own ears is always present, though it is not always heard. And so, also, the rhythmic activity of the sensory centers is always present, but only in the silence of sleep do we become aware of it.

This rhythmic activity, and the hypnagogic hallucinations that it produces, do not alone account for the hypnotic analogies and the structure of our dreams. Other factors enter, and these are the trains of thought of our waking life. In the hypnotic analogies the train of thought immediately preceding sleep is the dominant one. In the more complex dreams of the night, trains of thought which are dominated by the things that are closest to our hearts exert their influence and build up the incoordinate fragments produced by the rhythmic activity of the sensory centers into the complicated structure of our dreams.

Now how can we conceive of the influence of the trains of thought upon our hypnagogic hallucinations?

Essentially the same thing occurs in every-day life. Let me give a few examples. I am reading a book. Various printer's errors are passed over unnoticed because the train of thought of the context assimilates the incoming sensations to the imagery of words demanded by the context, and so the mis-spelled words are read correctly.

I am listening to a lecture in my native tongue. The context makes me hear distinctly what, if spoken in an imperfectly

known foreign language, would be a confused jumble of sounds. To experience the truth of this one has but to listen to a lecture in a foreign language where adequate auditory imagery is not easily revived and assimilated to the incoming sensations.

Again, how easy it is for us to read a printed book in a language with which we are fairly familiar! how hard to read the letter of a friend in that same language. Although if he were to write in our native tongue his letter would be easily and promptly read. Our sensory experience of handwriting in the foreign language is too slight to allow of the proper assimilation of its contents.

Again, I look at a pile of wood in a forest, covered with snow. It is almost night. And I see a group of spectral nuns slowly moving in the darkness. The phantom disappears in a moment, and there is the pile of wood and the snow hanging over it. I cannot now see the nuns, even if I try, though I see clearly what caused my original illusion. For the meaning—a pile of wood—now dominates my mind. Before it was the idea or meaning of a group of nuns. It was this meaning which aroused past images of nuns, and these were assimilated to the incoming sensations and so the illusion was produced.

Thus it is with the hypnagogic hallucination and the train of thought. Amid the many images that the rhythmic activity of the sensory centers is continually producing, some one occurs which has an analogy with the train of thought. Immediately it is strengthened by assimilation to other images that the train of thought calls forth. And thus is woven the fabric of the hypnotic analogy; and thus, too, is produced the more complicated structure of the dream.

Let us now conclude with an analysis of the logic of my own argument. What have I done? I have but exchanged one argument from the resemblance of relations for another. Instead of the political censor I have substituted a fairly well-recognized mechanism of waking life. As meaning is to incoming sensations, so are our trends of thought to hypnagogic hallucinations. Then by a series of examples I have shown that

certain hypnotic analogies occur during the same characteristic period in which we find the hypnagogic hallucinations. I have pointed out also a definite relationship between the hypnotic analogies and trends of thought preceding them.

I would not maintain that the full parity of conditions in the analogy proposed has been established. Still, something has been done to show hypnagogic hallucinations bear a relation to one's trends of thought that closely resembles that which exists between categories of meaning (as I have termed them elsewhere) and the incoming sensations. The flow of thought in sleep differs from that in our waking life, not because of the activity of a "censor of consciousness," but because sensations are replaced by hypnagogic hallucinations and these combine with our trends of thought to produce the hypnotic analogies.