

A NOTE UPON THE MYSTIC WRITING-PAD - (1925)

If I distrust my memory - neurotics, as we know, do so to a remarkable extent, but normal people have every reason for doing so as well - I am able to supplement and guarantee its working by making a note in writing. In that case the surface upon which this note is preserved, the pocket-book or sheet of paper, is as it were a materialized portion of my mnemonic apparatus, which I otherwise carry about with me invisible. I have only to bear in mind the place where this 'memory' has been deposited and I can then 'reproduce' it at any time I like, with the certainty that it will have remained unaltered and so have escaped the possible distortions to which it might have been subjected in my actual memory.

If I want to make full use of this technique for improving my mnemonic function, I find that there are two different procedures open to me. On the one hand, I can choose a writing-surface which will preserve intact any note made upon it for an indefinite length of time - for instance, a sheet of paper which I can write upon in ink. I am then in possession of a 'permanent memory-trace'. The disadvantage of this procedure is that the receptive capacity of the writing-surface is soon exhausted. The sheet is filled with writing, there is no room on it for any more notes, and I find myself obliged to bring another sheet into use, that has not been written on. Moreover, the advantage of this procedure, the fact that it provides a 'permanent trace', may lose its value for me if after a time the note ceases to interest me and I no longer want to 'retain it in my memory'. The alternative procedure avoids both of these disadvantages. If, for instance, I write with a piece of chalk on a slate, I have a receptive surface which retains its receptive capacity for an unlimited time and the notes upon which can be destroyed as soon as they cease to interest me, without any need for throwing away the writing-surface itself. Here the disadvantage is that I cannot preserve a permanent trace. If I want to put some fresh notes on the slate, I must first wipe out the ones which cover it. Thus an unlimited receptive capacity and a retention of permanent traces seem to be mutually exclusive properties in the apparatus which we use as substitutes for our memory: either the receptive surface must be renewed or the note must be destroyed.

All the forms of auxiliary apparatus which we have invented for the improvement or intensification of our sensory functions are built on the same model as the sense organs themselves or portions of them: for instance, spectacles, photographic cameras, ear-trumpets. Measured by this standard, devices to aid our memory seem particularly imperfect, since our mental apparatus accomplishes precisely what they cannot: it has an unlimited receptive capacity for new perceptions and nevertheless lays down permanent - even though not unalterable - memory-traces of them. As long ago as in 1900 I gave expression in *The Interpretation of Dreams* to a suspicion that this unusual capacity was to be divided between two different systems (or organs of the mental apparatus). According to this view, we possess a system Pcpt.-Cs., which receives perceptions but retains no permanent trace of them, so that it can react like a clean sheet to every new perception; while the permanent traces of the excitations which have been received are preserved in

'mnemonic systems' lying behind the perceptual system. Later, in *Beyond the Pleasure Principle* (1920g), I added a remark to the effect that the inexplicable phenomenon of consciousness arises in the perceptual system instead of the permanent traces.

Now some time ago there came upon the market, under the name of the 'Mystic Writing-Pad', a small contrivance that promises to perform more than the sheet of paper or the slate. It claims to be nothing more than a writing-tablet from which notes can be erased by an easy movement of the hand. But if it is examined more closely it will be found that its construction shows a remarkable agreement with my hypothetical structure of our perceptual apparatus and that it can in fact provide both an ever-ready receptive surface and permanent traces of the notes that have been made upon it.

The Mystic Pad is a slab of dark brown resin or wax with a paper edging; over the slab is laid a thin transparent sheet, the top end of which is firmly secured to the slab while its bottom end rests on it without being fixed to it. This transparent sheet is the more interesting part of the little device. It itself consists of two layers, which can be detached from each other except at their two ends. The upper layer is a transparent piece of celluloid; the lower layer is made of thin translucent waxed paper. When the apparatus is not in use, the lower surface of the waxed paper adheres lightly to the upper surface of the wax slab.

To make use of the Mystic Pad, one writes upon the celluloid portion of the covering-sheet which rests on the wax slab. For this purpose no pencil or chalk is necessary, since the writing does not depend on material being deposited on the receptive surface. It is a return to the ancient method of writing on tablets of clay or wax: a pointed stylus scratches the surface, the depressions upon which constitute the 'writing'. In the case of the Mystic Pad this scratching is not effected directly, but through the medium of the covering-sheet. At the points which the stylus touches, it presses the lower surface of the waxed paper on to the wax slab, and the grooves are visible as dark writing upon the otherwise smooth whitish-grey surface of the celluloid. If one wishes to destroy what has been written, all that is necessary is to raise the double covering-sheet from the wax slab by a light pull, starting from the free lower end. The close contact between the waxed paper and the wax slab at the places which have been scratched (upon which the visibility of the writing depended) is thus brought to an end and it does not recur when the two surfaces come together once more. The Mystic Pad is now clear of writing and ready to receive fresh notes.

The small imperfections of the contrivance have, of course, no importance for us, since we are only concerned with its approximation to the structure of the perceptual apparatus of the mind.⁶

If, while the Mystic Pad has writing on it, we cautiously raise the celluloid from the waxed paper, we can see the writing just as clearly on the surface of the latter, and the question may arise why there should be any necessity for the celluloid portion of the cover. Experiment will then show that the thin paper would be very easily

crumpled or torn if one were to write directly upon it with the stilus. The layer of celluloid thus acts as a protective sheath for the waxed paper, to keep off injurious effects from without. The celluloid is a 'protective shield against stimuli'; the layer which actually receives the stimuli is the paper. I may at this point recall that in *Beyond the Pleasure Principle* I showed that the perceptual apparatus of our mind consists of two layers, of an external protective shield against stimuli whose task it is to diminish the strength of excitations coming in, and of a surface behind it which receives the stimuli, namely the system Pcpt.-Cs.

The analogy would not be of much value if it could not be pursued further than this. If we lift the entire covering-sheet - both the celluloid and the waxed paper - off the wax slab, the writing vanishes and, as I have already remarked, does not re-appear again. The surface of the Mystic Pad is clear of writing and once more capable of receiving impressions. But it is easy to discover that the permanent trace of what was written is retained upon the wax slab itself and is legible in suitable lights. Thus the Pad provides not only a receptive surface that can be used over and over again, like a slate, but also permanent traces of what has been written, like an ordinary paper pad: it solves the problem of combining the two functions by dividing them between two separate but interrelated component parts or systems. But this is precisely the way in which, according to the hypothesis which I mentioned just now, our mental apparatus performs its perceptual function. The layer which receives the stimuli - the system Pcpt.-Cs. - forms no permanent traces; the foundations of memory come about in other, adjoining, systems.

We need not be disturbed by the fact that in the Mystic Pad no use is made of the permanent traces of the notes that have been received; it is enough that they are present. There must come a point at which the analogy between an auxiliary apparatus of this kind and the organ which is its prototype will cease to apply. It is true, too, that once the writing has been erased, the Mystic Pad cannot 'reproduce' it from within; it would be a mystic pad indeed if, like our memory, it could accomplish that. None the less, I do not think it is too far-fetched to compare the celluloid and waxed paper cover with the system Pcpt.-Cs. and its protective shield, the wax slab with the unconscious behind them, and the appearance and disappearance of the writing with the flickering-up and passing-away of consciousness in the process of perception.

But I must admit that I am inclined to press the comparison still further. On the Mystic Pad the writing vanishes every time the close contact is broken between the paper which receives the stimulus and the wax slab which preserves the impression. This agrees with a notion which I have long had about the method by which the perceptual apparatus of our mind functions, but which I have hitherto kept to myself. My theory was that cathectic innervations are sent out and withdrawn in rapid periodic impulses from within into the completely pervious system Pcpt.-Cs. So long as that system is cathected in this manner, it receives perceptions (which are accompanied by consciousness) and passes the excitation on to the unconscious mnemonic systems; but as soon as the cathexis is withdrawn, consciousness is extinguished and the functioning of the system comes to a standstill. It is as though the unconscious stretches out feelers, through the

medium of the system Pcpt.-Cs., towards the external world and hastily withdraws them as soon as they have sampled the excitations coming from it. Thus the interruptions, which in the case of the Mystic Pad have an external origin, were attributed by my hypothesis to the discontinuity in the current of innervation; and the actual breaking of contact which occurs in the Mystic Pad was replaced in my theory by the periodic non-excitability of the perceptual system. I further had a suspicion that this discontinuous method of functioning of the system Pcpt.-Cs. lies at the bottom of the origin of the concept of time.

If we imagine one hand writing upon the surface of the Mystic Writing-Pad while another periodically raises its covering-sheet from the wax slab, we shall have a concrete representation of the way in which I tried to picture the functioning of the perceptual apparatus of our mind.