Psychopathology, Personal Identity and David Hume

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[An enquiry of the late 1970s (exact date uncertain) provoked by the acute suffering of my wife during a prolonged post partum depression following the birth of our daughter in the fall of 1975. The results of the essay were never conveyed to others.]

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Consider our idea of 'personal identity'. Of what simple ideas is it compounded, and from what impressions are they derived?

David Hume was unable to answer the question to his own satisfaction.[1] And yet he could have answered the question, I think, and many more, had he considered the implications of an off-hand remark made early in the Treatise:[2]

> ". . . in madness . . . our ideas may approach to our impressions" (p.2)

For what is 'madness', succinctly, but a loss of personal identity?

The Treatise of Human Nature is mistitled, for it remains unconcerned with the possible abnormalities of the mind. As I shall argue in this essay, however, had Hume considered the possibilities of abnor-

mality implicit in his theory of the normal mind, he not only could have solved the problem of personal identity, but established with remarkable accuracy the foundations of psychopathology as well.

II

What is Hume's theory of the normal (nonpathological) mind?

I. Constituents:

A. The normal mind consists of sets of perceptions sequentially perceived. Every perception is either an idea or an impression, and every idea is either a simple idea "deriv'd from" a simple impression which it "exactly represents" (p.4), or it is a complex of simple ideas thus derived.

B. Every impression is either original or secondary (an impression of sensation or of reflection). Original impressions either are unified through association based on constant conjunction (see IIA below) as objects in space and time, and are then called 'external impressions of sensation', or are not unified as objects in space and time, and are of two kinds, pain and pleasure, and are then called 'internal impressions of sensation'.[3]

II. Operations:

A. If an impression is perceived which has been constantly conjoined in the past with a second impression, the mind through habitual association will immediately perceive an idea of the second impression, and simultaneously a belief or expectation

(an impression of reflection) that an impression corresponding to this idea is soon to be perceived.[4]

B. If an impression is perceived which has been constantly conjoined in the past with a second impression, and if this second impression has been constantly conjoined in the past with an original impression of pain (or pleasure), the expectation or belief in the forthcoming pain (or pleasure) will be accompanied by a direct passion of aversion (or desire), and in extreme cases, by fear (or hope). If the expectation proves to be accurate, or inaccurate, an indirect passion will be perceived whose nature (whether pride, humility, anger, gratitude, envy, pity, etc.) has been determined (1) by the accuracy, or inaccuracy, of the expectation, (2) by the nature of the associated direct passion, and (3) by the pain, or pleasure, resulting from the requiting of the expectation.

One can easily predict the results of classical (Pavlovian) or operant (Skinnerian) conditioning from Hume's theory of the normal mind,[5] including the effects of therapies derived therefore.[6]

Of greater immediate interest, however, is the presumption implicit in Hume's theory that all varieties of mental abnormality must derive from a failure of habitual association based on constant conjunction of impressions, and hence that all such failures may occur in two, and only two, significantly different ways:

I. If a mind, for whatever reason, should become incapable of associating internal impressions of sensation (pain and pleasure) with external impressions of sensation in a balanced, flexible,

and consistent manner, then, by IIB above, we may expect abnormal perceptions to occur, though they will be of limited pervasiveness, for the mind's habits of association may well continue to relate accurately external impressions to one another.

2. If a mind, for whatever reason, should become incapable of distinguishing impressions from ideas, then, by IIA and B, we may expect pervasive abnormal perceptions to occur, for the mind's habits of association will continue to operate unconstrained by the inductive priority of impressions.

How does the two-fold possibility of abnormality implicit in Hume's account compare with contemporary psychopathological theory? Psychopathology encompasses the nosology (classification), aetiology (causes), and pathogenesis (origin and development) or mental abnormality. Let us look first at the prevailing nosology.

III

Contemporary psychopathology distinguishes between two broad classifications of mental abnormality, the psychoneuroses (neuroses) and the psychoses.[7]

The neuroses are of two kinds, dysthymic and hysterico-psychopathic. The dysthymic neuroses (developing from abnormal anxiety responses to the conflicts of everyday life) include the phobias, the obsessive-compulsive behaviors, and the neurotic anxieties and depressions. The hysterico-psychopathic neuroses, on the other hand, include the conversion and psychosomatic hysterias, manifesting physical symptoms having no physiological aetiology (e.g., 'glove hysteria', in which lack of sensation

occurs in one hand); the dissociative hysterias, manifesting altered states of consciousness such as amnesia, fugue, or multiple personality; and the psychopathic behaviors, manifesting various anti-social responses accompanied by lack of shame, anxiety, or remorse, inability to learn from mistakes, lack of close and sustained emotional ties, and inability to delay gratification.

	Dysthymic	Hysterico-Psychopathic
Neuroses	Phobias	Conversion Hysterias
	Obsessions/Compulsions	Dissociative Hysterias
	Neurotic Depressions	Psychopathic Behaviors
	Neurotic Anxieties	

The psychoses are also of two kinds, schizophrenic and affective (with a third kind, catatonic, alternating inconsistently the symptoms of the first two).

The schizophrenic psychoses consist of the paranoid schizophrenias, manifesting delusions or hallucinations accompanied frequently by grandiose expectations or paranoia, and the hebephrenic schizophrenias, manifesting all of the following symptoms in varying degrees:

(a) Cognitive Slippage (disordered verbal responses, with consequent mental retardation, leading in extreme cases to incomprehensible expressions, 'word salad');

(b) Withdrawal (avoidance of stimulation from whatever sources, social or perceptual, with passive or hostile reaction to forced stimulation, and consequent motor retardation);

(c) Ambivalence (inappropriate, and sometimes contradictory, emotional responses); and

(d) Andedonia (incapacity for experiencing pleasure or any kind).[8]

The affective psychoses are characterized by extreme disturbances of mood and emotional response, either toward elation (mania) or depression, or infrequently toward both in cyclical alternation, but without the abnormalities of thought, expression, and motor responses which characterize the schizophrenias.

	Schizophrenic	Affective
Psychoses	Paranoid Schizophrenias Hebephrenic Schizophrenias	Manias Psychotic Depressions Cycloid Psychoses (manic-depressive)

IV

Comparing the prevailing psychopathological nosology with Hume's two-fold possibility of abnormality, we note a remarkable fit, as evidenced by the Humean answers to the following two questions:

Question 1: What varieties of psychopathology would be manifest if a mind were to function accurately when habitually associating external impressions of sensation to one another, but inaccurately when associating internal impressions of sensation to the former, through an over or undersusceptibility to the internal impressions of sensation, pain and pleasure?

Answer 1A: If a mind's threshold of pain was too low (i.e., if a mind's external impressions were accompanied too frequently by painful impressions), the mind would be oversusceptible to conditioning, by IIB above. Hence the mind would tend to manifest those abnormalities which are symptomatic of too-easily conditioned fear

and aversion responses, the dysthymic neuroses:

Dysthymic Neuroses	{	Phobias Obsessions/Compulsions Neurotic Depressions Neurotic Anxieties

Answer 1B: If a mind's threshold of pain was too high (i.e., if a mind's external impressions were accompanied too <u>infrequently</u> by painful impressions), the mind would be unresponsive to conditioning. Hence the mind would tend to manifest those abnormalities which are symptomatic of insufficiently conditioned fear and aversion responses, the hysterico-psychopathic neuroses:

Hysterico-Psychopathic Neuroses	{	Conversion Hysterias Dissociative Hysterias Psychopathic Responses

Question 2: What varieties of abnormality would be manifest if a mind's habits of association were to function unconstrained by the inductive priority of impressions, through an increasing incapacity to distinguish impressions from ideas?

Answer 2A: If the lack of constraint normally exercised by impressions was to result in an habitual <u>concentration</u> on a few kinds of perceptions to the exclusion of other kinds, the mind would tend to manifest abnormalities of pathologically misplaced attention in one of two ways:

(a) If the mind were to retain a balanced susceptibility to pain and pleasure, it would manifest paranoid schizophrenia in one or more of its forms (delusion, hallucination, grandiosity, paranoia);

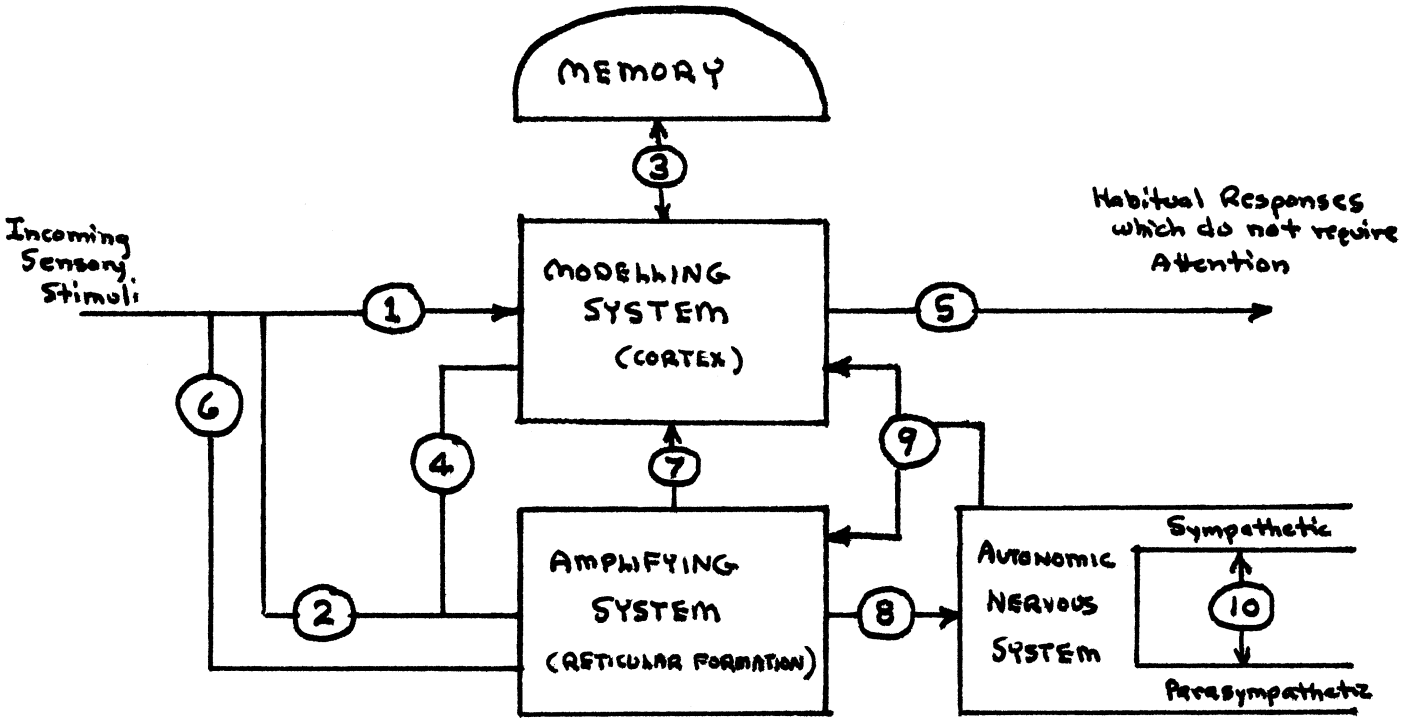
(b) If, however, the mind were to have an abnormally high or low threshold of pain, perhaps in alternation, it would manifest one of the affective psychoses, mania (if the threshold were too high), depression (if too low), or cycloid (if alternating).

Answer 2B: If the lack of constraint normally exercised by impressions was to result in an habitual inability to concentrate on any kinds of perceptions to the exclusion of other kinds, the mind would tend to manifest the abnormalities of psychopathologically unconcentrated attention which are symptomatic of hebephrenic schizophrenia (cognitive slippage, withdrawal, ambivalence, and anhedonia).

The nosological fit between Hume's theory and contemporary psychopathology is snug and suggestive. Even more remarkable, however, is the accuracy with which the Humean answers mirror our best contemporary guesses concerning the aetiology of psychopathological disturbances.

V

The attention and response systems of the human brain and nervous system, complex though they may be, appear increasingly to function in accordance with the following diagram of information transfer:[9]



The brain and the sub-brain contain a 'modelling system' (located primarily in the cerebral cortex, mediated largely by the thalamus, and connected to the unlocalized memory mediated largely by the limbic system), and an 'amplifying system' (located primarily in the reticular formation leading to the brain). The latter system directs our attention to specific incoming stimuli, while simultaneously inhibiting our attention from competing stimuli.

Whenever sensory stimuli are received, inputs are sent to both systems along different neural pathways, (1) and (2). The modelling system analyzes the input from (1), and compares it to the permanent neural record of previously experienced inputs stored in the memory, (3). If the input matches an already existing model (ie., is familiar), the

modelling system sends a message inhibiting reception of the same input by the reticular formation, (4) (thus preventing the amplifying system from directing attention to it), and initiates an habitual response to the stimulus without attention having been drawn to it, (5).[10]

Whenever the input does not match an already existing model in the memory (i.e., is unfamiliar), the amplifying system is left free to focus attention on the stimulus, and to inhibit attention from competing stimuli by reducing their input to the modelling system, (6). It then activates the modelling system to renewed concentration on the selected input, (7), and produces the orienting response by activating the sympathetic ('fight or flight') division of the autonomic nervous system, (8). When an appropriate response has been made, the parasympathetic ('vegetative') division is then activated, returning the autonomic system to its level of basal activity,(10), and signalling the modelling and amplifying systems to return to their basal states as well, (9).

Clearly there are two principal kinds of imbalance to which the above processes might be subject: (a) the sympathetic and parasympathetic responses of the autonomic nervous system might be out of balance, causing abnormal responses to stimulation whether or not the modelling and amplifying systems were functioning properly; and (b), the modelling and amplifying responses might be out of balance, causing abnormal responses to stimulation whether or not the autonomic nervous system was functioning properly.

Consider (a). The autonomic nervous system acts normally to maintain homeostatic balance: activation of the sympathetic division in the presence of stimuli is followed, after proper response, by a self-correcting

inhibitory action of the parasympathetic division. If, however, a genetic or conditioned imbalance were to occur, the system would over-react to stimulation in one of two ways: (1) toward excessive conditioning of fear responses (and hence, toward dysthymic-anxiety neuroses) in those persons in whom the sympathetic division overbalances the parasympathetic; or conversely, (2) toward lack of conditioned fear responses (and hence, toward hysterico-psychopathic neuroses)in those persons in whom the parasympathetic division overbalances the sympathetic.

How would such imbalances appear to the minds of the afflicted persons? Since the former persons would have a low threshold of pain due to relatively heightened sympathetic arousal, and the latter persons a high threshold of pain due to relatively heightened parasympathetic arousal,[11] the respective imbalances would be perceived as a too-frequent or too-infrequent experience of painful impressions - in accordance with the first of Hume's two-fold possibilities of abnormality!

Consider (b). The modelling and amplifying systems act normally to maintain homeostatic balance. If, however, a genetic or conditioned imbalance were to occur, the systems would overreact to stimulation in one of two ways: (1) toward excessive concentration of attention on a selected few kinds of sensory stimuli, and inhibition of attention from all other kinds, in those persons in whom the amplifying (reticular) system overbalances the modelling system (and hence, toward paranoid schizophrenia in those persons having no autonomic imbalance, or toward either depression or mania (or both in alternation) in those persons whose autonomic systems are respectively unbalanced sympathetically or parasympathetically); or conversely, (2) toward inability to concentrate on any selected set of sensory stimulation in those persons in whom the

modelling (cortexual) system overbalances the amplifying system (and hence, toward hebephrenic schizophrenia, with its symptomatic defense responses to hyperattentiveness: cognitive slippage, withdrawal, mental and motor retardation, and anhedonia).

How would such imbalances between the systems appear to the minds of the afflicted persons? In either case, the disability would be perceived initially as an inability to make accurate inductions through associations constrained by impressions, leading eventually to a substitute inductive concentration on ideas,[12] and a consequent inability to distinguish ideas from impressions - in accordance with the second of Hume's two-fold possibilities of abnormality![13]

IV

Further implications for psychopathology could be derived from Hume's theory. Three are particularly suggestive:

(a) The psychoses are not simply extensions of the neuroses, in the Humean account, but derive from different though interrelated causes: the latter derive from specific inbalances to internal impressions only, while the former derive from a general associational imbalance. Hence, although the former are indeed more pervasive in effect, and have poorer prognoses, Hume may be said to agree in general with contemporary behavioral research, and to disagree with Freudian theory (Freud, 1973).

(b) Since ideas are derived from impressions, in Hume's theory, no psychopathological condition can arise from a simple concentra-

tion on ideas without a simultaneous failure to distinguish the ideas from their copied impressions. Hence there can be no specific pathology of overintellectualization according to the Humean account, in accordance with contemporary observation. (This may be of some comfort to philosophers!)

(c) According to Humean theory, psychopathology results from a malfunction of belief (association), not a malfunction of will. As Hume puts it, "belief ... depends not on the will" (p.624). Hence, on Hume's account, there can be no specific pathology arising from a malfunction of the will; and thus it seems unlikely that therapies dependent on acts of the will prove to be effective (e.g., the non-behavioral psychotherapies, and in particular, Freudian analysis), again in accordance with contemporary experimental evidence. See Eysenck (1960).

But, for our purposes, the fundamental implication of the Humean account of psychopathology is that we can now see, in principle if not in detail, how Hume could have solved the problem of personal identity.

VII

How does one identify an object X? Taking a clue from information theory, to classify X is to distinguish X from the set of objects $\bar{X}$ which are distinct from X. (To assert that 'X is red' is to assert that X is distinct from the class of non-red things.) To identify X, however, is to distinguish X from the individual objects which are members of $\bar{X}$, and hence to distinguish those objects from each other. (To identify X,

therefore, is to comprehend individual objects distinct from X, not alone the set of them. The more objects thus comprehended, the more clearly X is identified.)

Hume could have solved the problem of personal identity, therefore, had he noticed the psychopathological implications of his theory, for our idea of our own personal identity appears to derive solely from our awareness of the nonpathological nature of our perceptions (i.e., from their spatial and temporal uniqueness, and the absence of specific pathological alternatives). Put precisely with the Humean model, our complex idea of personal identity consists:

> (a) of the various complex ideas which constitute our idea of the persistent nonpathological associative patterns of perception of a normal mind (e.g., the ideas of sequentially perceived sets of perceptions, consisting of distinguishable inductively-prior impressions and derived ideas, the impressions being either unified through association as objects in space and time (and perceived as if from a single point in space and time), or experienced as pain or pleasure in flexible and balanced association with the former; etc .); and
>
> (b) of the idea representing the belief or expectation, accompanying our ideas of (a), that our perceptions in the future will resemble those in the past with respect to the nonpathological associative patterns constituting (a).

The two sorts of impressions from which this complex idea derives, therefore, are:

(1) the impressions of which the persistent nonpathological associative patterns of perception consist; and

(2) the impression of reflection of which the belief or expectation in (b) consists. [14]

VIII

I have argued that Hume could have solved the problem of personal identity, and established with remarkable accuracy the intrapsychic foundations of psychopathology, had he considered the possibilities of abnormality implicit in his theory of the normal mind. In this brief essay I have been obliged to present as fact much that remains only cautious conjecture in contemporary psychopathological research.[15] But the suggestiveness of the Humean implications is apparent, and invites further investigation, not only for its historical interest, but for its clinical interest as well.

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NOTES

1. See the Appendix to the Treatise, Hume (1960). All parenthetical page references refer to the above volume.

2. The complete quotation reads as follows:

> "Every one of himself will readily perceive the difference betwixt feeling and thinking. The common degrees of these are easily distinguished; tho' it is not impossible but in particular instances they may very nearly approach to each other. Thus, in sleep, in madness, or in any very violent emotions of the soul, our ideas may approach to our impressions". (p.2)

3. Hume, of course, does not make the distinction in this way (indeed he doesn't make it at all, but simply asserts it). If, however, we refrain from making Kantian assumptions about the a priority of space, time, and objecthood, and assume, with Hume, that each is an idea derived from association, we may adapt the Kantian insight compatibly with Hume's theory as indicated, for reasons of clarity later on.

4. To Hume, this is the only source of our ideas of cause and effect, and of the 'necessary connection' between them.

5. See Pavlov (1960, 1941) and Skinner (1953).

6. I refer specifically to techniques of desensitization for alleviating anxiety neuroses (Wolpe, 1958), aversion conditioning for modifying deviant behavior (Rachman & Teasdale, 1969), and operant conditioning for modifying deficit behavior (Skinner, 1953).

7. For a brief yet accurate introduction to contemporary psychopathology and its literature, see either Martin (1973) or Orme (1971).

8. I am indebted to the brilliant speculative summary by Meehl (1962), and to Rado (1956).

9. Adapted from several sources, including Claridge (1967), Eysenck (1967), Meldman (1964), and McGhie (1969). My principal debt, however, is to Sokolov (1960, 1963).

10. Kantians will note the suggestive correspondence between the operation of the modelling mechanism and the function of the schematism in the Critical Philosophy. (Readers wishing an accurate but elementary introduction to the systems of the brain and nervous system can do no better than consult Nathan (1969). Readers wishing to explore the frontiers can do no better than Eccles (1973) and Sommerhoff (1974).)

11. See Claridge (1967), Gray (1965), Lader & Wing (1966), and Eysenck's review of the literature in Eysenck (1967).

12. Which leads, in turn, to further inductive inaccuracy, etc.. This viscious circle is difficult to break, and is one of the principal reasons why the psychoses are so difficult to treat effectively, and hence have such poor prognoses.

13. And in accordance with the quotation in paragraph two of this essay.

14. Note that the solution is formally identical to the solution given by Hume to the problem of 'necessary connection' with which he remained satisfied throughout his life. The solution here presented to the problem of 'personal identity', therefore, would likely have been acceptable to Hume, had he foreseen its possibility.

15. An excellent collection of articles reviewing the current issues and debates in psychopathology is to be found in Millon (1973).

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