

The causes of depression

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Abstract

This paper is prefaced on humanistic hope and faith; faith that reason can lead us to build a better world, and hope that this work given the consideration enabling it to indeed lead to reduced depression and a better life to all those subject to the model and actions arising from it. This work is the practical result of my faith in reason and intellect, my hope for consideration rests in your hands.

Depression is one of the world's most prevalent and resistant afflictions. It impacts and distorts the life experience of a significant percentage of the world's population every year. The most pervasive and insidious issue surrounding depression is its prevalence and the fact it is increasing in prevalence and while prognosis is good for the greater majority of people afflicted with depression, a crucial issue is to halt the growth, to provide proactive advice and support, and build sound social policy and structures that mitigate against the onset and development of the affliction.

The lack of understanding of depression relates not to depression but to a lack of understanding of people, we do not have an agreed model of the person¹, and without that we are unable to provide complete understanding of depression since it can only be an aspect of the malfunctioning of such a model.

The paper presents an overview of a full model of the person, uses strategic analysis to consider the prior crucial aspects that lead to the structure of the model and discusses the crucial issues inherent in the model that provide the essential background to understanding of depression. In summary the paper presents the following.

1. A complete solution to the causes of depression.
2. Recommendations as to the social policy and actions to reduce the severity and incidence of depression in a population.
3. Clear statement of the rigorous intellectual standard applied in building the model of the person and the solution to the causes of depression.
4. Full causal analysis of the mechanisms that necessarily underlie the human psyche.
5. Accurate mapping and match of the model to existing empirical data on depression.
6. Specification of the causal role of mind in human affairs and definition of mind.
7. Clear definition of the body-mind boundary.
8. Clear definition of the nature and structure of mind.
9. Clear definition of the seat of any 'unconscious' and how it is expressed and its role in human affairs.

The paper is a complete departure from what is normally considered and what normally occupies central place in social science and consideration of human affairs: This shift reflects the very different analysis of social science and the nature of theory within a

¹ I use term 'person' to avoid limitations with terms 'psychology and/or psychiatry'. I mean with term 'theory/model of the person' all that is people, nothing left or remaining unexplained.

thorough social **science**. Such a change in thinking is essential if social science is to play the role available to it in the development of a better world.

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Introduction to the standard of rigorous strategic and conceptual transparency

This paper is written with a firm eye to a much higher standard of rigour and intellectual management than evident in typical academic works. The nature of the standard used is discussed in my paper entitled “toward a better standard of judgement than peer review”². Peer review has been used extensively in academe as the standard for ensuring the integrity and intellectual quality of articles and papers. Unfortunately the process of peer review simply does not do that expected of it, and in short, the standard is a waste of time and generally results in a diminishing of intellectual quality and integrity. Key issues are as below.

1. Editorial standards specified in journals relates to style of article and the range of topics, but nowhere do discussions explore what is required to maintain quality of the intellectual depth and integrity. The only work I know of that structures and is able to assess intellectual quality is my idea of ‘strategic relating of topic to ground’ (namely ensuring issues of ground are covered and specified prior to any attempt to talk about the topic itself).
2. Peer review offers no analysis of qualities within the work itself, the assessment is the reviewer’s opinion of the work, and this must always be subjugated to the reviewer’s pre-existing attitudes and opinions, including views of the current state of science, etc, and current opinions of the paradigm active and appropriate in the domain of science within which the work falls. In short, all peer reviews must be biased by the opinions of the day, with no external adjunct to the judgement offering any counter to the subjective opinions of the reviewer. The only approach I know to at least avoid in part this problem is the standard of strategic conceptual transparency as used here.
3. The psychological reality of peer review leads to proposition that ‘articles matching the reviewer’s pre-dispositions and style of journal will be accepted, while those that do not will be rejected’. This proposition was tested by Alan Sokal, and was verified.
4. We can also view peer review as ‘the system for maintaining the integrity and quality of articles and ensure their contributing to the overall development of human wisdom’. This proposition was negated by Alan Sokal so under the falsification arguments of Popper, this negation needs to be taken very seriously, because it is established that peer review does not ensure quality and integrity; and how many times does a proposition need to be negated before we accept that the proposition is false.
5. Given the essential and necessary psychological structures surrounding peer review it can be forecast that there will be a proliferation of journals, each focused on some topic or another, and people interested in this topic will gravitate to the journal, further that this fragmentation will be given momentum by the pressures on academics to publish ‘peer review’ papers. This proliferation is easily verified. The ancillary position is also not hard to verify, that whenever those likely to gain from some new journal sense there is enough ‘population’ likely to aggregate about the journal, they will initiate just such a journal, and these actions have nothing to do with advancing human wisdom, or article integrity or intellectual quality.

² <http://www.grlphilosophy.co.nz/BetterStandardofJudgement.htm>.

What is a 'standard of strategic and conceptual transparency'?

In short, the standard states that **first things must come first**. Sounds obvious, unfortunately it is totally ignored under peer review, and very few, if any papers truly begin with first things first. The full version of the standard is as follows: considerations on any topic can only proceed from within the ground of the topic, and must be fully bounded by that ground. To illustrate topic and ground, I will consider the topic of this paper, namely causes of depression.

- The topic explores the causes of depression: But how can this be done independent of the causes of all mood and conduct? If we discuss depression and not consider causes of all human mood and conduct, are we to assume then that discussions of causes of all mood and conduct would not influence our discussion? The notion that the causes of depression can be discussed without first establishing the causes of all mood and conduct, seems to me to be nonsense, depression is an aspect of what happens to people, and must be considered within that context.
- We must have a general theory of psychology, and this needs to be causal; but what is cause? How can we use the term if we do not know what it is? At very least to ensure what we have to say has precision we need to specify what we mean by cause, then people can understand the meaning of what we say and can understand the background conceptual structure.
- In discussing cause is what we know knowledge, or do we know cause directly, and what do these questions mean? How does knowledge of something, an object say, relate to that object? And what is an object? We are having all these nice discussions, but are there any clear underpinning to them, and if not, have we said anything meaningful? Have we advanced human wisdom, or merely met the need to publish something?

In relation to the topic of this article, we can now specify ground as consisting of at least the following items.

- General theory of psychology.
- General theory of cause.
- General theory of knowledge specifically relating knowledge of an object to an object, since without this we do not understand the nature of variables, etc.

In addition we could add items of theory creation in social science, and in science generally - how is it best progressed, and how should theories be then judged? If we have a theory of the person what must it look like, what must be its structure, and how must we understand it in relation to actual people in real circumstances? Finally, given the items in our ground, it would seem improbable that we will be able to consider these without addressing a theory of perception.

First things first means items of ground must be considered and specified prior to any discussion on the topic, and any such discussion on the topic must not extend beyond what can be reasonably assessed and judged as the bounds imposed by considerations of ground: in short, we can argue and deduce, but not speculate since that goes beyond science.

It is the standard of rigorous strategic and conceptual clarity that keeps our thinking rooted in the base of what we know and so enables us to explore the topic from within that base ensuring what we do is science, and not science fiction³. The necessity of grounding all discussions of any topic in the base of what we know enforces the ethics of science independent of the ethics of any scientist, so scientific ethics are intrinsic to the practice of science and do not depend on the vagaries of ethical application of any person supposedly of science.

The myth of empirical science

There is a view that somehow it is possible to do empirical studies that are independent of theory and that somehow these studies will lead to theory. In summary, and arising from the model outlined in this paper, I assume scientists are people and their conduct will be shaped by the same forces shaping all conduct. What emerges in the model is the view that human conduct is mediated by our world view that is the collection of all Thought, which both bounds and limits what we can and do 'see' and gives it meaning. Consider the research done on 'schema' and whether and how they correlate with depression, etc. This work has been marginal, and few correlations found⁴. The reason as I show in this paper is that it is not schemas that are causal in and of themselves, but it is our paying attention to them. So the result is fully explained.

But, why did those researchers do that particular 'empirical work'? Why did they study people in that way? What pre-dispositions had to exist in their thinking in order for them to bother to do the work?

It follows that if scientists act according to the cognitions, schemas, or constructs within their world view that these cognitions in fact constitute their 'theory' of the circumstances, and from within this 'theory' they will then proceed to do their 'empirical studies'. The 'theory' used is not formal, merely the attitudes, opinions and views that lead the researcher to do this research and not that... But, it could be formalised, and it will inform the work, therefore I argue it needs to be formalised.

So: why did those researchers do that particular 'empirical work'? Why did they study people in that way? What pre-dispositions had to exist in their thinking in order for them to bother to do the work? Answer: because the 'theory' they had in mind, although not stated nor offered as 'theory', it nonetheless disposed them to do the research they did. We can also ask why did they not see the alternative as I show in this paper, the answer being that they did not build an essential conceptual orientation to their topic, they did not build a serious ground in relation to their topic, they did not specify their prior views on their topic, in short they jumped in without really thinking out their theoretical options⁵.

³ Any and all science not bounded by the ground of the topic I refer to as 'science fiction'; this means that all the work of Freud and Marx is definitely science fiction; and given the state of a general theory of psychology virtually all epistemology is science fiction since people create knowledge, it would follow that any epistemological discussion that does not root itself in a clear and full causal model of psychology can only proceed on the grounds ...' given no model or understanding of psychology whereby all knowledge must come to be, and/or assuming that no possible development in relation to any such general theory of psychology would influence any of what we have to say on knowledge; we proceed (speculate) as follows...'

⁴ See footnote in section on summary of existing state of depression.

⁵ This argument leads to the 'paradigms' of Kuhn and how they actually operate. Following Kuhn a paradigm is a formal theoretical structure that informs and orientates researchers to a domain of science. The insidious

The standard of rigorous strategic and conceptual transparency needs applied to ‘empirical studies’ as much as any, if for no other reason that to ensure the attitudes, and background cognitions that must exist for people to ‘see’ things as they do are clearly exposed, and assessed as to whether or not that is the best background cognitive structure.

The nature of theory in science

‘Theory’ is the term I use to describe any concepts used by any person to enable them to understand some aspect of their environment. So in this way ‘theory’ is a set of ideas, concepts, schema, propositions, or constructs used by people to orientate themselves to their environment. In the general theory of psychology it makes it clear that Thought is one variable, and not internally differentiated, so the many aspects used in academic literature are not valid, with any thought only differing one from another by the depth of emotional attachment, the degree it attended to, and the extent it is integrated with habits. It is these constructions that make some thoughts values, other ethics, others beliefs, etc.

Scientific theory is exactly the same as ‘every day theory’, that is scientific theory is a set of concepts, propositions, ideas, schema, etc, enabling scientists to better orientate themselves to their environment, namely the situation the subject of the theory.

Psychologically there is no difference between everyday ‘theory’ and scientific ‘theory’. Any difference is in the epistemological background in that a theory of science is required to meet far higher and far more stringent criteria of precision, application, utility, and validation.

In short, scientific theory is expected to accurately map onto the circumstances to which the theory is expected to apply, and if it does not, then the theory discarded. Our personal ‘theories’ are seldom so precise, so formal, or so carefully validated, but there is no difference in terms of their psychological impact. Both formal and informal ‘theories’ become integral to our world view and mediates our mood and conduct as a consequence.

It follows that any supposed ‘empirical’ research was conducted with some pre-existing views in researcher’s mind, that this was not an option on part of researchers; it is the way humans work. The standard of rigorous strategic and conceptual transparency ensures that any such set of pre-existing views are made clear so that what the researchers selected to do is clear as is why they choose that research.

The standard of rigorous transparency is enacted via the template that provides the structure to the next section. This is the first full paper wherein I have used the template. Time spent in understanding the template is rewarded with improved insight into what I see as the core issues of ground in dealing with the topic, with the template providing a summary of the positions adopted on the issues of ground in building this paper. Overall, the result is a summary of the conceptual structure on which rests my comments and my solution to the causes of depression. It is this level of intellectual transparency, and the depth that is sorely lacking in the majority of academic papers, you may agree or disagree

psychological aspects of a paradigm is what is being inferred here (similar to Alan Sokal), that is when it enters the world views of scientists and is assumed or some aspect is assumed, and proceeds to inform research without ever being reviewed or made clear or conceptualised. For example, the discussion in this section is raising questions on how some types of research is conducted; this effectively questioning a wide spread assumption in the paradigm of science namely that it is in fact possible and in fact is ‘good science’ to do ‘empirical work’ ignoring ‘theory’. This flies in the face of how we operate as humans whereby our world view informs and gives meaning to all we do, and to all intents and purposes is our ‘personal theory’.

with my results, but at least you can see I have put in the work and built a congruent intellectual structure⁶.

As a working proposition as regards empirical science, I suggest all scientific research be conducted within the bounds of a stated theory within which the topic of study is a part, with clear defined relationship with the intellectual structure of the theory. Then the direction and validity of the theory clear, as is the role and place of the topic within the bounds of the theory. In short, the idea of pure empirical research is a myth.

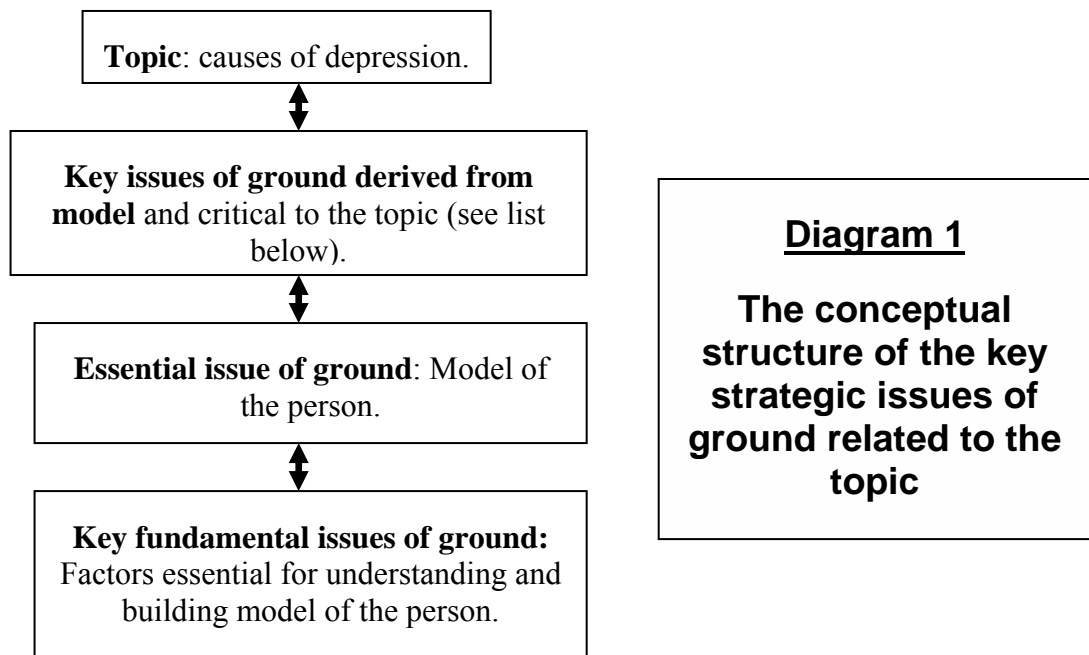
The standard of rigorous strategic and conceptual transparency

The outline of the relationship between the topic and issues of ground that need to be resolved prior to initiating meaningful discussion on the topic: The discussion of the topic must be congruent with issues of ground, and any discussion of the topic bounded by any limitations within the solutions to the issues of ground. The article must also have a clear and succinct purpose in relation to advancing understanding on the topic, with the purpose underpinning the originality and uniqueness of the work. Clarity of purpose within the bounds dictated by issues of ground, ease and unforced nature of all congruence, completeness of list of issues of ground, and the cautious limiting of the topic discussion to the bounds enforced by the solutions to the issues of ground collectively infer high quality content. Science is a creative endeavour in relation to a topic within the bounds determined by the ground; it is not a creative-speculative endeavour.

Topic: What are the causes of depression and how can they be managed to mitigate the incidence, duration and intensity of depression in people afflicted and in the general population?

Purpose of the article: To present a complete solution to the topic.

Issues of ground and the summary position adopted.



Essential issue	Model of the person as reviewed in the first section of the paper. Regarded as essential due the question: how can the causal factors of depression be assessed if
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⁶ Within the theory of knowledge leading to a theory of scientific knowledge, intellectual congruence is one of the critical factors in judging a theory. First things must be soundly dealt with first, and first solutions lead easily and without forcing to the solutions on the topic.

ground.	there is no general model of the causal factors in a person?
Key issues of ground derived from the model.	<ul style="list-style-type: none"> • Thinking: That having thoughts is passive and is historical; only active involvement of attention system carries current intent. Active attention I call ‘thinking’ as apposed to ‘having thoughts’. • Body/mind interaction: Only occurs by thinking, only the attention mechanism is able to influence neuronal states. • Causality: In humans is represented in the brain structures and their inherent mechanism based solely on physiology. • Choice: The inherent struggle within humans to overcome physical causality (their physiology) and to be and live according to their ideas (schema). Choice is only exercised via the attention mechanisms. • Mental sets: The fundamental unit of human psyche. The humans psyche consists of hundreds of mental set units. All social roles are based on interconnected mental sets. • Transitions: The movement between mental sets. • Thought: A fundamental variable of the model, defined as ideas available to attention: Has no internal structure in the model, therefore schema, ideas, values, beliefs and concepts all describe the same thing, and differ only in their association with brain structures that initiate habits, and moods. • World view: the particular values of the Variable Thought in a person. A person’s thoughts (schema, ideas, etc.) that in total embraces their viewpoint. • Nouskills: Conceptualised skills, with particular emphasis on self-management skills (emotional intelligence). Development of nouskills, then disciplined effort at their use leads to development of brain structures where such skills become encoded habits. Nouskills provide structure where none otherwise exists. • The human spirit: Self is an ‘object’ within the mental structure as any other; surrounding self is a broader structure relating not merely to ‘self’, but to our purpose, aims, aspirations, and our commitment through those at least in part, to our future, all closely bound with the ‘structure of self’. This broader structure about ‘self’ I refer to as our ‘spirit’, carrying substantially as it does our commitment to our future and through that our commitment to our own continuity. Our self carries the essence of being, our spirit the essence of purpose and will; hence not all people have the same will or the same strength of spirit.
Key fundamental issues of ground	<ul style="list-style-type: none"> • Events: the fundamental unit of perception, defined as changes in Reality linked to changes in the perceptual field linked to changes in the perceiving structures of the observer. Events in memory can be classified according to their properties, and then future similar events described by the classification, so a chair is ‘chair’, a mountain described as ‘table like’, or a table used and described as a chair, etc. • Cause: Defined as the relation between classes of relation between classes of events. A fundamental problem generally overlooked or ignored. For example, DSM IV uses ‘aetiology’ (cause) yet offers no discussion on what it is, that is it uses something it does not discuss or define, which represents the complete lack of strategic thinking to achieve conceptual transparency. This means that first things have not been considered first, with the whole DSM IV document being speculative since it can be prefaced with at least the statements ...’ in the

absence of a general theory of psychology, and of a general theory of cause, and/or based on the view that no work on either a general theory of cause or of psychology would in any manner have any influence on any understanding offered in this work, we speculate the following ...' I call such positions 'science fiction' since they are pronouncements that exceed the bounds of any reasonable ground; given the topic of DSM IV are definitions of mental illness.

- **Theory of knowledge:** Knowledge is Thought in the model. Derived from the definition of an idea as a class of events. Defines slowly changing events as 'objects'; flow of change represents causal direction. Entropy is the flow of system to fill lowest energy states and so is causal and obviously directional under this view. Variables are abstractions (ideas, with defined properties) from the Reality, with the flow of change structuring 'causal relations' between those variables.
 - **Theory of science:** The Ashby⁷ ultimate and immediate effects, combined with the analysis of variables are accepted as modelling scientific knowledge. All theory in science must consist of variables and relations between them, with all actual situations (a system) only able to be explained by securing data, particular values of variables relevant to that situation and then insert into the variable structure of the theory to calculate or predict the future states of the system. Scientific theories are ideas we lay onto circumstances in order to explain them; the only difference between everyday ideas and scientific theories is the degree of precision and the resulting expectation of accuracy.
 - **Theory creation in social science:** Is fundamentally no different from theory in physical science, the crucial issue is availability of third level conceptualisation tools able to lead the conceptualisation process. Physics uses mathematics; Ashby tools can equally lead the conceptualisation process and are argued as the priority tools for theory creation in social science, and are the tools used throughout this work
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Summary of existing state of understanding of depression⁸

- There is no definitive model of depression.
- There are frequent discussions on 'aetiology' with no acknowledgement that the concept of cause is complex, discussions proceed on basis that idea of 'cause' is known and understood, which is just not so.

⁷ Ashby, W. Ross: Design for a Brain. London: Chapman and Hall, 1960.

⁸ Drawn substantially from Rick E. Ingram, Jeanne Miranda, and Zindel V. Segal, Cognitive Vulnerability to Depression. NY: Guilford, 1998 and from U.S. Department of Health and Human Services. *Mental Health: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, 1999.

- There is no clear model that separates physiological malfunction from psychological that is the body mind boundary is not considered nor discussed.
 - No model of how the psychological functions interact with physiological functions.
- No clear model or evidence of Thought (schema, ideas, or cognitions) being causal in depression⁹.
 - The empirical evidence linking schema to depression is weak.
 - People who have had depression and then mood primed show limited vulnerability as compared to those who have never had depression.
 - If parenting behaviours dispose to depression, then recall of those behaviours would be expected to induce vulnerability whereas evidence is weak.
 - People with depression when in a relatively normal state, do not show any significant vulnerabilities compared to people who are not nor ever have been depressed.
- Research that biologic changes in brain functioning causes depression are weak.
 - There has been decades of research with no fundamental biologic factor emerging, in fact the overall 'medical' view of depression has seriously eroded over that time.
- Clear evidence that stress can precipitate depression (for example, grief at loss of loved one).
 - Clear evidence that impact of stressful event is moderated by meaning of the event to the person.
 - Evidence that depression can be precipitated by adversity.
- Upbringing can increase vulnerability to depression.
 - Parental neglect and physical and sexual abuse can increase vulnerability.
 - Early disruption of attachment can reduce ability to forge relationships and increase vulnerability.
- Some links of personality type and temperament to depression.
 - Anxiety linked to depression without clear model of 'why or how'.
 - There is a weak link between mood disorders and depression.
- Females seem to be more vulnerable to depression than males and this seems to be across cultures.

⁹ If we consider the proposition that schema might be causal then we can see that people have thoughts (schema) that never will or ever would become conduct. For instance, wishing someone ill, or imagining having sex with someone you know can never happen. These schema, thoughts, ideas, propositions, images, etc, do not become mood or conduct, which immediately implies there is definitely something else operative that takes 'thoughts (schema) I may have' and translates it into 'mood and conduct I experience'. This again emphasises the need to make clear the intellectual backdrop to all supposed empirical research to ensure the thinking is clear and realistic expectations are established. First things first!

Summary implications

The evidence of psychological causality is clouded by the fact that there is limited evidence of schema being causal, yet a great deal of evidence of stressful events as causal with stress being moderated by meaning.

The cause of depression is clearly complex and non-linear involving, appearing to involve physiology and psychology, body and mind. Because our psychology can influence our physiology and vice versa, no priority on the causal structures can be asserted without establishing the manner of interactions between the two. This non-linear is precisely that found in causal analysis of all human mood and conduct.

The causal model of human mood and conduct¹⁰

The theory is summed in the diagram 6 below (the labelling is from the original paper in which it was offered). The diagram is precisely a diagram of immediate effects as derived from the system Person \leftrightarrow Environment.

The terms are defined as follows

- **Body** defines all aspects of the body excluding the brain and central nervous system.
- **RP, the reacting part** of Ashby¹¹ describes those neurons actually active and engaged with the events.
- **BS, Brain Structures** defines the structures in the reacting part that determine and direct the neural energy that is the routes in the reacting part with lowest energy barriers. Energy flowing to fill lowest available energy states is the role of entropy in human affairs.
- **Em and Th define the Thought and Emotion** engaged and involved with the specific events.
- **Att defines an attitude** to the circumstances, strictly attitude in the model can be described by blend of thought and emotion, however, the idea of attitude as an orientation to events is a useful and succinct way of describing individual bias in thought and opinion.
- **Attention, is attention**, able to be concentrated or spread, and able to intervene actively in some system and moderate it or to be merely a passive observer of the operation of the system.

Note the use of capitals, denoting coherent variables – that is those with a single extension – the others being systems of variables. Coherent variables define in principle domains of science not able to be reduced without losing the quality of description afforded by the domain. For example, Thought is a coherent variable and is in principle not able to be reduced to neural functioning because neurons in one person may entail one thought, while those same neurons in another person may entail a quite different thought, therefore examining the neurons and their functioning will offer no understanding of the psychology of the person.

¹⁰ For full development of the theory see Paper 5: *A general theory of the person*, in *Why We Do What We Do: A paradigm for social science*, Social Sciences Press, A division of Self Help Guides Limited, Auckland, NZ, 2003.

¹¹ Ashby, W. Ross, *Design for a brain*, Chapman Hall, London 1960.

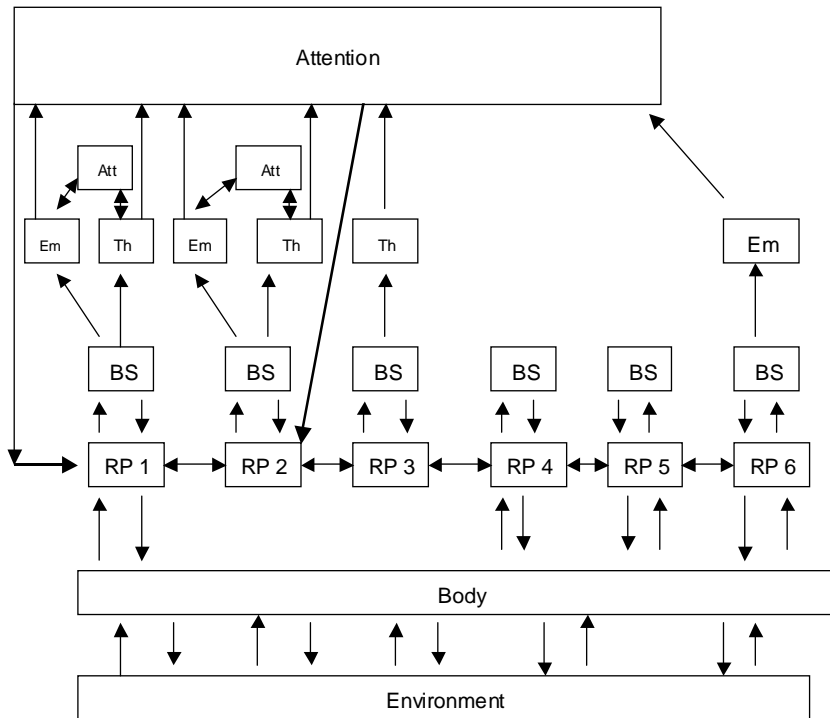


Diagram 6

Key points relating to the theory are as follows.

- The diagram consists of sub systems that may contain some or all of the variables. These sub systems I call mental sets, which may be complete, as in RP1, or incomplete as in RP3, RP4, and RP6.
- The diagram is a tool in the same way that $T=2\pi\sqrt{l/g}$ is a tool to apply to the pendulum to establish the unknown variable. To apply this tool (diagram 6) to a person requires the values of the variables be measured, every mental set identified, and every neuron linked to one or more mental sets. Having done that work, the resulting structure would be a 'snapshot' rather like the profit and loss or balance sheet of a business. Ongoing use to the detailed structure of the person would require caution since people change, and while overall themes would show coherence, the details may change substantially (I do not wish to overstress the change aspects of the model, since on balance people show greater continuity than change, which is to say the mental set structures tend to be stable with any surprise conduct exhibited by people most likely due to mental sets that already exist, but not publicly exhibited.)
- The operation of the diagram is via three loops, first the loop involving only the reacting part and brain structures, such as in RP4 and RP5, these structures would describe breathing, and such bodily functions as heart beat, with some of these not readily available to attention, but nonetheless existing and accounted for within the same overall structures.
 - The second loop is slower, and via attitude, Thought and Emotion, but is also driven by physical forces, cause and is no more than complex habit, with attention a passive observer.

- The final loop is via attention, and is closed by the action of self to moderate and otherwise change the reacting part such that we feel and act differently than we would by cause alone. It is important to note that this loop is not always closed, and is not causal, it is the representation of our choice, to intervene and manage ourselves or not.
- Mental sets form the fundamental structure of personality consisting of specific responses to specific events with broad generalities across events depending on the level of integration of attitudes, thought and feeling to similar events.
- There are always many mental sets active at any time. The model readily accounts for the multiplicity of activity exhibited by people.
- The overall system of Thought is described as the ‘world view’ of the person.
- A person’s worldview is their ‘borrowed knowledge’ (Ashby); it reflects their historical experience to the extent it is memory, both immediately available to consciousness and in the form of brain structures, some of which can be described and conceptualised. A person’s novel is the living expression of their worldview and emotions, it is their life unfolding, with their prior experience merely bring them to this immediate point, with bounded choices as a result, and with their future malleable and shaped according to their choice and their efforts or failure to choose.
- The person is not usually able to distinguish the affect of different mental sets, not unless they are widely disparate with clear and distinct cognitive content. Mental sets, for example, that consist of emotive responses such as RP6, developed say in early childhood prior to language skills are described as ‘unconscious’, and are the type of underlying emotive reaction to circumstances emphasised by Freud and other psychodynamic theorists.
- It is important to note in the diagram that it is only attention that can intervene and alter the reacting part. This is most important, since it states that in the absence of active attention the system of the model will follow inherent causal pathways, it is only via active attention is humanity offered the opportunity to overcome the causal forces within the central nervous system.
 - The mechanism of this interaction is precisely as that for moving our left arm, we learn and can enact within ourselves internal states that achieve the movement we seek. We are less schooled and less adept often at the management of our psyche than we need to be¹². Nouskills is the name I coined to describe conceptualised sequences enabling better management of psychic states.
- The model offers a view of human action and feeling that is complex and subtle. Diagrams such as those above most likely do not even begin to describe the complexity

¹² I have shown that ideas do shape mood and conduct; it follows that humans are subject to self-fulfilling tendencies. Much of our understanding of our psychology was and still is derived from quite inadequate models in religion and poor theories, such as Freud’s. If we believe there is a soul and this directs how we act and feel, expresses ‘us’, then we are not especially likely to manage ourselves with any great intensity. Or, if we believe the mind and body are the same, then some people will act and talk consistent with that, whether or not it is objectively true. In short, our model of our self will feedback via and have a self-fulfilling quality on our mood and conduct.

of active and independent structures in the brain that form the blending of our feeling and thought and habit and so lead into our actions.

The nature of cause

As previously mentioned cause is precisely defined as the relation between classes of relation between classes of event. An 'idea' is a class of events defined by the properties of the event, which means cause is a relation between classes of relation between 'ideas'. Classes of relation are modelled by Ashby's immediate and ultimate effects, so the diagram of immediate effects bears a relation with a diagram of ultimate effects, with the structural relation between the two being 'cause'. This analysis leads to two critical issues; one is that all knowledge is structured into a conceptual hierarchy, with events at any one level being descriptive explanations at that level, and the relation that description makes with descriptions at lower levels being causal explanations. Immediate effects are then causal descriptions of the higher level ultimate effects, with the structures put together under quite tight rules and variables assessed and developed using equally tight rules involving coherent variables and systems of variables. This definition of cause means that if $A \rightarrow B$ is a regularly observed relationship between events A, and B, and if $A \rightarrow C \rightarrow B$ is the mechanism of $A \rightarrow B$, then this is described as the 'cause' of $A \rightarrow B$. This analysis of cause gives rise to the universal mechanistic postulate, given in full in the papers analyzing cause, which states in its reduced form 'there is always a mechanism', the universal mechanistic postulate arises then as an assertion that there is always underlying immediate effects (the mechanism), and our not knowing what they are does not necessitate assuming they do not exist, or that the universe is intrinsically probabilistic. Crucial justification of the universal mechanistic postulate is that to date science has always uncovered explanations and mechanisms and any assertion that we have reached the end of that process would appear premature (but of course that does not mean we will not reach the end of it, but I for one am not willing to concede on that point just yet, and would not do so in my life time).

The general conceptual structures of cause and relations are given precise form via the ultimate and immediate effects of W. Ross Ashby, in particular the arrow having a precise definition as "if a perturbation is applied to A, then the ultimate effect is a change in B" In the instance $A \rightarrow C \rightarrow B$ the immediate effect of a change in A is a change in C, hence the 'relation between classes of relation' in the definition of cause is a 'relation between ultimate and immediate effects', which leads to a set of tools for establishing the mechanistic structures underlying events.

Diagram six is a descriptive explanation in its own right, but when related to the system with which the analysis started, namely person \leftrightarrow environment then diagram 6 is a causal explanation. In this case, this is slightly pedantic, but in cases where for example there is no lower level, such as with a photon, then the issue is not pedantic, and we need to be very careful with what we specify as 'cause' and what we specify as 'descriptive'. At issue in considering a photon is the problem of the rule of relations which states that for a relation to be established between two objects then each object must be independently discernable, and if not, then while we can speculate on the existence of two objects, and build a theory, we need to be able to discern each object independently if our theory is to be validated. In the case of the photon, we are hard pressed to isolate it in its environment and to identify both environment and photon simultaneously the result is that we have no clear model of the links the photon makes with its environment. Picture for example a horse in a field, now picture the multitude of links between horse and environment, we

understand the horse and the environment within which it exists, and we can then understand much of what the horse does because we understand its environment. Now, try to do the same with a photon... We are unable to conceptually isolate it, unable to picture its links if any to its environment and can only assess what it does through probability equations; these events surrounding the photon are then postulated as being the fundamental limit of knowledge, in other words these probability functions are describing something fundamental and there are no further underlying immediate effects that are the mechanism underlying and explaining what the photon does. I reject this position as being premature, all previous science has uncovered the mechanism, modern physics is taking a bit longer than perhaps we are used to, but then it is a harder problem, but we are not yet justified proclaiming that underlying mechanisms do not exist, especially given the conceptual weakness surrounding our understanding of the photon in its environment, and the fact that the mathematics of quantum mechanics treats the photon as a point with no internal structure.

In the philosophy of cause there is also the mistaken idea that there needs to be a start point. The idea of a start point is a mistake and not relevant in any general understanding of cause with start points only being relevant in relation to some specific case of cause; for example, if we asked what caused the apple to fall, then we need a model of how the apple is attached to the tree and the mechanism of the weakening of that link. Then from the initial starting data, that is the exact state of the link when the gust of wind struck it causing the link to break, and by placing our data into the model, we could then predict that with a link of strength S_1 and with wind of W_1 , then the movement of the apple will break the link and it will fall. So to discuss cause is to discuss the mechanism whereby A causes B and any initial data or start point only being relevant when we specify a particular situation involving a particular X and a particular Y. This is the same for all theory, with values of variables only being relevant in particular circumstances where the theory may apply.

An additional factor in the start point is the 'why this start point?' The cause of $A \rightarrow B$ is $A \rightarrow C \rightarrow B$ which would leave open the question 'why A?' The answer is that the cause of 'A' is $A_1 \rightarrow A$; that is the cause of A is the system leading to A, namely A_1 , this in turn caused by the system leading to it, etc. At all times there is necessarily an approximation to cause, since final cause implicates every event in the universe prior to, and leading to the event in question. Another crucial projection of the mechanistic postulate is that there is no fundamental set of events, that is all events have precursors we are able to conceptualize, with the results that any $A \rightarrow C$ can be so analyzed into $A \rightarrow D \rightarrow C$, and any $A \rightarrow D$ analyzed into $A \rightarrow E \rightarrow D$, and so on, this creating an infinite regress with cause always an approximation. We can only ever achieve sufficient cause that is causal understanding such that further analysis will not substantially alter that understanding, merely refine details within the understanding, at that point we can say our causal understanding is sufficient.

The results of these two circumstances is that 'given A, then B', with the cause being the mechanism through C: If this is not sufficient, then we may need to explore precursors to A, and explore further the underlying mechanistic structures between A and B, but eventually we will be able to say that the factors have reached a point that they make negligible contribution to our understanding of the causes of B.

There is no demand that cause operates in proximity; proximity is perhaps a function of some particular mechanism, but this would necessarily be described in the detailed analysis of the mechanism; the point is that proximity is not a function of cause, which can operate

across the universe, provided there is a communication channel between the events. Proximity is solely a function of the a particular mechanism, and to proclaim any and all mechanisms must act in proximity is to proclaim we know and understand all possible mechanisms in the universe and there are none that cannot and do not act at a distance, I suggest such claims far to grand and far reaching as to be justified by our current state as scientists.

Cause is however absolute, that is given A then B, every time; this is important since it separates out statistical relationships from causal relationships by an issue of principle. The mechanism cannot help itself, if the values of variables fall within certain ranges, the 'A', then B follows; the system cannot choose. In effect it is the mix of the values to the variables that chooses. In cases where variables are linked by statistical relationships so that A only gives B 15% of the time, then this is not cause, there is much more than A and B active in the system, with the statistics inferring that, and meaning we have not conceptualized the system with the aptness nor accuracy required. In short, statistical relations mask our ignorance.

Statistical relations need to be understood as follows:

- That there are many more routes between A and B, these routes determined by the precise details of A, or by the values of the variables within which A is necessarily embedded. In either case, we are not bringing these to account. For example:
 - There are A1, A2, A3..., with each of details of A leading to a different route, with only one of those routes going to B. If we were merely observing A, without the detail, then we would see B occur 'occasionally', that is statistically.
 - Alternatively there may be different E (E1, E2, E3...), where E is the environment of A, with say only E1 leading to B. Then again if we were merely observing A, and not A within E, or if we were not able to note the relationship A makes with E, such as in the case of a photon, then we would necessarily only have statistical relationships.
- This variability may occur at C that is in some intermediate state between A and B. So that C may have a range of values, with only one or a few of those leading to B. Or alternatively, the environment in which C is embedded may influence the mechanism to B, and again if we not observing these, then we will be left with statistics.
- Finally, the variability may be in B, that is there may be variations in values those causing us not to see B, but to see D, or F, etc, or that the environment in which B embedded may influence the final value of B.

This understanding of cause is not obtuse or abstract, specifically, for example, exposure to violence is known to statistically result in increased risk of future violence. In the causal model¹³ I show that this statistical link is due to the exact variability discussed above, in that the mental structures arising from exposure to violence are greatly mediated by pre-existing mental structures (1b above), and that the violent act is mediated by various factors intermediate between the exposure and the action, such as the person choosing to not adopt violence (2 above), not to mention that the exact situation within which violent

¹³ See Little, G.R; Causes of violence, at www.grlphilosophy.co.nz.

urges occur (3 above) such as the person to which violence is considered having more power.

Diagram 6 is a causal explanation being a system of immediate effects underlying the ultimate effects of a higher conceptual level, therefore diagram 6 obeys the rules as being a system of relations between variables (ideas) standing in relation to another system of relations between variables (ideas) with the relation between the two sets of relations between ideas being an immediate and ultimate effect relationship and so one describes the mechanism underlying the other.

Is psychology valid science?

Valid science I define as a domain of knowledge where the events within that domain are necessarily described within that domain; alternatively I describe 'pseudo science', as a section of knowledge where explanations of events in that section are found at a more fundamental conceptual level. In more technical terms, coherent variables¹⁴ are those not able to be reduced to more fundamental variables; so coherent variables describe valid domains of science, with the reverse applying as the rule, namely all domains of science are defined by coherent variables.

In a previous paper¹⁵ I assess the structure and status of the variables used in the model and concluded that at least Thought, Emotions, and Brain Structures are coherent variables. For example, that one set of neurons may involve one thought in one person and a quite different thought in another¹⁶, this means we are unable to ascertain the nature of the thought from a study of neurons, this would particularly apply to thoughts being attended to, so study of neurons cannot as a matter of principle offer insight or understanding of the psychology surrounding some action by some person. This means that psychology is a valid science, and the psychology of human behavior cannot be reduced as a matter of principle to underlying neural structures.

Mechanisms and domains of science

This distinction of domains of science based on coherent variables is an epistemological structure of crucial importance since it specifies that events within a domain are not only explained within the domain, but they **must** be so explained or lose the quality of insight and understanding expressed in the domain.

Within this epistemology as well, there is always a mechanism, but the mechanism is only that, and does not explain the events, merely how the events occurred, not why.

¹⁴ For full development of the theory see Paper 7: *A Model of knowledge and tools for theory creation in science*, in *Why We Do What We Do: A paradigm for social science*, Social Sciences Press, A division of Self Help Guides Limited, Auckland, NZ, 2003.

¹⁵ For full development of the theory see Paper 5: *A general theory of the person*, in *Why We Do What We Do: A paradigm for social science*, Social Sciences Press, A division of Self Help Guides Limited, Auckland, NZ, 2003.

¹⁶ Consider for example, a person from New York who has never been in the Amazon and an Amazon Indian who has never been to New York (in fact never been beyond their village and lives as they have for hundreds of years). Now imagine they have the exact same neural structure, which is not impossible, yet it would seem quite inconceivable that the functioning of the same neurons would or must represent the same thought.

Consider the example of the relationship between neural events and psychological events: The rule says that human psychology is not understood in terms of neural events and must be explained within the domain of psychology. Neural events are clearly the mechanism of all psychological events, but with Thought being a coherent variable means that some particular set of neurons in one person may encode one thought, yet in another person encode a quite different thought. So study of the neurons offers no insight or understanding of the thoughts, and it is the thoughts that actually enable understanding of the conduct.

Similar argument applies to Emotions, and to Brain Structures.

The case of brain structures is particularly significant, the epistemology specifies that it is not the activation of a single neuron that is significant, but the activation of that neuron in relation to the neuron activated next in sequence. Imagine a particular neuron connected to other neurons through synapse structures, likely the same physical structure exists in other people, so obviously brain structures do not so simply relate to the physical structure rather to the activated sequences. In one person, when the neuron fires the balance of activation and transmitters, etc, direct the flow in one direction, and in another person the flow directed in another, all due to very subtle differences in the transmitters and nature of the activation, which would include the overall pattern of activation any particular neuron in one person compared to another. Any study of the nature of the connections in the brain will not necessarily offer insight into flow of psychic energy which can easily depend on the connections, but on the balance of inputs from all sources in the brain, and this balance can be identical between two people, but engender quite different mood and conduct.

Understanding of human mood and conduct is not enabled by study of the brain, only the mechanisms of human mood and conduct are uncovered. Understanding of the mechanisms of the brain provides understanding of the causal drives in human affairs, in that the mechanisms of the brain if not moderated will follow their intrinsic mechanistic pathways. On the other hand, human psychology is rooted in choice and freewill, with the core insight into the human condition being this inherent conflict between doing as our causal neural mechanisms would have us do, versus doing as we would prefer from our understanding, our knowledge, our experience, our reason and our choices.

Key issue of ground derived from the model and relevant to causes of depression

The model is based on a fundamental epistemological proposition, namely that a variable is different and distinct from its values. Second, that scientific theory must and can only contain variables, since it is the values of the variables that describe and offer prediction of unique circumstances¹⁷. To precisely understand this, think of a pendulum, now the period (T) is described by $T=2\pi\sqrt{l/g}$; with 'l' the length, and 'g' the gravitational constant. We can use this as a model of how any theory must relate to any actual circumstances. Ask; what is the period of the pendulum in Rangiputa, or Beirut, or New York? Obviously, we must go to that place, measure the length, and place it in the 'theory' and calculate the answer.

¹⁷ This position relates to the general philosophical issue of the link between the general and the particular, again, it is important to note that issues regarded as 'philosophical', and often ignored in 'serious social science' are in fact quite crucial to achieving resolution of many issues in social science. Psychiatry in particular has ignored the most fundamental issues of ground, such as can psychology be ignored? If not, what must be the relationship between our psychology and our neurology? Etc.

Looking at the 'theory' of the pendulum, one would not recognise a clock mechanism, for example, yet it describes one key aspect of exactly that.

It must be exactly the same for any theory of the person, which can only consist of the variables and relations between them, and to describe any actual situation requires gathering the actual data, placing it in the theory, and then using the theory to produce a result. People are more complex than pendulums, so the resulting theory is more complex, and it would not seem to describe a 'person in their situation', yet it does. It is not perhaps what has traditionally been the shape or look or nature of theories of people and what moved them, but then historical views and theory creation in all aspects of social science has been woefully inadequate due to issues of strategic failure leading to unsupportable speculation without relating the topic in question whether in psychology, psychiatry or society to the appropriate issues of ground¹⁸.

If we reconsider the 'theory' of the pendulum, we can deduce that every pendulum must have a length, and is subject to gravity. So, there are features of the object described by the theory that can be deduced from the nature and structure of the theory, and these features are then general and relate to all examples where the theory applies.

It follows that with such a complex structure as the 'theory of a person', there will be features that represent general qualities of everyone, that is features that will be universal, and I now discuss some of these as crucial background to the analysis of the causes of depression.

Body-mind boundary

I have previously discussed the epistemological issue of domains of science, and that crucially it is not possible **in principle** to reduce a domain to underlying mechanisms, for to do so is to lose the quality of insight and understanding only achievable within the domain.

Applying the principle to the theory of the person has extremely far reaching and critical results, namely that psychology is its own domain, it is legitimately 'science', it has its own causal forces and pressures, it just happens to rest on mechanisms of neurology and bio physics and biochemistry, and obviously there are and must be feedback processes and loops whereby changes in our psychology have an effect on the underlying neural mechanisms. But, and here is where it is crucial, to confuse the two is a serious and potentially grave problem, for it can easily lead to assertion of treatments to psychological conditions that are 'neurological', when in fact the treatment needs to be psychological.

At issue is what I call the 'initiating cause' (the cause that started it all), this is most at issue in how the system above can mal-function, in the case of people there are potentially two and only two fundamental causes underlying any and all mal-functions, any condition has either a psychological or neurological initiating cause.

I have elsewhere¹⁹ separated these two initiating causes into two distinct types of mal-function, and given them very precise names and definitions as follows.

¹⁸ G Little, Toward a better standard of judgment than peer review, 2005;
<http://www.grlphilosophy.co.nz/BetterStandardofJudgement.htm>.

¹⁹ G Little, Why We Do What We Do: A paradigm for social science, Social Sciences Press, A division of Self Help Guides Limited, Auckland, NZ, 2003.

Neurological initiating causes I call ‘mental illnesses’.

Psychological initiating causes I call ‘psychological dysfunction’.

The term initiating cause is preferred because it properly emphasises initiating events leading to the mal-function (this may seem a detached term in describing some condition of some person, but it stresses that it is a mal-function of the system above, and needs viewed in that light if effective corrective action is to be identified).

The pervasiveness and significance of the confusions surrounding these issues is well illustrated in the Surgeon General’s Report, consider these quotes.

“Considering health and illness as points along a continuum helps one appreciate that neither state exists in pure isolation from the other. In another but related context, everyday language tends to encourage a misperception that “mental health” or “mental illness” is unrelated to “physical health” or “physical illness.” In fact, the two are inseparable.

Seventeenth-century philosopher Rene Descartes conceptualized the distinction between the mind and the body. He viewed the “mind” as completely separable from the “body” (or “matter” in general). The mind (and spirit) was seen as the concern of organized religion, whereas the body was seen as the concern of physicians (Eisendrath & Feder, in press). This partitioning ushered in a separation between so-called “mental” and “physical” health, despite advances in the 20th century that proved the interrelationships between mental and physical health (Cohen & Herbert, 1996; Baum & Posluszny, 1999).

Although “mind” is a broad term that has had many different meanings over the centuries, today it refers to the totality of mental functions related to thinking, mood, and purposive behavior. The mind is generally seen as deriving from activities within the brain but displaying emergent properties, such as consciousness (Fischbach, 1992; Gazzaniga et al., 1998).”²⁰

The attitude well summarised in the comment: *“Explanations for stigma stem, in part, from the misguided split between mind and body first proposed by Descartes.”*

Do bear in mind that this reflects the views of those significantly accountable for USA Government policy on ‘mental health’ and carrying these views into policy... serious confusion and failure to come to terms with the real issues, failure to even identify what the issues are, and to withhold judgement until better ideas and insights offered.

Descartes was right in the first instance, wrong in the second: Mind and body are separate, but intertwined. Understanding the boundary between mind and body is not possible without understanding of variables, analysis of causality, insight into perception and the construction of ideas and the relation of ideas to events, Ashby rules for relating variables and the resulting conceptual structures, and understanding of systems and systems analysis,

²⁰ The references quoted in original, and can be found here
<http://www.surgeongeneral.gov/library/mentalhealth/chapter1/ref1.html>.

all of which we are inclined to take for granted, where none of these tools and insights existed for Descartes, he merely felt intuitively that mind was something in its own right, the rest was then reasoned with the tools and the attitudes of the day (for which he can hardly be blamed, we need celebrate the genius of the original insight even if subsequent analysis proved flawed).

The model above unravels the boundary between body and mind, and the quotes establish the significance of the issue in policy construction, to so lightly dismiss the body/mind problem, and so assume what is in effect a 'medical model' is doing the world's population the most grave disservice (For example in the Surgeon General's report is summary of the WHO health burden report rating depression as the second most significant health burden in market economies, and likely in the world).

Precisely the body-mind boundary is defined as follows:

1. **Body:** Physical causality is vested in the operation of all mental sets. Left to their own devices a mental set will operate based on its inherent neurological and bio-physical mechanisms. Thoughts may well be part of a mental set, however, such thoughts are not causal, and are fully a consequence of the functioning of the mental set. Such thoughts may be attended to, but only active efforts of the person via their attention mechanism will alter the mental set.
2. **Mind:** The attention mechanism alone has the potential and capacity to interact with and alter the operation of any mental set. Attention in this capacity is the means of the person making choices, and enacting decision and intentions.

The fundamental of the human condition is the tension between body and mind, between our urges (entropy pressing our history upon us), and our choices, particularly our ethical and moral choices²¹.

²¹ G. Little. Paper 7: the tension between cause and freewill: the fundamental of all human experience. <http://www.grlphilosophy.co.nz/paper7.htm>.

Some fundamental preliminary questions and answers from within the model

1. Are psychological factors sufficient on their own to produce depression? There is ample evidence to affirm 'yes'
2. Can someone with perfectly normal and healthy brains (no neural abnormality) succumb to depression? People who have lead otherwise normal and fulfilling lives do get depressed, so again 'yes'.
3. Is neural failure able to produce symptoms like depression? Obviously, yes.
4. Will/can psychological initiated depression result in neural changes that could confuse understanding of the initiating cause? Definitely, yes.
5. Where the neural changes due psychological causes produced depression, will drugs be needed to enable a platform to which then effect psychological changes? Possibly, studies need done with this model structure to assess the need for drugs to provide a platform enabling psychological change.
6. Can drugs correct psychological dysfunction? No. Drugs will alter the neural mechanisms, and so alter our experiences and internal states but in and of themselves drugs cannot alter our psychology. To alter psychological factors demands psychological inputs. For example, drugs will not alter what we think only we can do that.

Mental health

Below are the definitions of mental health and mental illness from the Surgeon General's report.

***"Mental health"**—the successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity; from early childhood until late life, mental health is the springboard of thinking and communication skills, learning, emotional growth, resilience, and self-esteem.*

***Mental illness**—the term that refers collectively to all mental disorders. Mental disorders are health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning.*

We know more today about how to treat mental illness effectively and appropriately than we know with certainty about how to prevent mental illness and promote

mental health. Common sense and respect for our fellow humans tells us that a focus on the positive aspects of mental health demands our immediate attention.”

At issue is the use of descriptions, not causal, not even relevant to any model. In short these definitions are the outcomes of good mental condition, and in no way offer any insight into the actual conditions themselves. Achieving such insight was virtually precluded from the report due the manner of the reports construction.

“The statements and conclusions throughout this report are documented by reference to studies published in the scientific literature. For the most part, this report cites studies of empirical—rather than theoretical—research, peer-reviewed journal articles including reviews that integrate findings from numerous studies, and books by recognized experts. When a study has been accepted for publication but the publication has not yet appeared, owing to the delay between acceptance and final publication, the study is referred to as “in press.” The report refers, on occasion, to unpublished research by means of reference to a presentation at a professional meeting or to a “personal communication” from the researcher, a practice that also is used sparingly in professional journals. These personal references are to acknowledged experts whose research is in progress.”

At issue here is the actual understanding of science, what it is what it can do, and what we ought to expect of it. The crucial phrase is —*rather than theoretical*— which precludes all organisation of data into working models; the comment also specifies empirical studies as having priority. Unfortunately the theoretical structure in the literature is inadequate, this compounded by ineffective to non-existent strategic thinking placing first things first, a trend reinforced by such notables as Marx, and Freud, if not initiated by them²².

In the absence of orientating models and the binding of any topic to the issue of ground within the model, any data collected is of limited validity and application. In summary: Without adequate theory we do not really know what we are doing in the sense that data is not fully related to variables and issues contained within a coherent framework, nor can we predict outcomes with certainty, since any empirical information not collected within a coherent framework of theory that embraces everyone (so is truly social science) cannot be extrapolated with confidence beyond the group from which the data was extracted.

Fundamental definition of mental health

I have developed much of the argument elsewhere, and will not repeat it here²³. The arguments lead to a view of mental health that encompasses the dynamic aspects of the theory in operation.

²² G Little, Toward a better standard of judgment than peer review, 2005;
<http://www.grlphilosophy.co.nz/BetterStandardofJudgement.htm>.

²³ See Little, Graham R., A strategy for mental health policy and the Process Theory of Psychology at
www.grlphilosophy.co.nz.

1. **Integration, a consistency within the person's worldview:** There is an integrated quality to their thoughts and attitudes giving rise to a consistency of attitude and approach across various situations.
 - a. The person has no extreme Thought, with the overall pattern of their worldview exhibiting an integrated quality with a balanced relationship between attitudes and reactions in one mental set as compared to another.
 - b. Nouse skills will enable the identification of extremes and the developing of self-statements, self-arguments and attitudes that moderate the extremes and provide the balance.
2. **Poise, a consistency of emotion within the psychic structure:** Within the emotional structures of a person there are no great swings of mood, emotion or attitude not related to events of significance to them.
 - a. Supported by nouse skills that enable self-management of emotional states and when under stress and pressure of circumstance.
3. **Transitions, shifting between roles and mental sets within role systems:** There is an ease of transition from one structure to the next.
 - a. They have the skills (supported by Nouse skills) to shift from one role to another, to allow transitions between mental sets that do not exhibit marked breaks of conduct.

Points arising from the definition of mental health

1. Crucially, the definition describes internal psychological states and processes; it is not a description of the outcomes of those processes. Such a position is **only** possible from within a coherent framework of theory, and is in fact one of the measures that need to be applied to theory in science, namely does it enable discussion and clarity on the factors leading to observed outputs. This alone makes this definition a very major advance on any other existing definition of mental health.
2. The theory itself does not differentiate between 'no poise' and the 'best possible poise', the reason being that 'poise' or 'no poise' describes a specific individual in some specific circumstance, and the theory can only describe the variables into which values are fitted. For a person exhibiting 'no poise', then the values for emotional variables, and for their reactions would then show behaviors quite different from a 'poised person' in same circumstance.
3. To emphasize these factors as key aspects of 'mental health' is not selecting values of variables, but nonetheless is making choices of some sets of values as being of more value than others. It is doing this in that if we were to choose 'poise', we are saying that those values of Thought and Emotion that would be described as 'poised' are given greater human regard than values of Thought and Emotion that would be described as 'not poised'.
 - 3.1. Our laws in fact tend to reflect this issue, for instance a person is only afforded the right to react so far before the law will punish them, and a mitigating factor is circumstances beyond that where a reasonable person would be expected to cope.
 - 3.2. The law places bounds on the type and extent of reactions acceptable, and does so in all societies. From the point of view of the society, mental health can then be described as integration, poise and smooth transitions within the bounds as determined by the legal strictures, this represents the broad definition, since it leaves much scope, for example, for erratic conduct lacking poise.

- 3.3. The arguments can be extended to build an ‘ideal’, that is the image of a person to which the society might aspire. An ideal might be an image of a person who allows their anger, but not to the point of leaving them ashamed or regretful, that allows their pleasure and losing themselves in some such moments, who may pursue their own beliefs and politics, protesting as needed, breaking laws to drive home their points, but doing so in full understanding and expectation of consequences. The imagery of the ‘ideal’ is not one of compliance, but one of reasoned understanding of themselves, their life and place in time, and making and living choices for themselves within their time.
- 3.4. The ideal as described does not define specific values but as stressed, does afford higher regard to some sets of variables over others, and the variables given greater regard do represent moral and ethical choices, with the greatest extremes of those choices being the legal system and its definitions of allowed and not allowed, followed closely by the social strictures guiding and pressuring people on what is right and what is wrong.
- 3.5. These issues have important and poorly understood policy impact on the point and purpose of government, especially in a democracy. A key social policy issue for governments within the model is the balancing of laws such that behavior is constrained appropriately, while at the same time the government widening the legal strictures and encouraging the development of the necessary understanding and self-discipline within the population. I know of no government now or in the past that has conceptualized this issue, the conflict between law and human development, and developed effective policy and actions in regard to it, for example, that a fundamental role of government in democracy is to enable development of mental health within the population.
4. The approach does not prescribe morals or norms, so a hired killer or a drug boss may be ‘mentally healthy’, despite enacting behaviors repugnant to most people.
5. Since mental health seeks to embrace key dynamic components, this is most immediately represented by the brain structures and psychic flows in relation to events with these flows determining the values adopted by the variables. Nouskills are then the conceptualization of these brain processes, and once adopted and enacted and built into habit, then become themselves the functioning brain structures.
 - 5.1. It is this argument that mental health focuses on the dynamics of the model and the potential impact of nouskills as the chief tool for altering that dynamic that leads to promotion and development of nouskills in the population as a primary aspect of mental health policy.
6. It can be argued that this view is descriptive and normative in that if a person holds to the idea that ‘what I do is what I do and I will never look back or regret, for it is me’, then they live and are what ever is, and however they react and respond, and that this is legitimate and refutes the views above on mental health in that this person see themselves as mentally healthy and ignores the process dynamic issues that underlie the definition of mental health.
 - 6.1. For a person on their own, this is perhaps legitimate; at issue is the question whether their experience of life and of consciousness and of themselves would be enhanced by adopting a manner of being in the world less centred on their own psyche and more tuned to what is about them.

- 6.2. There are also related questions on disciplines needed to gather food and security from the weather etc, and whether these mapped neatly onto 'I choose to do exactly what I want when I feel like it'.
- 6.3. There are further social issues and issue of composition, it may be okay for one person, but if the whole society or community acted in such a manner...?
- 6.4. Overall I find this position extreme, with many, many issues and all bringing me to question the living reality of such an extreme philosophy. A very large majority of people, even highly creative and/or highly iconoclastic people simply are not like that to the necessary degree to refute the views on mental health as proposed here.

Fundamental definitions of mental dysfunction

First, within the definition of mental illness offered by the Surgeon General there is no understanding of physically initiated causes and psychologically initiated causes, and nor can there be since in the Report there is no distinction between body and mind. There is also the failure of the definition (of mental illness in the Report) to move beyond descriptions of outcomes of mental circumstances and it does not offer any insight into the circumstances inducing the outcomes.

The model developed in this paper makes it clear that there are two forms of causality, physical and psychological, and that confusing them will lead to confused policy or treatment options, and potentially the completely wrong policy options.

- **Mental illness** is defined as mal-function of the mechanisms that necessarily underlie our psychology. That is, mental illness defined as the malfunctioning of our neuro-physiology and quite parallel to a physical ailment arising from the flu virus, or of contracting cancer, or of heart disease. It is perhaps the analogy with heart disease where we gain helpful insight into mental illness. With heart disease there can be lifestyle factors that have contributed over many, many years. The physical condition a partial result of these factors. Similarly, in the relationship between mental illness lifestyle, there can and likely will be contributing factors over many years, but once contracted, once the disease evident, there is little or nothing the person can immediately do to loosen its grip. In both cases, mental illness and heart disease, the onset of the disease if physical, and life style and other 'soft factors' will have little to no effect in the cure. This definition is different from that commonly used, but it is much more apt, more appropriate, and more definitive, fitting well with the model and its consequences.
- **Insanity** is defined as circumstance whereby the values of the variables that describe the causality of human conduct fall in a range unacceptable to the society within which the person lives. It is crucial to understand that the mechanisms whereby the person's psychology comes to be is not diseased, nor in any manner malfunctioning. With respect to the functioning of their brain and central nervous system, the person is 'healthy and normal'. It follows that insanity is an extreme personality disorder. For a person to be insane, then no matter the mental set chosen, no matter the choice of the person, the response and behavior and feelings would always fall in a range outside that seen as 'normal' by society.
- **Psychological disorder or dysfunction** is defined as a general circumstance whereby the values of variables describing the causality of conduct fall into abnormal ranges.

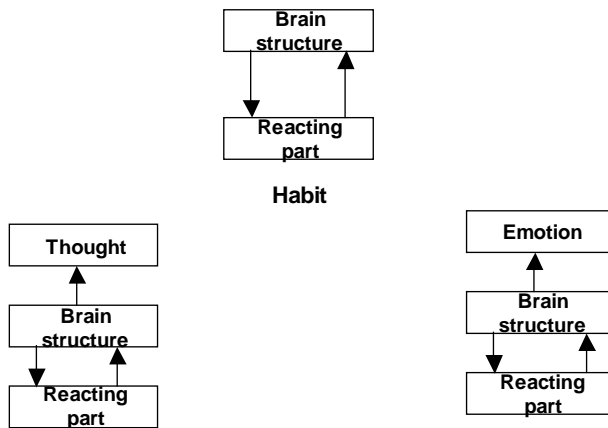
But that not every mental set is afflicted, but it may be very hard for the person to maintain themselves in normal mental sets for extended periods. For example, a depressed person is described as having a psychological disorder, but is not seen as insane, nor are they seen as mentally ill.

Summary of key issues and the person's ability to choose good mental health

Affliction	Definition	Ability of person to influence
Mental illness.	Neural mal-function, parallel all other disease.	None: Person has no influence on disease once contracted and underway, may be able to exercise influence as to onset of diseases by life style choices. Must and can only be treated by neurological specialists from outside the person.
Insanity.	All actions and feelings and views fall outside the range acceptable in the society.	None: Every choice made by the person must fall outside the range accepted by society if the person is to be classified insane and seen as not responsible for their conduct in relation to society. Only learning and adopting new ways of being will an insane person be able to make choices and act within the bounds determined by the society. The influence of the person is solely choosing to learn the new ways of being or not.
Psychological dysfunction.	Behavioural and emotional problems arising from the structure and content of the person's psychology.	Extensive: A person may have dysfunctional mental sets and/or pervasive emotional conditions in their world view, and/or a dysfunctional world view. They and only they have access to these dysfunctional aspects of their psyche. Through their attention mechanisms they can counter argue the influence of adverse mental sets, and/or manage what they attend to in order to mitigate the impact of the conditions, and/or mitigate the conditions themselves. May require outside support (counselling, mentoring, advice, guidance etc) to become sufficiently objective in viewing and assessing their own cognitive/emotional structures

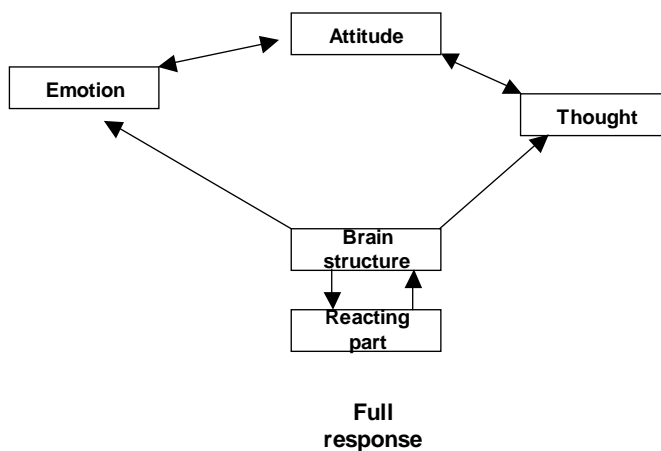
Mental sets

Mental sets are the core ‘unit’ of our psyche²⁴, the variations potentially possible illustrated in the diagram below.



Thought and emotion

Thought. This may be with or without attitude, but to the extent that Attitude expresses our unique point of view, all thought embraces some level of attitude.



²⁴ For full discussion see G Little; Paper 5: *A general theory of the person*, in *Why We Do What We Do: A paradigm for social science*, Social Sciences Press, A division of Self Help Guides Limited, Auckland, NZ, 2003.

- Likely at any time there are hundreds of such structures operational. Collectively, they are the totality of psyche; nothing beyond these exists or is possible.
- Our construction of self and our experience of self are aspects of the overall structure, able to be offered in greater detail in descriptions in the full paper describing the model. Our ‘spirit²⁵’, is also encompassed within this structure.
- The likely complexity of the mental structure in an adult can hardly be over emphasised. I do not think I am able to imagine nor comprehend the complexity. Some of the types of complexity I outline below.
 - **Unconscious habits:** structures that involve the brain only, so without variables Thought, Emotions, or attitudes. The system does not distinguish for example, systems that control heart and breathing, and systems such as ‘finger memory’ in piano playing. This in turn implies that all such structures are accessible to attention and conscious intervention, at least in principle.
 - **Unconscious Emotions:** structures that involve Emotions. These may easily have formed very early in life and gives thrust to the Freudian type of view that ‘the child up to five determines the man or woman’.
 - These structures are the ‘unconscious’ as it emerges in the model, and describe in operational detail the term as used in psychodynamic models of people. For example, a person abused in early childhood may well have unconscious structures enabling strong emotions in certain circumstances and these emotions may not be appropriate and may be dysfunctional. There are only two routes forward either ignore the emotions and construct psychic processes that overcome and reduce the unwanted emotions, or delve back into the person’s past, seek to uncover the source of the emotional structure (this is essentially psychotherapy), and by thus conceptualising the structure then proceed to neutralise it (note that when this done it is unlikely to remove the structure rather it will detach it from the mental sets with which it associated, enabling them to operate without the dysfunctional emotions).
 - **Intellectual or objective Thought:** mental sets involving Thought but without emotions. This if taken to extreme represents a ‘detachment’ from feelings. It may also be ‘biased’, but is not connected to attitude, which by definition is a system of variables consisting of Emotion and Thought. By definition this type of mental set contains no Emotion, so any bias is an intrinsic aspect of the thought and not then something which overlays the thought so giving the thought the bias of the attitude.

²⁵ I believe strongly in the human spirit, but that it is an aspect of our psyche, a way of grouping several key features in our psyche and providing crucial expression and emphasis on them by use of term ‘spirit’. See Paper 5, as in earlier reference. The crucial point is that by application of known tools there emerged an explanation of fall that is human without either deciding there was a ‘soul’ (something special say, continuing after death) or be deciding there was not; the process was neutral as to religious dogma and implications, and was progressed on basis that if a soul did exist, then no adequate explanation of human causality would be complete without it. The fact that no soul was required does not mean it does not exist, but it does mean it is not necessary to understand people.

- **Complete mental sets:** requires language development to enable Thought, and so enable attitude, it then follows that the emergence of full mental sets parallels development of the psyche from infant to adult.
 - Where several completed mental sets are operational at same time, a rather common occurrence, then typically with some reflection the person can tease the different sets apart. Second because of the Thought content of the set it would also be common for the person to be able to track where the set originated, and to separate sets as needed.
 - The greatest likelihood of dysfunction with complete mental sets is where sets become linked by certain cognitions, and so some quite innocent set then cascades to another set, which may contain dysfunctional thoughts and feelings. Such as visiting some place, and the associations cascading to sad and grief stricken memories of a lost loved one.

Distinguishing between values and variables

The difference between variables and their values is crucial; the theory can only consist of variables and the relationship between those variables. This framework of theory (general propositions) is then applied to explaining any specific circumstances by securing the values of those variables and applying the theory to describe the future of the system or at least that part of the future of the system for which the values of the variables used in the theory remain as valid.

All values of all variables relate to actual circumstances, and therefore immediately cease to be a general theory. The only general aspects of the model or theory are those derived from and related to the structure of the theory, since features of the theory derived from the structure must apply to all circumstances to which the theory applies, and in this instance, must apply to all human kind.

Psychic energy

The structures provide the framework, but it is the flow of energy within the structure that enables the living experience. This flow of energy is driven by physical mechanisms, only by the intervention via the attention mechanism can that flow be redirected according to the will of the person.

The ability of attention to change neural functioning is a particular aspect of a general proposition, that it is only the intervention of consciousness in the universe that can divert or change the thrust of entropy which is to distribute energy among the lowest available energy states. Only a deliberate conscious act by intelligence will result in water going up hill! Only a deliberate act of consciousness can mend a broken plate! It is only by intervention via the attention mechanism that a person can direct the energy according to their wishes, and this seldom easy, and seldom easy to maintain, and in this wrestle lies the essence of the human experience, namely the wrestle to be free, to be as we would wish and not as our experience and upbringing by structuring our neural systems enables entropy to distribute energy making us as we so often are: It is through this process that entropy presses our past onto our present, so often eroding our best intentions.

World view

The world view is the collection of all Thought being the sum total of what a person thinks about anything. The world view may have intrinsic bias; this is quite different from Attitude as already discussed. It is the world view that enables meaning, perhaps more properly put as the world view **is** meaning for the person.

It is via the world view that the person 'sees', orders and otherwise manages their interaction with their environment. Consistent world views structures tend to define and delineate cultural differences and boundaries. World views are seen very much as 'templates' used by the person and overlaid on the world about (the environment), and so used to 'explain', 'understand', 'orientate' or otherwise interact with that environment, and that includes social and cultural environments; and with the existence of an 'external reality', some world views will match it better than others, so not all world views are equal in terms of accuracy or usefulness, but all are equal in terms of the impact and meaning and relevance to the person holding the views.

Science is then a social process of developing a world view (a scientific world view) to match and map as accurately as possible the external reality beyond all world views.

These issues apply equally to individuals within a cultural world view. So we have potential for markedly different opinions within a culture not merely between cultures. The general working hypothesis is that the better we understand Reality (that beyond our thinking and to which we apply our thinking in order to understand) the better we are able to manage it and manage our interactions with it. This does enable the Popperian view that collective sharing of opinion on an object does enable clearer understanding of that object.

Attitude

Attitude is a system of variables consisting of Thought and Emotion: It could be reduced as a variable into the two fundamental variables, but is retained in the model because of the ready manner it introduces bias and orientation of the person, distinct from intrinsic bias in some particular thought. For example, one person may like football another may not, both can discuss the game, and their attitudes to it. A third person may have never heard of the game and no nothing about it, for this person the 'bias' is intrinsic in their world view, whereas for the first two people bias lies in their attitude to the game.

Nouskills

There are two ways to learn, first acquisition of knowledge, so world view is developed, expanded, etc. Second, learning is the development of brain structures that enable certain skills and actions. For example, we learned to walk, which after a time is an unconsciously competent skill, described in the model as a system of reacting part $\leftarrow \rightarrow$ brain structures, but accessible to attention, as when we might be walking over broken ground and needing to watch our step.

We have many such intrinsic processes, intelligence and emotional intelligence involve exactly such processes and skills at handling and processing data and ideas, and at managing ourselves to best effect.

These two different types of learning interact through a tool I call 'nouskills', literally 'mind skills'. Consider walking, by a given age, we do it naturally, but what if posture needs improved? We then may learn good posture, and come to see and understand how to do it; this is development of knowledge, the nouskill. We then work at acting as we see,

that is we work at ensuring we do in fact walk with better posture, and with time and effort it becomes habit. What we saw and learned translated into effective brain structures so we do not need to think about it, we do it as habit, nouskills made live.

More properly, I apply the term nouskills to more subtle brain processes, such as decision making, problem solving, brainstorming, mind maps, maintaining our poise, interpersonal skills, managing aggression and anger, etc, but the principles are precisely the same as for learning a new posture, and the process of development exactly the same, namely conceptualisation of good process first, the nouskill, then practice with it until it begins to be the habitual manner in which our brain works. With the underlying proposition, it will not occur unless we want it, and work at it enough to make it so.

Transitions

A transition is the movement between mental sets and/or roles. Roles are social structures describing particular behaviours, for example, roles as friend, husband, wife, etc. Social roles are described in terms of the mental sets that are the psychological structure of the role, with a role being triggered by the environment, or by the person determining that some particular role is preferred in the circumstances and then initiating that role.

Transitions are important in relation to the smoothness of shifting from one manner of behaviour to another without marked breaks in conduct. The ease and overall smoothness of transitions is an aspect of mental health, obviating abrupt shifts in mood and conduct.

Nouskills can offer guidance on the conduct of a role and on transitions between roles, and practice then consolidating the nouskills into habit.

In a modern, complex world with many roles, it is possible for people to become lost amid the complexity of their role structure, I have not researched this, but on one management workshop asked the group of twenty five managers if they ever felt lost amid the varied and multiple roles that necessarily made up their job and their day. Interestingly, almost all expressed some level of feeling adrift, and of at times wondering who they really were as they faced and managed themselves in relation to the multiple agendas of people with whom they interacted, including their wife and families. Over half expressed a loss, an erosion of a sense of 'I' as a central, meaningful, and orientating core of existence.

Thought

Thought consists of ideas available to attention, it is a coherent Variable, and with Emotions represents the core of the variable structure determining psychology a unique and non-reducible domain of science. Ideas themselves are derived in the first instance from the environment, and created by the process of classifying events that impact and create changes in the perceiving structures of the observer²⁶.

Thought is always part of a mental set; the functioning of the mental set is physical, entropy distributing energy to the lowest available states. The consequence is that in a

²⁶ Little, G.R. Paper 1: A theory of perception. And Paper 2: Perception and a general theory of knowledge. In *Why We Do What We Do: A paradigm for social science*, Social Sciences Press, A division of Self Help Guides Limited, Auckland, NZ, 2003.

mental set, Thought is a passive consequence, it is not causal, and can only be made so via attention actively re-directing the energy according to the will of the person.

Comfort zones and historical intent

Comfort zones are the operation of mental sets including the mood and conduct implicated. Mental sets are the application of historical intent to current situation, for example driving a well known piece of road without paying attention, and thinking ‘have I passed the old bridge?’, it is being assumed the road is it was the last dozen of times it was driven, the driving is not being managed as the road is now, attention is not invested in the mental set of driving. Comfort zones are crucial to human survival and evolution, they enable operation of known tasks with minimum energy and without attention, but as illustrated above, they do carry inherent risk.

Thinking and current intent

Only the attention mechanism can alter the direction of the flow of energy within mental sets. Attention represents the application of free will and choice within the individual. By attending, and choosing, we exercise our current intent that is our current view of the issue, topic or conduct we want, frequently, however, we do not invest in a re-evaluation, merely attend to the previous decision, in which case historical intent is reaffirmed as current intent.

The process of determining and actively selecting a course for ourselves I call the process of ‘thinking’, and this is in marked contrast to the act of ‘having thoughts’, which is all that occurs when mental sets are left to their own devices and internal mechanisms.

Only thinking imposes current intent on our psychic structures. The model makes it clear that cognitions (schemas) are not of themselves causal, they will and do arise within mental sets, but the operation of any mental set is physical, and the resulting schemas are passive within the actual functioning of the mental set. Only by actively attending to the schema do schemas become causal, so cause in the person is (1) the physicality of mental sets and (2) the ability of a person to choose via the mechanism of attention altering the distribution of energy through the brain; that is consciousness reshaping the direction of the flow of energy as set by entropy.

Freewill and the homunculus

The notion of the homunculus has been an issue in discussions of consciousness for hundreds of years. In short, the argument went as follows: we can imagine consciousness as like a little TV screen inside one’s mind, with ‘us’ then watching the screen. But if so, then who is watching the person watching, and who is watching them...it leads to an infinite regress with no resolution of ‘who is watching?’ so consciousness left hanging.

With the model of causality of human conduct developed here, a very different perspective emerges. Most notably the system is parallel and is not hierarchical as offered in the original homunculus argument. So it is quite possible for some part of the system to observe or to take in as input events in from other part of the system and for yet another part of the system to accept all of the first systems as input, etc, and for none of this to entail or imply any hierarchy, hence no infinite regress, no problem of the homunculus. The original homunculus argument was terminated by an infinite regress, and this caused the issue. So what terminates the argument with parallel systems?

Within the model 'self' is a critical notion embodied in a quite finite number of critical sub-units of the overall system of mental sets. In the absence of involvement of any of this part of this 'self structure', then we will not feel involved; the 'observer' will not be felt to be present.

The self can also be divided, but because self exists in a set of sub-systems that are very finite, this division cannot go on indefinitely, eventually 'self' can be divided no further without losing the very sense of 'self' being involved.

We can now put the issues in the model together and state a significantly limited form of the homunculus does in fact exist, but this form is limited by the finite structure of self and not by any infinite regress. In fact any regress of self watching self watching ... is a deliberately constructed circumstance, since all such systems that would naturally occur are parallel not hierarchical, and would typically reflect a person contemplating and monitoring several issues and tasks at once. For any and all forms of division of self, the extent of the division is limited to the finite resources that in fact constitute 'self' within the system of mental sets that form our psyche.

Given this structure, to explain what we sense and see and feel, etc, a theory of consciousness does not need to go beyond self-knowledge, self-understanding, self-awareness, self-monitoring, and goal setting, all occurring within an extremely complex and highly interactive structure. Self as known and understood, self as experienced, self as seen by others, self as sensed and not conceptualised, self as felt, self as a the sense of values and rightness, none need go beyond that which we have and can readily understand without need of extreme or remarkable speculation.

Freewill exists operative through the attention system which has the feature of being able to alter the distribution of energy among mental sets; throughout the universe, it is freewill, and only freewill that can alter the direction of physical events as determined by entropy, from changing the mental set in the brain, to carrying water up hill in buckets, it is consciousness in the form of freewill dominating a physical world, and both the changing of events in the brain and carrying water up hill in defiance of gravity are merely different aspects and examples of unique place of freewill in the universe.

Through freewill we can choose and can influence events in our brain and so shape our actions and mood toward that giving us greater satisfaction; but not without a fight, for entropy is the forces of physical nature directing us toward its fate, not our own.

The nature of self and importance of 'I'

'I' is an important object of thought. 'I' is that attending. We are not aware of neural functioning, only the consequence of that functioning. A schematic of 'I' is shown below, and notes as follows.

- Within the theory 'I' and 'self' are objects of Thought embedded in one or more mental sets.
- The emotions are shown as being positive and negative. One or other or a confusion of both could be involved in any particular situation.
- There are and could be many other thoughts. The precise nature of the thoughts will depend on the individual. Although there are likely to be common themes or types of thought across people who share common environments and upbringing.

- The shaded section represents where this structure interacts with the remainder of the system.
- This structure does not exist in a newborn infant. Evolution of this structure is a crucial aspect of the development process.
- The first crucial step is the development of the idea that I am something distinct from everything else. This is first learned experientially. Second learned conceptually, and then fully elaborated in the adult mind. The beginning of this experiential learning could easily begin in the womb, this representing the initiation of awareness at some point in the development of the cell structure during cell division.
- 'I' and 'self' are ideas like any other, but particularly important ideas with particularly important sets of emotions and thoughts intertwined with the ideas.
- These tend also to result in a sense of what is and is not 'me', but again there is no need for components outside the model to explain this experience of 'me'.
- The idea 'I' or 'me' or 'self' is not located at any special place, there is no single seat of this 'consciousness' or 'self-awareness', but neither it is an epiphenomenon, there are definite structures that will constitute 'I' and 'self' and 'me' in each person, but these may not be identical for each person, and may not involve the exact same neurons.
- The diagram below is intended to illustrate how the structure of 'I' or 'self' can come to be and how the factors can combine to create the richness of the experience of 'me'.

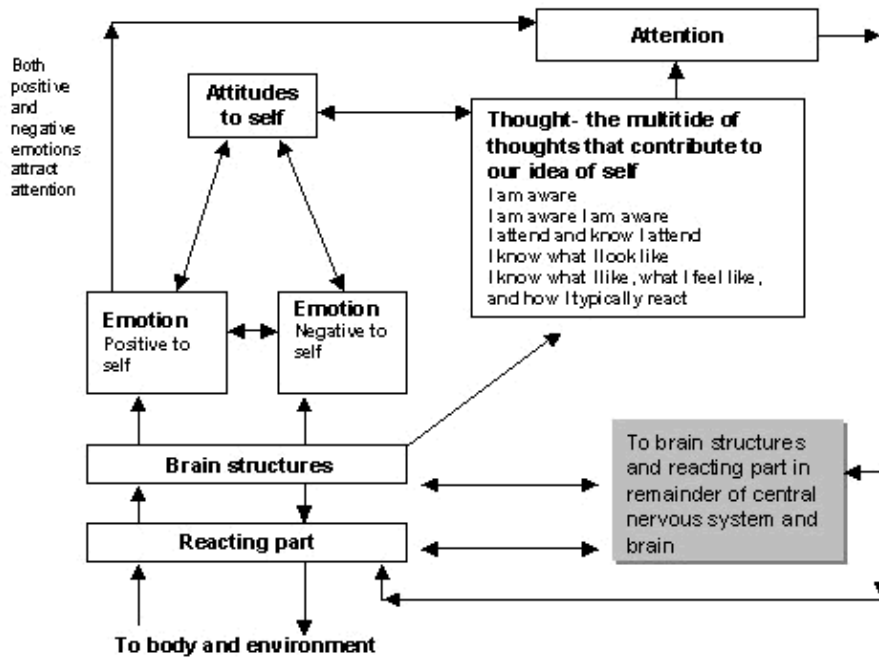


Diagram 8
Modeling of 'self' and 'I' as a particularly important mental set.
 Thoughts, Attitude and emotions surrounding 'self' and 'I' are particular values of the general variables, hence the description of 'self' and 'I' requires no special hypothesis, and arises naturally from the system.

Spirituality

It is the elusive quality of spirit that makes a person greater than the sum of the parts above. Within the model there is no soul, no spirit independent of the content of how we are, we are within the bounds of brain, world-views and mental sets. To talk of the human spirit is to talk of a certain quality of being that permeates the world-view and psyche generally. It is a resilient, determined and fighting quality. It is a core of strength and purpose, a commitment to life even if the face of inevitable death. It does not exist in us all equally and this is what we need to understand. For within the model our spirit, like our self, is constructed by us and not given to us. It arises as a product of the operation of the model, beginning with the first cell division and ending in death. These notions lead to a humanistic spirituality. They do not include religious notions of spirituality, or do so only to the extent that religious spirituality includes descriptions of and guidelines of how to achieve a specifically human spiritual state.

The construction of the human spirit in the model is those aspects of us that most immediately surround and are intimately linked to 'self'. It is a broader, rather more far reaching construction than self which is focused very much on 'self', that is on rather existential issues, although not largely as a deliberate action, rather as a consequence of the nature of self and what it entails.

The spirit on the other hand, stretches beyond the existence of self, and effuses self with purpose, with direction, with will and intent and with the very continuity of self. Much of the structure of our will is not readily evident as conscious thoughts. It is more inherent in our brain structures, and in our Emotions. Likely we only find the strength of our will to be when it is most at risk.

I would describe a spiritual person as one who has achieved the following.

- Do what they say and say what they do, congruence between belief and action.
- Knowledge of self is complete to the extent that they have no more surprises in store for themselves.
- Their acceptance of themselves is complete. They are at peace and satisfied with themselves.
- Acceptance of their current life space. They are at peace and feel fulfilled within the charter of successes and failures that is their life.
- They enjoy the moment. Alive now, knowing now is a moment precious in their life.
- They are at peace with life itself, its capriciousness and its fullness. They feel neither graced nor cheated by life, but accept it as an opportunity and a journey.
- They know the good and evil in themselves.
- They fully know the good and evil in humankind, and the limits of acceptability.
- Their self-doubt and humility is evident as is their strength and purpose. They regularly wrestle their conscience to seek the balanced way.
- They offer leadership through firmness and gentle reason, while allowing each person to choose their own path in full understanding of the consequences.
- They have faith in the present and hope for the future.
- They are comfortable being alone.

These qualities are more than being at peace. More than the simplicity of meditation or any other tool and in the living elegance of such people all the elements in the model transcends themselves, the whole being immeasurably beyond the sum of its parts.

Such people are not always gentle, nor always kind. They may be passionate, sensual, and sexual. They can and do choose to protest, being willing to destroy false images to protect what they see as essential. But never is it done casually.

Living every moment precious seems to so fill their life that at the moment of death they can be content. And when they feel their destiny fulfilled, they are at peace with death and when it is due, do not unduly resist. But when believing their life to have purpose yet unfulfilled, they resist death with all their spirit and will.

The causal structure of depression

With this background we can now build a causal structure for depression. I use the term 'causal structure' to emphasise it is the general theory of cause of depression, the structure of cause of depression. It is and must be an aspect of the operation of the overall general theory of the person, cause of depression is not something that is separate from the overall causes of all human mood and conduct. Depression is something that happens to people, the theory describes all that happens to people, and therefore the theory in some way must account for the causal structure of depression.

The second key issue in using the term 'causal structure' is to again stress the crucial distinction between a variable and its values. The causal structure of depression is the theory of depression, consisting of some aspect of the overall theory, a subset of it in some way. To get the actual cause of an actual depression, then we need gather the necessary data from the situation, that is data from the person we are studying, then by placing the data into the theory so we can predict outcomes, etc, using the model.

The discussion below is the theory of depression as derived and understood from within the overall framework of the general theory.

Immediate separation of psychological from medical

The theory immediately separates neurologically initiated causality of depression from psychological initiated causality of depression. The first is properly called mental illness; it is something going wrong in the physiology of the brain and nervous system resulting in symptoms of depression²⁷. The other potential initiating cause of depression is from solely psychological factors.

I will not discuss further medical/neurological causes of depression, currently there is no effective technology able to detail and settle fully and unequivocally that there are depressions that are in fact caused fully and in the first instance by neural conditions.

²⁷ These are defined fully in DSM IV which uses the symptoms to define the mental dysfunction. This I regard as evidence of the lack of strategic thinking in DSM IV, that is of addressing first things first. In this work, symptoms are merely the outputs to be explained by models offering causal insight.

Are psychological factors sufficient to generate the symptoms?

The following empirical observations support the proposition that psychology is in fact the primary initiating cause of depression.

1. Life events precipitate depression.
2. Depression occurs regularly in people with no prior indication of neural or other forms of brain problem.
3. Depression is not typically followed by life long neural problems, perhaps by further depressed episodes, but no evidence of lasting neural problem which suggests that if it is neural, then it comes and goes away, bit like the flu, which seems unlikely.
4. Stress definitely precipitates depression.
5. Impact of life events and stress is definitely related to the meaning of those events to the person.
6. The primary model of monoamine has been found insufficient to explain the causes of depression, and no other neurotransmitter has been found to replace the monoamine hypothesis.
7. There is thirty years or more effort been committed to establish medical/neural defect explanation of depression; and this effort has largely failed.
8. All neural changes/defects found in depression could easily be the result of the psychological factors and not the cause of the psychological factors.
9. Medical treatments of depression deal with the symptoms, they do not deal with the condition.

There is limited correlation of negative schema with depression that is there is no real evidence of cognitive vulnerability to depression, but within this model there is little or no expectation of correlations between schema themselves and depression, and cognitive vulnerability is not so simply assessed since it depends mainly on meaning, what is attended to at the time, and belief in one's ability to make a difference to internal states and skills to do so.

Causes of depression are psychological not neurological

On balance, and given the models power to account for current poor cognitive evidence, I introduce the following proposition.

Proposition 1: The initiating cause of depression is psychological, with all neurological changes being a consequence of the psychological factors.

I except the proposition require more proof, and greater validation, but, for now, the balance of considerations leaves little scope for argument, and the proposition stands²⁸.

²⁸ I have discussed issues of science, truth and judgments in science extensively; there is no rule to ensure good science or truth, we have only our judgment and tools that aid judgment, and those tools are being applied here. See G Little. Paper 3: A model of knowledge and tools for theory creation; and, Toward a better standard of judgment than peer review; at www.grlphilosophy.co.nz.

Psychological factors the causes of depression

Below is a summary of the causes of depression as derived from the overall model as developed in the paper above:

1. **Formation of depressed mental sets:** Initiating life events or internal life dysfunction or dissatisfaction precipitate self-defeating mental sets. There may be many life events and stress able to precipitate depressed mental sets and overall all such formations follow the same processes and operations which underlie all mental set formation; depressed mental sets may be facilitated by pre-existing negative cognitions (schema), or by pre-existing negative emotions, or pre-existing dysfunctional mental set structures. Pre-existing conditions pre-dispose to the initial onset of depression, but the duration and intensity depend solely on the person's platform of understanding of their own psychic structures, belief they can make a difference to their own psychic state, hope in the form of commitment to their own future, and the skills at managing their psychic state.
2. **Lack of understanding and lack of commitment to manage:** Without effective models on internal psychic processes and structures the person is not likely to adopt a proactive view in managing their own internal states. For example, if they adopt the 'official' public view that the causes of depression are neurological then they will be passive in response to their managing their own states, since they will believe they cannot be managed²⁹.
3. **A failing in the commitment to their own future:** Commitment to one's future is commonly called 'hope', 'will to live', 'purpose', etc. It is the core of the resident fighting quality in humanity; it is complex in overall structure and such things as belief 'I can change things' is an important part, this itself related to knowledge and understanding of how to change things. Acceptance that things cannot be changed leads to passivity³⁰.
4. **Thinking 'about' and 'in' the depressed mental sets:** The consequence of the depressed sets having meaning for the person is that the person attends to those sets and is 'pulled' into the set rather than moving away. The imagery I use is like a black hole in space, get to close and you are going to be sucked in, and getting out can be very hard! It is this act of active attention that in fact precipitates the depression and can have one or more of the following sorts of consequences.
 - a. **Creation of the cognitive net linked to the depressed set:** Visiting some place allows thoughts to slip to "when I was here with ...", and so an unrelated,

²⁹ This is a topic in which I charge such people as the USA Surgeon General with something close to criminal negligence due inadequate review and reflection on crucial issues; by adopting superficial and trivial solutions to complex problems they well understood as complex, and then perpetrating that and foisting it on a public that could have expected more, so has been caused to millions of people more distress than they need suffer for longer than they need suffer. The Surgeon General perpetrated ideas popular and politically consistent with power structures of the day – such as the College of Psychiatrists – but these ideas were inept, and an abuse to common sense. For example that ideas do influence what I do, and as a result if you convince me something is right then that is what I will act on. At very least people could have reasonably expected a common sense view to prevail, and not to have 'popular psychology' so decisively dismissed where in fact it proved more apt than academic psychology.

³⁰ There is ample evidence for example, that animals unable to change events go passive in the face of those events.

previously 'up beat' mental set now has cognitions linked with the depressed set.

- b. Internal tensions and increased mood swings:** As a consequence of the variations in mental sets, the person may have greatly increased mood swings. These may cause any number of distortions to the person's sense of 'rightness' with the world, and with their ability to focus on the world, etc. The tension between quite different and potentially conflicting aspects to their world view may cause significant confusion, and erosion of life satisfaction.
 - c. Attitude distortions to the world view:** Depending on the precise circumstances, a person may retreat psychologically away from some part of their world view, and the tensions arising from that may result in serious mood disorder, including depression. Alternatively, the dominant thoughts from the self-defeating world view may come to pervade the whole world view, via attitude so that in effect the whole world view becomes a 'collection net' for the self-defeating mental set. The person may come to view the world as 'black', hopeless, leading to thoughts of suicide as the only escape.
 - d. Retreat from Reality:** As stated, a core function of the world view is provision of templates used to 'order and organise' perceptions and so manage the interaction with the environment. If these become distorted, or if there is significant mis-match between world view and the environment, this will compound any self-defeat and mood distortions, even resulting in the person retreating into mental sets that protect them from schema they do not want to confront.
- 5. Lack of skills:** These are the skills of 'doing' to distinguish them from nouskills, which are the conceptualised skills of how to do it. Development of skills for these internal processes is best supported by nouskills, since such skills have no ready and obvious sequence to follow, and the sequence is not guided by any physical aspect tending to dictate which step comes next. As a matter of emphasis, if a person has insight into their own psychic structure and has models of what is happening that are apt and sound, and if they have a belief they can alter their own experience, and if they are committed and have hope for their future, then they tend to find a way with or without skills.
- a. Inadequate counters:** The thoughts from the self-defeating set dominate and the person has limited skills and desire to fight. Entropy in the form of the depressed set is dominating the person's choices. People are unable to effectively counter the negative cognitions of the depressed mental set.
 - b. Inadequate skills at avoiding/leaving self-defeating sets:** Without effective transition skills a person can be trapped in a mental set and not able to escape from it, in effect the psyche of the person is trapped within the entropy dominance of the self-defeating set. This is all the more likely if the person does not retain some 'sense' of self outside of their thoughts and feelings, which is part of the skill of effective transitions.
 - c. Inadequate emotional control skills:** Mental sets can 'carry us off', and in the absence of emotional control skills we can do things and say things afterwards regretted. Anger management is already accepted as legitimate process, but in

all cases the person has to want the change in them, other wise they will go through the motions, even convincingly, but no real change has occurred.

Cognitive vulnerability

Imagine two people the same level of job and income, with the exact same schema held with the exact same degree of commitment and emotion, the schema had the exact same meaning for the individuals. Then imagine the exact same events interacting with the schema resulting in exact same deepening of emotional distress and feelings of despair, hopelessness, failure as a person, etc; producing the classic symptoms of depression.

Imagine in one person:

- Well developed understanding of their own psychic structures;
- Belief that they can influence their own mind and emotional state. Belief their choices count.
- Nowskills to manage their own cognitions and effective transitions between mental sets as they choose;
- Strong commitment to their own future.

Imagine in the other person:

- No understanding of their own psychic structures. In fact they believed what happened to them was the 'true them', and that it was all due their brain, their hereditary, their neurological states.
- Belief that they have no influence on their mind or emotional state.
- Limited nouskills and even more limited application of those they have.
- Limited commitment to their future; what there is, is what there will be.

The first person went down briefly; but understood what was happening, had the belief and skills, isolated the offending mental sets, managed their own emotional states, allowing the depression and self-pity when it came to much to contain but only for short periods, worked at the internal cognitions and emotional structures so that in a short time the influence of the depressed sets diminished. Within weeks to months the person had passed the worst of the depression and moved on, and at no stage, or at least for only a few hours at a time, did the depression cause disruption to the person's life, although they may well adjust aspects of their life style as appropriate from the life experience.

The second person had a quite different experience. They did not believe they could manage or control the depression, which was a physical state of being for them. Dwelling on it, they enabled links from the depressed mental set right through their psychic structure, so virtually in every mental set linked cognitions cause them to spiral into the 'black hole of their depression'. They saw it as their fate and their destiny to be like this, it was 'them', the 'way they were'. They talked about little else, so their social support disintegrated. The loneliness compounded all trends in the deepening of their despair. Within a year, they were diagnosed serious depression and on medication, in two years, they were hospitalised for their first suicide attempt. Within five years, they were in a home on state support, and lived a limited half existence, separated from friends and substantially from family, on permanent medication and under surveillance due several

suicides attempts. Are people wrong to avoid such individuals, and in doing so, is this 'stigma'? And who is responsible for this condition of the individual³¹?

The first person, took some time of work, rested, kept themselves to them self for a while, felt distressed in private, and was supported by family and close friends. They then fought their way on top of the distress, set in place and applied the skills they knew they had, reaffirmed their life purpose and moved on. The second person spiralled down at every stage, their friends gave up on them, their family finally gave up on them, life became increasingly tragic as they persisted with their passive acceptance of their life and the circumstances of it and they never recovered.

It is not having schema but what you do with them.

Review of evidence and mapping the model onto empirical results

On the left is the summary of depression from the earlier section. On the right is the explanation of the circumstances using the model.

- | | |
|---|---|
| <ul style="list-style-type: none">• There is no definitive model of depression. | There is now. |
| <ul style="list-style-type: none">• There are frequent discussions on 'aetiology' with no acknowledgement that the concept of cause is complex, discussions proceed on basis that idea of 'cause' is known and understood, which is just not so. | There is a full strategic analysis establishing a thorough ground within which causes of depression can be discussed. The models developed and used are all considered within this core backdrop of causal understand. |
| <ul style="list-style-type: none">• There is no clear model that separates physiological malfunction from psychological that is the body mind boundary is not considered nor discussed.<ul style="list-style-type: none">▪ No model of how the psychological functions interact with physiological functions. | The body-mind boundary is precisely defined and given clear causal structure.
There is a precise model of how psychology interacts with physiology. |
| <ul style="list-style-type: none">• No clear model or evidence of Thought (schema, ideas, or cognitions) being causal in depression.<ul style="list-style-type: none">▪ The empirical evidence linking schema to depression is weak.▪ People who have had depression and then mood primed show | It is predicted from the model that there will be no or very limited correlation between the existence of any schema and depression, and that is what is found.
Prior depression does not necessarily mean there will be future depressions, especially if the person learned to cope with depressed mental sets; by this I mean that in future, |

³¹ The point is that it is not so simply the individual, especially when the powers whom the individual should be able to expect to guide them, fails them so badly. See earlier footnote. They did all the things being promoted by the State, and their life is a shallow pit of despair. State policy helping create mental institutions!

limited vulnerability as compared to those who have never had depression.

- If parenting behaviours dispose to depression, then recall of those behaviours would be expected to induce vulnerability whereas evidence weak.
 - People with depression when in a relatively normal state, do not show any significant vulnerabilities compared to people who are not nor ever have been depressed.
-
- Research that biologic changes in brain functioning causes depression are weak.
 - There has been decades of research with no fundamental biologic factor emerging, in fact the overall 'medical' view of depression has seriously eroded over that time.
 - Clear evidence that stress can precipitate depression (for example, grief at loss of loved one).
 - Clear evidence that impact of stressful event is moderated by meaning of the event to the person.
 - Evidence that depression can be precipitated by adversity.

people who experience depression are likely to have learned how to deal with those depressed mental sets, so mood priming will not simply induce a depressed response.

Much of the core and life long mental set structure is developed during child hood (this is the expression of the psychodynamic view as it arises in the model). It would be predicted that any event that eroded or otherwise made dysfunctional that core structure would leave vulnerabilities, which is observed, but the experience of any depression would then develop the person's coping skills and leave them no more vulnerable to depression than people who had no such early adverse experiences.

Again, depressed people in a euthymic state will show no particular structural abnormalities, this would be predicted.

The primary psychological cause of depression lies in the person's coping skills and any tendency to actively think about the issues of the depression.

As discussed; physiology is not proposed as the initiating cause of depression; therefore any attempts to correlate brain function changes with depression will be confused and weak, since the changes are in fact postulated to arise from the psychological changes, not the other way around.

This is expected and predicted by the model.

It is expected and predicted that meaning of any event is crucial to the interpretation and impact of that event on the person.

Loss of hope, destruction of dreams, set back in relation to goals, loss house to fire, etc, have potential to have a major impact on the person to the extent of precipitating depression.

- Upbringing can increase vulnerability to depression.

- Parental neglect and physical and sexual abuse can increase vulnerability.
- Early disruption of attachment can reduce ability to forge relationships and increase vulnerability.

- Some links of personality type and temperament to depression.

- Anxiety linked to depression without clear model of 'why or how'.
- There is a weak link between mood disorders and depression.

Early childhood vulnerabilities are explained by inhibited or less than sound development of core early mental sets. These can leave the person vulnerable in later life, but as regards depression, any experience is likely to leave the person same as for any other person; in short any vulnerability may precipitate an initial onset, and if this dealt with effectively, future potential onsets will hold little fear or concern, best avoided, but not all that debilitating.

Personality and temperament both explained in the model by the mental set structure.

Obviously some types of structure are likely to be more susceptible than others, but in the end, the duration and intensity of depression will depend not on 'personality' per se but on the coping skills insight and understanding of the person in how to manage their psychic processes to their own advantage. See the thought example in form of two case studies on cognitive vulnerability.

Anxiety arises from some of the same factors resulting in depression, in particular an inability to counter argue certain schema, and unable to isolate some mental sets with strong emotions so that they do not force a particular mood and conduct. To the extent as well that an anxious person might tend to dwell on aspects of their psyche, then there might be expected to be some correlation with depression in that the root of anxiety is not the existence of schema, many people are afraid of heights, but what is then done with those schema, and having the skills to counter them.

- Females seem to be more vulnerable to depression than males and this seems to be across cultures.

Sex differentiation does not arise in any point of the model, the inference is that any male/female difference is either physiological, and/or cultural, that is common events across cultures that are potentially depressing and occur with woman more than men (child birth, for example, and the pressures that can bring. Also, women are more 'passive' in most cultures, which could influence their responses to depressive events).

Preventive and corrective strategies as they arise from within the model

The fundamental platform has been considered from the point of view of the 'causes', for the purposes of this discussion I classify 'corrective' as actions to deal with the current condition in an individual; and 'preventative' as actions and policy aimed at diminishing the incidence of depression in a population.

The summary aim of any corrective and preventative strategies is to achieve sound mental health. Specifically this means achieve the following structures in people.

- **Integration** within the world view and with no extreme attitudes inconsistent with the 'balance' of the world view, such balance implicating realistic relationships between 'how I think' and 'what is really out there'.
- **Poise** involving a consistency of emotions within mental sets, and so no marked or extreme changes in emotions from one mental set to another that does not relate to and as arise from appropriate meaningful events.
- **Skills** of transitions and of managing their own psyche and maintain sound mental health, these skills supported by well constructed nouskills.

More specifically, applying the model to depression, the following clear targets emerge as priority aims of any corrective and preventative actions.

- **Integration:** Developing key aspects of the world view.
 - **Clear model of how we work as people:** Thought is a crucial variable guiding and directing effective action, its very existence presupposes its evolutionary use enabling ideas to be tested prior to behavioural risk. It follows that without good models of our own psyche we are unlikely to act effectively in managing it. Using this model ensures clear understanding of the psyche and how to manage self within the structure afforded by the model.
 - **Establish belief that people can manage their own internal state:** Choice is fundamental but without belief we can manage our internal state we are unlikely to do so with any commitment or vigour. It is rather like playing golf, without real self-belief, superficially we can say we can do it, but underneath, we actually believe we cannot, and we indeed fail.
 - **Hope:** Any orientation of Thought or attitude profoundly influences meaning. Our own lives are an object of Thought as any other; and it is our hope that drives will and purpose and without it we are less likely to manage our internal states or proactively struggle to secure our future.
 - **Commitment:** Consolidate and secure commitment to the active and ongoing process of managing internal states through ongoing use of the skills so people participate in building a better future for themselves: This follows from key issues of hope and the belief that I can make a difference to/for me.
 - **Development of judgement:** A crucial aspect of our world view is learning how it provides a template for 'laying' on Reality and so provides the basis of our judgement and meaning in relation to Reality. It is critical then to guide the person at making better judgements relating 'inside thoughts' and 'outside reality' for them. People learning the level they can operate at, so an external

circumstance to be accepted by one person is something to be changed by another.

- **Review of the ethical base to personal conduct:** Conscience is a nagging feeling of doing wrong. If skills developed for improving transitions and for shifting away from distressing mental sets, this implies an ethical/moral facility enabling a person to act without remorse, or enabling them to avoid remorse, which is in part true. As the person is guided in reconstruction of their own psyche, they should also be guided in reaffirming the principles by which they wish to live and by which they wish to be seen and judged by others. Within the model ethics becomes behavioural choices and morals the schema (cognitions) or attitudes that support those choices, and personal integrity the congruence between the two.
- **Poise:** Explore with the person their world view and mental set structure and enable them to identify and disentangle and counter argue dysfunctional attitudes, emotions and world views based on extreme or self-destructive schema. Disentangle any cognitive nets that draw people back to the dysfunctional mental sets, and reduce and eliminate any attitudes that pervade and give dysfunctional bias to the world.
- **Skills:** Progressively introduce core nouskills and enable practice that builds the ability of the person to cope and manage their psychic state to their own benefit. These will at least involve some or all of nouskills enabling:
 - **Improved transitions.**
 - **Emotion management.**
 - **Countering destructive schema.**
 - **Avoiding focusing on destructive schema.**
 - **Avoiding being contained in destructive mental sets.**
 - **Unravelling cognitive nets that draw the psyche back to the dysfunctional mental sets.**

A crucial issue that must be understood with this assessment is that it applies to everyone, the focus is on general issues arising from the processes and structure of the model, and at no time are values of the variables raised or involved. No theory can make moral judgements, only people can do that, and any aspect of ethics, morals or even particular emotions raises issues of the values of the variables, and this immediately implies a particular set of circumstances, and is therefore not general and not applicable to everyone.

To make specific and clear what this means in practice: Imagine a 'normal', 'everyday' person, perhaps a friend of yours, then helping them out of their depression involves the issues above given particular substance and meaning and precision by the details of their cognitions, the emotional structures in mental sets, etc.

Now imagine the hired killer of a drug boss; this person kills for money, he murders four to six people per month, and has done so for years. He is proud of his skill and of his job. He takes pride that he does a good job, he never fails. He has a family, and merely disappears for a week or so 'on business for the boss'. In every other respect his life is 'normal/typical'. If he becomes depressed, then the theory applies equally to him and what he needs to do to unravel his depression.

Both people would be assisted in their depression by the theory being applied. Now imagine the drug killer becomes depressed, then applying the model will correct their depression the same as for anyone else. The drug boss killer can be as mentally healthy as anyone in society; merely their moral and ethical choices are different.

To repeat, no theory can make moral decisions, only people make moral decisions, and the moment any morality is invoked then it is no longer theory, it is particular values of the variables of the theory being promoted over other equally valid values to those same variables and so is not science, but politics, moral philosophy, or literature. As far as 'theory' is concerned all people are equal, merely each person invokes different values of different variables, and that is as it must be.

Depression and the human spirit

The second crucial issue is the thrust of the corrective action.

Review the list, and ask: if people were as skilled, and had the coping capacities implied and stated in this list, would depression dominate them, or would their spirit dominate any depression?

When theory applied to the building of models of 'self', and issues aligned to self, there emerges a broad structure surrounded by powerful emotions and embracing critical cognitions - such as what I think of me, and how I see my purpose for me, and what I am prepared to do to gain what I want for me - and the habituated structures that deliver action in relation to all those emotions and cognitions. This broad structure that emerges in our psyche I call our 'spirit', and from this emerges hope, and the fighting quality so characteristic of humanity especially in adversity.

I again stress that my use of the term 'spirit' has nothing to do with any religion nor implies any form of religious view or belief. Spirit is totally intended as a 'humanistic' expression carrying the connotations of the strength of our purpose, hope, and will: It is first and clearly expressed in our commitment to our own future and in our desire for that to be better than our past.

Ideas are tools. Ideas are not me. What I think is something I do, ideas are tools whereby I 'see', 'understand', and enable better and more effective action. Once we lose the distinction between 'I' and 'ideas I have', then any challenge to anything I think is a challenge to 'me', it becomes personal.

How can we build a psychological structure that separates 'me' from 'what I think', and then live such a construction? Imagine a football, 'I' is at the centre, on the inside surface of the ball are our ideas through which we 'see' the world. We can change the ideas as needed, not lightly, and not without effort, but we can change them without invoking a personal challenge, without 'I' being offended. But what is 'I'? Imagine 'I' in any form you comfortable with and that fits your image of the core of you. The 'I' the centre of your spirit³², it continues unchanged no matter how your thoughts, your actions, and your exterior changes. We are the same person at 60 as at 40, and the continuity lies with 'I',

³² I believe strongly in the human spirit, but with no religious implications. We all have a spirit, we can nurture it, or neglect it, it is not as powerful a psychic force in some as in others, it is explicable in terms on the psychological theory I have developed, and so the term 'spirit' embraces crucial aspects of our psyche. What is offered here is a brief introduction to a critical aspect of my model of human spirituality. For more, read the papers at www.grlphilosophy.co.nz.

what I want may have changed, how I conduct myself may have changed, but 'I' has not. We can so construct our own centre, the theory or model offers no intrinsic construction, merely the tools whereby it can be constructed. The fact there is no 'self' in the model, or spirit, immediately has 'self' as an object of our own construction similar to tree, water, or grass. With a modern world of multiple roles and much complexity within a role, it is possible to loose oneself, to feel fragmented, and disenfranchised from the experience of 'I', "who am I again, what do I want?" The 'I' at the centre I call the 'I of I'. It is a way of managing self amid diversity and role complexity. It can be the very kernel of being, a place or image in our psyche offering constancy and continuation. Self is a constructed object within our overall psychic structure; our spirit an extended structure surrounding self, encompassing more than just self, including such as hope, commitment to our future, realistic assessments of our strengths and flaws, and realistic and achievable goals as to our purpose, all culminating in our will to live for when that goes and we at peace with our lot, then death may well come. The 'I of I' the centre of our self is then necessarily the centre of our spirit, but is not our spirit, for the 'I of I' only 'is' now and always, whereas our spirit is essential to our active continuity. The 'I of I' is our inner stillness, the spirit our active will.

A more human way of seeing the aims and processes of dealing with depression is as providing our spirit with tools and belief to fight the direction of entropy and physical causation, so enabling yet more fully the dominance of our will over the physical functioning of our brains wherein we must inhabit.

It is for these reasons I call depression an affliction of the spirit, with the correction being substantially to rekindle hope where hope eroded or lost, and provision of tools enabling hope to be made real.

It is crucial to understand that this human picture is only possible and is substantiated with a model rooted back into the most fundamental concepts and notions; should these comments be made standing alone, they would be discarded, but it is imagery made real within the thorough scientific framework of all the preceding discussion.

This is the psychological structure of depression and what needs to be done to correct and reduce its occurrence and intensity in a population. I state categorically that if this structure and proposed corrective actions are not adopted then depression will continue to ravage populations and people will continue to suffer needlessly³³.

Comment on human change

It would be misdirection if it thought that human change is simple or readily achieved. Let's start with the question: What is change in people? Below are listed key points.

- Change is only changes in mental sets and/or the associations of mental sets.

³³ At the World Federation of Mental Health conference in Melbourne in 2003, one presenter spoke of initial research that showed people with moderate belief in God were less prone to depression than those with extreme religious views or those with no religious views. He could not, he said explain this fact. It is quickly explained in this model as a modest but sincere belief in God offers the person an alternative namely it is 'God's will'. Whereas the fanatic will succumb to frustration as people do not listen, and the atheist left to own devices prone to introspection, dwelling on events and reinforcing their causality. I suggest that the depth of analysis here offers yet more powerful protection to the ravages of depression than a modest but sincere belief in God.

- Mental sets can change as follows.
 - Changes in cognitions.
 - Changes in emotions
 - Changes in attitudes.
 - Changes in habituated behaviours.
- Structures linking mental sets can also change; these may be cognitive or emotional.
- We can choose to reinforce different choices, and to direct attention in a manner more consistent with our choice.
- Changes in all mental set structures is fully physical and can only have to do with the potential energy barriers between the different paths the flow of energy could take.
 - The immediate consequence of this is that when one path is made more difficult to access by raising the potential energy barrier, and by lowering the potential energy barrier in another path this second path becomes the new direction for the flow of energy; but this is only a relative action. This means that both paths remain possible, just that with one now being of lower potential energy that is the direction in which the energy will flow. But, say for example, the person gets very angry, then the volume of energy in the system could easily overwhelm the shifts in potential energy, with the higher barrier not now being an obstacle, and what were old habits are immediately activated.
- The discussion is centred on energy, but do remember energy flow is mechanism for behaviour, thought and feelings. The description in terms of energy is not a replacement for a description of mood and conduct, since the relationship between energy flow and conduct and mood can only be valid for one person, and even then not necessarily a fixed relationship. There is no necessary or fixed link between neural activity and mood and conduct.

What does this mean psychologically? First it makes full sense of the adage 'old habits die hard'. No matter how hard we try, the old habits remain as a path within us, limited only by the height of the threshold in relation to the energy in the system.

What about the will to change, statements about doing better, achieving the goal, etc? Alcoholics Anonymous can undoubtedly offer volumes of case studies on this topic. Reading AA literature it seems to me they understand that until a person craving alcohol reaches rock bottom in their own eyes change is definitely moot no matter what the person says.

Words of intent to change need be judged within the history of the person and the type of change proposed. Arriving at work on time more regularly is a change able to be made more readily than a paedophile avoiding young children.

As discussed the spirit is a core structure encompassing essential elements of the person and their psyche. It is proposed that changes within the person's spirit are changes most able to be trusted. Only from within this emotional and cognitive core can we really trust the person to say what they mean and mean what they say. Only from this core are integration, poise, and commitment to their own future likely to be pervasive throughout the person's mental set structures.

For instance, training in anger management, or in avoiding criminal conduct, it may be the person during training exhibits the skills and attitudes etc. this being so, there could well be changes to their mental sets, whereby old habits acquire higher thresholds and new, improved habits have lowered thresholds and so become prevalent. But if in their heart the person has not accepted it, then this change in thresholds to activation can be reversed almost as an immediate act of will and the person reassuming almost immediately, everything they were thought to have ‘unlearned’.

In short for all serious personal change, without desire to change rooted in the person’s spirit and becoming a kernel of their personal life choices, then change is moot, and to be mistrusted.

Corrective action for individuals with depression

An overall plan for counselling a depressed person is outlined below. Each stage needs to involve detailed forms and protocols, and the plan here merely outlines the overall direction and philosophy. Empirical research would usefully consolidate the stage and how to achieve best results at each stage in relation to the depressed state of the person.

Number of suggested sessions falls in range 40 to 60. Most likely the initial three stages would be conducted with twice weekly sessions, thereafter weekly, with the last stage likely being monthly, even with last sessions being at three and six months, with support available between these sessions by phone or email. Overall, the program is likely to take 40 to 60 weeks, with it averaging out at around a session per week.

It would likely help if the core of the process was available on a web site and that core notes, comment and self-statements at a private login section of the site enabling the person to review regularly what has been discussed, what they agreed to, and the important issues in the process and their development of their mental health.

Counselling stages	Sessions
<p>1. Initial contract and specification of the program.</p> <ul style="list-style-type: none">a. Progress will be limited without the willing consent of the participant. They may well have only limited grasp on many issues, so this first step may only involve initial elements, and then the contract must be repeated and developed in stages as the program progresses.b. It is important that the person agrees progress against the stages, and agrees with core issues such as ‘understanding of model’, ‘belief in own ability to change internal states’, and ‘commitment to a better future’.c. Contract must involve cognitive/emotional issues person must commit to, but also quite commercial issues such as duration, timing and length of session, and cost.d. During this contract discussion it is important that the counsellor is empowering the person and affirming their autonomy, purpose and offering respect for them and encouraging the person to have greater respect for themselves.	1 to 2
<p>2. Evaluation of use of drugs.</p>	1 to 2

<ul style="list-style-type: none"> a. The first question is whether drugs are required or not. Drugs will not correct the psychological issues they merely dampen symptoms, creating a platform enabling the program targeting changes in the psychological causes to be actioned. b. Drugs may have the effect of ‘flattening’ feeling and cognition, leaving the person in a ‘floating’ or detached’ state. If this is so, this may cause problems in accessing sharply enough the cognitions and emotions and circumstances surrounding them (the mental sets structures). c. The use of drugs is a definite trade off, and should not be assumed. As a matter of principle, psychological issues require psychological input and change, so drugs are discouraged in the process of rehabilitation of a person. d. During this discussion it is important that the counsellor is empowering the person and affirming their autonomy, purpose and offering respect for them and encouraging the person to have greater respect for themselves. 	
<p>3. Immediate issues.</p> <ul style="list-style-type: none"> a. People will frequently have immediate issues causing immediate distress. These issues should be precisely identified and moderated enabling an initial settling in the person, and an immediate improvement in their comfort levels and state of mind. b. It is important that the counsellor continues empowering the person and affirming their autonomy, purpose and offering respect for them and encouraging the person to have greater respect for themselves. c. Ensure actions that mediate impact of any obvious and immediate initiating events, such as grief, separation and divorce, redundancy, etc, and ensure the person has effective plans for coping with the events and more crucially sees that the events while an awful experience can be managed and there is hope for a better life once the event passed. d. Accurate judgement is essential in this phase since it may well have been lack of accuracy whereby the person contributed to some types of initiating events. 	6 to 8
<p>4. Introduction to the model.</p> <ul style="list-style-type: none"> a. The model offering understanding of their own psychic structures and processes is introduced and reviewed carefully as it might apply to them. 	1 to 2
<p>5. Introducing hope and autonomy.</p> <ul style="list-style-type: none"> a. The model is used to focus on how it is used to improve things for the person. b. Detailed discussions are offered on use of model enabling the person to influence their psychic state and to improve things for themselves. 	4 to 6

<ul style="list-style-type: none"> c. An initial map is developed of the key mental sets structures and that need modified and the processes whereby they can be modified. d. Focus map on what seem to be the initiating events, gain agreement from person, and then guide changes to reduce impact of those events. 	
<p>6. Review and reaffirm contract.</p> <ul style="list-style-type: none"> a. Reaffirm contract, emphasis placed on the person's commitment to their future and on their ability to create that future for themselves. b. The person is encouraged to write specific outputs and improvements they want in their life. c. Final assessment on use of drugs with sufficient known and understood of person to assess if causes are psychological or whether there is contributing neural damage (this necessary since there is not yet effective methods for distinguishing between neural and psychological causation). 	1 to 2
<p>7. Build detailed map of psychic structures and changes to be achieved.</p> <ul style="list-style-type: none"> a. Build map of cognitions and associated emotions and behaviours enabling the person to 'see' clearly what is going on in their mind. b. Begin initial work as follows. <ul style="list-style-type: none"> i. Changing key cognitions that are frequently attended to. ii. Change strength and nature of emotions associated with key cognitions. iii. Enable skills at avoiding key cognitions that are difficult to change or with emotions to rigidly set. c. It is important that the counsellor continues empowering the person and affirming their autonomy, purpose and offering respect for them and encouraging the person to have greater respect for themselves. This process should be showing definite signs of being operative within the person by now. 	8 to 10
<p>8. Development and application of nouskills.</p> <ul style="list-style-type: none"> a. Introduction of the idea of nouskills and how they provide guidelines or steps for effective self-management. b. Nouskills introduced include the following. <ul style="list-style-type: none"> i. Improved transitions. ii. Emotion management. iii. Countering destructive schema. iv. Avoiding focusing on destructive schema. v. Avoiding being contained in destructive mental sets. vi. Unravelling cognitive nets that draw the psyche back to the dysfunctional mental sets. c. The person is guided in applying their nouskills to their own psyche. 	8 to 10

<p>9. Review of world view.</p> <ul style="list-style-type: none"> a. World view reviewed to ensure balance and integration with focus on following issues (see full comments in section above). <ul style="list-style-type: none"> i. Clear model of how we work as people. ii. Establish belief that people can manage their own internal state. iii. Hope. iv. Commitment. v. Development of judgement. vi. Review of the ethical base to personal conduct. 	<p>6 to 8</p>
<p>10. Final review and reaffirmation of contract.</p> <ul style="list-style-type: none"> a. Final review and reaffirming contract. b. Clear commitment by person to following. <ul style="list-style-type: none"> i. They understand their psyche and how it works. ii. They understand how to manage it and are able to do so for their own good and own mental health. iii. They have goals and plans for their future they are committed to and they believe can be achieved. c. During this stage, the counsellor needs to assess if the commitments are sincere, and have the necessary depth. If not, then the person needs challenged, and some of the stages repeated. d. If it is considered that repeating stages will not make any difference, then again use of drugs to moderate symptoms needs to be re-considered. 	<p>1 to 2</p>
<p>11. Introduction of the human spirit and the need to nurture it for maintaining good mental health.</p> <ul style="list-style-type: none"> a. Introduce the model of mental health as follows. <ul style="list-style-type: none"> i. Integration within the world view and with no extreme attitudes inconsistent with the ‘balance’ of the world view, such balance implicating realistic relationships between ‘how I think’ and ‘what is really out there’. ii. Poise involving a consistency of emotions within mental sets, and so no marked or extreme changes in emotions from one mental set to another, unless such changes specifically relate to appropriate external circumstances and events. iii. Skills of transitions and of managing their own psyche and maintain sound mental health, these skills supported by well constructed nouskills. b. Review of the program and relating to the model of mental health, and how they are now equipped to manage and maintain good mental health. c. Introduction to the idea of ‘self’ and how it is constructed from 	<p>4 to 6</p>

within the model.

- d. Discuss and reaffirm how it is important not to confuse ‘what I think’ with ‘who I am’.
- e. Introduction of the idea of ‘human spirit’ as embracing an expanded construction around ‘self’, that is the mental set structure immediately surrounding self and intimately linked to ‘self’. That this construction includes the most intimate issues of ethics and ‘how I will/want to be’, and the most intimate goals/wishes/commitments to one’s own future.
- f. Discussion of how the human spirit is the core of mental health and needs to be nurtured in order to maintain strong mental health (for instance, giving regard to personal life ethics, and beliefs, and not thwarting them with contrary actions that have some immediate gain or appeal). Guidelines on nurturing the spirit.
- g. Introduce the ‘I of I’ as the core of self and hence the core of the spirit. The ‘I of I’, is a central place, it does nothing other than be. It can be pictured in mind in any form that induces relaxation and stillness (compare for example, to meditation).
- h. The ‘I of I’ enables a permanency and constancy that a modern world can erode, it enables separation of who I am from ideas I have, and it enables definite ethical and moral choices providing certainty and direction in a demanding and often confusing and conflicting world.
- i. These sessions are less intense, and would typically be further apart, they represent a ‘rounding off’ of ‘therapy’, and full devolution of all control to the person, the counsellor becoming fully a ‘mentor’, supporting and encouraging consolidation of permanent life changes.
- j. This role development needs to be carefully actioned by the therapist, who must not at this stage infer or suggest any ‘superiority’, merely more experience and training. All aspects of how the person is treated by the counsellor, including the receptionist and any other person that may be associated must reinforce autonomy, respect and empowerment.

The economics of public funding of individual corrective action for people with depression

World psychology is not conducted according to the model above; words like ‘hope’, ‘spirit’, ‘commitment’, ‘respect’, ‘contract’, and ‘autonomy’ are not the typical words or phrases. However, it is crucial to understand that the model begins with the most fundamental assessment of underlying issues of ground offered in any paper ever written on this topic. The model is thoroughly scientific, and developed with greater intellectual precision than any paper prepared with only the standard of peer review in mind. The final consequences of the model are to establish hope, commitment and management of one’s own spirit as central to psychology. I have analysed and proposed that depression is a psychological dysfunction, and to correct psychological dysfunction you must deal with the person and not merely poke about in their brain stating ‘we are the experts leave it to us.’

There are powerful economic arguments relating to the relief of depression and some of the key issues I note below. This is not intended as a complete discussion, merely indicative of the issues and implications.

- Hourly rate and cost of program.
 - Assuming a counsellor working alone, with office, and part time receptionist, then they would need some \$150,000 revenues per year (in say USA or NZ dollars) to provide a personal income of around \$80,000.
 - Income level is important to ensure calibre of people recruited into the profession.
 - Income also needs to be able to be achieved within operational model, and not place pressure on people to constantly move on, or take shortcuts.
 - Assuming an average time commitment to each person of 50 hours, then a counsellor can handle about 30 cases per year, again assuming effective work time of 1500 chargeable hours per year, allowing for holidays, administration, making notes and thinking/research and preparation time.
 - The hourly rate would then need to be \$100, to meet the core criteria.
 - This amounts to a cost for a program of \$4000 to \$6000.
- Using WHO studies estimating the years of life lost to depression and other disability, the direct economic cost of depression could be assessed. Other factors to add might be for example, the cost of lost drug sales, etc, since this would effectively be reduction in GDP.
- Having calculated the economic cost of depression, then estimates could be made on overall cost of funding depression counselling and by comparing the two, then the cost/benefit of funding individual depression support emerges³⁴.
- An advantage of the program is that results can be clearly assessed and monitored, so any funded support could then be regulated by appropriate auditors to ensure any public funds were being applied to good effect.

Social prevention of depression

The focus throughout this paper is on the person, and at no point have I considered issues integrating the person into the environment within which they develop. The environment is immediately implicated when we ask: Where does the knowledge that builds our world view come from? How do we acquire this set of brain structures and habits and not that set? Why are these emotions associated with this idea and this situation, and not that emotion? These questions are developmental issues, and require analysis of the environment for their full answer. However, the demands of effective strategic thinking where a topic is located within its ground requires a deeper assessment than normally encountered, and while not able to offer full details in this paper, it in fact requires a full

³⁴ I strongly believe that sound mental health is a crucial aspect of human capital development, and that benefits arising from reduction in the incidence and intensity of depression would have a large positive impact on overall economic performance. See www.opdcoach.com for discussion on my model of human capital development integrating mental health.

analysis of the causal forces in social and cultural systems and then integration of those into the model of the person developed here. This work is underway, but far from complete, but I can say that a cornerstone of the work is in fact the world I to III model of Karl Popper, this is a broad and general structure affording effective division of critical aspects of the universe (environment) into clear and well defined segments with the model of the person providing the mechanism whereby the segments interact. This core structure then leads into a sociological and cultural model encompassing all social factors fully integrated with personal causal forces.

A crucial consideration is that there are no 'social causal forces' and in stating there are Marx was wrong, Popper was right. Imagine an archaeologist discovering the intact remains of an ancient society; can the remnants of that society change? Ruins cannot change in any 'social sense', seems obvious but Marx missed the point, for a society to change requires people to effect the change: No people, no change. Requiring people to effect change in society means that the causal factors in people are the same causal factors in society, and that the grouping 'society' is merely an aggregation of certain aspects of variables driving causality in people. From the strategic analysis this is how it must be since people are the only actor.

What I can state now is that Popper's world III, the world of objective, shared thought, emerges as a critical factor for it is from within world III that devolve to us the essential elements of our world view, these moderated by attitudes typically arising from family and peers, the whole being overlaid with nuance and bias dependent on our own reasoning, creativity and reflective efforts and skills.

In modern society world III has four key components: Government policy; education; advertising (in its broadest sense) and news transmission; and popular views and opinions passed in conversation, etc. Obviously these four are related and interact, but they are sufficiently different to justify considering each in turn.

The role of government policy in the prevention of depression

The government is a powerful and influential purveyor of ideas and opinions having very large weight, especially in a modern, free market economy, with the government assuming, rightly, the role of disseminator of key information especially in complex areas such as mental health. Government policy in these areas requiring extensive understanding and research has an enormous impact on the general population who do not have the time, education, or inclination to research the topic individually.

Ideas transmitted through society become part of world III; now if those ideas come from a source of accepted authority they will then be attended to, people will notice, and in noticing will act on them, so the ideas gain behavioural influence. People will live out ideas they hear especially from accepted sources of authority.

But what if those ideas misguided, inappropriate, or even, as in the case of mental illness downright wrong to the extent of being exactly opposite what they need to be! People will live out the ideas, with the result being exactly opposite that which is intended of the policy.

Mental illness is a complex issue. The body/mind problem has been around for hundreds of years, with no agreed solution, and with mine as outlined here being the only complete and effective full solution. There has been no agreed model of the person, within which the body/mid problem could be solved. There is no adequate analysis of reductionism in

science, with again mine being the only one that leads on to clear and direct structures to knowledge and the relationship between a domain of science and the mechanisms that enable events in that domain. I do not think the USA Surgeon General understood that this was a crucial consideration, and that the inadequate assertion of the oneness of mind and body made in the Surgeon General's Report immediately implicated the dismissal of psychology as a domain of science with inadequate analysis of the core issues leading to the proposal.

The causal structure of all mental dysfunction is as follows.

<ul style="list-style-type: none"> • Neurological factors the initiating cause. 	<p>The person has no influence on the neural events.</p>	<p>This is properly 'illness', and I call it mental illness requiring treatment by neurologists.</p>
<ul style="list-style-type: none"> • Psychological factors the initiating cause. 	<p>The person is able to influence neural events involved, in fact the person is the only one with access to their mind.</p>	<p>I call this psychological dysfunction requiring guidance, support, and mentoring by a clinical psychologist³⁵.</p>

To be more precise, if the idea of oneness of mind and body is accepted as proposed by the Surgeon General, what can we expect?

- That people will see depression as part of them, neurological and beyond their ability to influence.
- Belief that one is powerless leads to passivity.
- People will be less inclined to fight for their own mental health, expecting that to be done by 'experts' who will 'treat' them and make them well again.
- Use of drugs will escalate.
- Hope will erode, since the future will be like the present, and at any time I could become ill again.
- Health budgets will need to grow, and there will never been enough resources to cope with increasing demand. And the more resource given, the greater the growth in demand because the idea is given wider credence; the 'oh gosh, that must be what's wrong with me too' syndrome.

These events are all directly opposite that intended by any government agency, and certainly that intended the USA Surgeon General, but in fact by adopting the position they did this is exactly what they can expect to happen, all due poor analysis and overt acquiescence to a medical model driven by lobby groups, chiefly psychiatrists, more bent on protecting their position than truly helping people and advancing human wisdom. The consequence of such poor positioning by such a powerful person as the Surgeon General is that millions of persons will suffer reduced life experience for a time and to an extent far greater than they need. Hence earlier comment on criminal negligence, at least criminal nuisance causing wide spread human suffering. If cigarette companies can be held to

³⁵ The use of terms is deliberate and carefully chosen: 'Treatment' versus 'guidance, support and mentoring', representing the sharp difference in underlying philosophy of interaction with the person.

account for promoting unwise behaviours leading to suffering and death, then I would have thought this case stronger.

Recommendation: That Government adopt this model as the unequivocal model of the human psyche, recognising the following and aligning all action and legislation accordingly.

- There is a clear and distinct boundary as specified in the model between body and mind, and that the mind is a unique and significant factor with the body as the underlying mechanism whereby the events of mind are manifest.
- That psychology is a unique and crucial aspect of human sciences.
- That maintaining a healthy body is an important aspect of mental health, but must be supported by direct action to developing those factors crucial to a healthy mind.
- That the mind as causal in human affairs, including choice, hope, and commitment.
- That all causality of human behaviour and mood dysfunction has either a neural or psychological initiating cause.
- That people with neurological malfunction are unable to act on their own behalf and require treatment.
- That people with psychological dysfunction are able to act on their own behalf, and are the only ones who can act as they are the only ones with access to their own minds; and require guidance, skills, mentoring and encouragement to improve and manage their own internal states.
- That if there is doubt about the initiating causality then practitioners must err on side of caution, and seek psychological cause first, prior to issuing drugs.
- That research is funded to develop the protocols for all aspects/stages of corrective action and social prevention, and this be extended to research on distinguishing neurological initiating cause from psychological initiating cause.
- That human change is difficult with unlikely outcome without deep and clear commitment by the person seeking change (applicable to criminal rehabilitation, anger management, etc.)
- That psychiatry is not a science and has no place in mental health policy.
- That commitment given immediately to reduction of depression in the population via the processes as outlined here, with subsequent improvement in human health and wellbeing leading to significant economic improvements offsetting the costs.

Better education for preventing depression

The nature and aim of education is an ongoing subject for discussion, and I will not attempt to review or even seriously consider the issues. I would like to think that we can structure an aim for education upon which we can all agree, an aim relating to the provision of skills and understanding enabling the person to live the fullest life they choose, enabling their spirit to fulfil its destiny, or at least the destiny they choose.

As part of the theory reviewed in this paper, every person has a spirit, described as an aspect of their psyche, but nonetheless identifiable and crucial to the experience of life. The conception here is somewhat different as encountered in religious literature; in

religious literature we all have a spirit as a fixed and permanent aspect of our being which does not vary as might vary the strength of arm or leg. In the theory here the spirit is something we create and nurture, in some strong, in others less strong³⁶.

The model of the person offered here has an intrinsic definition of freedom based on the spirit, namely freedom to pursue and release the spirit we each born with, to see it flourish and to enjoy all that we choose for it to be. I see that as very much the destiny of humankind, namely for each person to be able to 'do and enjoy that which is best for me', which supports political freedom and social diversity, and resists intrinsically any political system that forces conformity.

A crucial aspect of constructing our spiritual freedom is the ability to build and maintain strong mental health, it follows that in a society committed to freedom an essential core element protecting and projecting that freedom into the future is the development in children of the skill and commitment to the flowering of their own spirit, not at the expense of others, but within a society where all encouraged to pursue their dreams and hopes.

An educational goal to which I would hope all would commit might read as follows.

To enable all people best possible skills for ensuring ongoing mental health as a platform for people building a life satisfying for them.

Poor mental health detracts from enjoying the experience of life; strong mental health provides the platform for a fulfilling and satisfying life. The goal says nothing of the values of any variables, it is a goal relating to processes and skills of mental health, and does not proscribe the nature or ethics of the life that might be selected. So the life of the contract killer of the drug boss is facilitated as much as the life of the committed community worker, as must be if we are to retain scientific impartiality of values.

Core issues to be developed by educational programs and included as core in educational curricular

The issues are those derived as critical in relation to mental health, and with the prevalence of depression, tailored to deal with prevention of depression in particular.

- Ensure development of insight and understanding of the operation of the psyche, teaching of this model as the basis of 'how we work' psychologically.
- Development of belief that we can influence our own psychic states.
- Development of nouskills enabling effective management of internal states³⁷.
 - Practice with nouskills enabling the transfer into habituated action.

³⁶ While recovering from a heart attack in Greenlane Hospital, Auckland, I was visited by two interns and asked if they could interview me. Asking 'why?' I was told they interviewed people who should have died and did not, and they had been for five years or so. It was an extended discussion, at the end I asked 'what had they uncovered', and was told 'not anything very scientific, some people have greater will to live than others.' The reason they felt I had survived when others would have died was due my having strong goals and desires in relation to this project: they observed and they were right that I had much 'unfinished business to live for', and this was a major contributor to my survival.

³⁷ At the World Federation of Mental Health Conference, 2003 I encountered a program for early school children called 'Skippy's friends'. This developed in young (5-6 year old) children skills at dealing with violence and aggression in the playground. The research results were excellent, with dramatic reduction of aggressive conduct and this still after a year or more. This is exactly the type of education proposed from within the model.

- Encourage insight and understanding of how to hold own ideas as ‘separate from me’ enabling a more objective and less idiosyncratic and less biased world view to emerge, where my choices are my personal choices allowing and accepting that others can make different choices.
- Encourage hope, with people committing to their future.
- Opportunity to explore various ethical alternatives, encouraging people to seek and secure their own amid diversity and flux, to find that central to the very existence of self.

Adapting the issues to be taught at all levels

Any individual corrective action for depression will be most effective if applied to a cultural and social structure already aware and attuned to the issues and with an existing base of skills and understanding; but perhaps most critically, a philosophy valuing the input and understanding its overall importance to people living fulfilling lives.

The issues as outlined in the section above, and others able to be derived from definitions of mental health and from the factors causing depression, can be taught at all levels of the educational system, becoming a crucial aspect of that which the educational system is expected to deliver. For example, schools in an area could be assessed by the level of depression still emerging in there area, and this given the same sort of weight as reading skills and arithmetic, for example the development of the programs in schools supported by ongoing public programs promoting the same issues and factors, these targeting the existing adult population.

It must be noted that there will be those who resist such public efforts, however, it remains the responsibility of Government to pursue coordination of knowledge and understanding in the best interests of the population, others may promote other views, however, the government must promote that view with the greatest scientific depth and intellectual soundness that does the best for people. It is not as if the government does not have opinions now, as evidenced in the Surgeon General’s Report, I merely argue that the nonsense of the report be replaced by a superior, well developed and thorough model, including the consequences of that model.

Using advertising and news distribution to prevent depression

The use of advertising is a well established process; consider for example the effort at moderating ‘stigma’ against mental illness. The problem of advertising and an illustration of how careful the promotion of some position needs to be is well illustrated by ‘anti stigma’ advertising.

Typically the approach in ‘stigma’ advertising is to show how people with ‘mental illness’ are otherwise sound, solid citizens, and unquestionably this is so. It is equally plausible that people with dysfunction will feel more at ease in an environment where they are not stigmatised, and it is also likely this will enable some level of quicker recovery; none of this ought to be surprising.

The problem occurs when the wrong models used, and where good intentions sharply confused with effective science. First, the advertising does not distinguish between the types of causality so neural malfunction is presented alongside psychological dysfunction, all under the banner of ‘mental illness.’ The advertising I have seen carries an implicit message that this is disease or illness and should not be stigmatised. For neural disorders,

this is so, and the advertising plays a role. However for psychological disorder, although the person may feel more comfortable, in fact the advertising encourages the exact opposite of the attitudes and conduct needed, namely the person needs to be guided to more vigorously manage and care for their own psychic state. While research into the impact of the advertising on people afflicted and who tend to be stigmatised may well be positive, in fact budgets continue to grow, there seems to be no end to the range and number of cases coming forward, progress in overall social terms seems to be non-existent, no end or hope of an end in sight.

Current stigma advertising is poor social policy because it is based on poor to extremely poor science. Again the general population could have reasonably assumed greater caution and thought from those in power in circumstances where there are very complex intellectual issues, and where there is obviously no model that effectively bridges the complexity and creates some order on the other side.

I am very much in favour of advertising encouraging people to adopt this or that conduct in relation to their own health and safety, such as road safety, or eating habits, or exercise, or immunization against TB or hepatitis.

In relation to mental health, I suggest advertising rather than focus on 'stigma', focus on the factors I show as correlates of depression.

- A clear model of the operation of the human psyche, leading to insight and understanding of the ability of self to moderate and manage one's internal states.
- Consolidation of the belief that I can make a difference to me and how I feel.
- Encouragement of a balanced world view where what I think is realistic for me in relation to the world outside me.
- Encourage development of nouskills and their use and application as 'tools' of better mental health.
- Build view that depression results from various things, it is in part a 'natural' aspect of human affairs, loss of loved one for instance, but it can be managed and need not have the restrictive and corrosive impact on lives as it does so often today.
- Use of relevant third party to present:
 - 'I did this, and it worked for me'.
 - 'My family helped me like this, and it worked for me'.
- Encourage hope. Encourage people to commit to their future, to have definite plans and things they want to achieve and do tomorrow and day after and day...

The advertising based on these ideas will help people with depression, will help people avoid depression and will reduce spread of depression through the population as people more and more realise it is not something 'happening to them', but something they do to themselves.

Use of news and the government taking firmer stand on poor social science

'New age' is simply and completely so often a misbegotten mix of uninformed ideas. I suggest it has in part grown over the last fifty years as real science of the person failed to stand up, and as it became increasingly clear that the supposed science of such as Freud, was nothing more than half baked opinion used by selfish people to promote their own

power and exercise social influence on a population that knew things did not feel right, but lacked the rebuttal.

The government has a crucial role to never again allow deceit to be foisted upon the population in name of 'science', and must adopt a vigorous proactive role in protecting the public from poor science promoted as self-serving ends for unscrupulous people. I believe in democracy and freedom, therefore the only way the government can meet its obligations within this sphere of responsibility is for an effective and proactive news service and campaign. Within its own staff, to ensure auditing and watchdog status so avoiding the trap of those with the most to gain making the pronouncements on what is and what is not 'good science' and sound personal practice. The government in all countries I have visited has yet much to do to establish the base of credibility in these areas akin to say the Chairman the Federal Reserve in the USA, it is as important, but seldom receives that level of consideration. The Surgeon General would seem to have the opportunity to achieve the credibility and impact of Chairman of Federal Reserve, but has consistently failed to do so due I suggest to poor choices and poor to inadequate insight into what was needed in the role.

Managing popular views and opinions in prevention of depression

It is impossible in a free democracy to manage what people talk about and think. Our conduct can be bounded by law, but our conversations and views and attitudes cannot.

However, the government can target to moderate discussions in various key areas where the government can make a difference.

- Ensure all general medical practitioners are fully aware and fluent in the model of the psyche, and its consequences.
- Ensure posters and materials available in all government and local government places where people visit.
- Have strong Internet presence with full information and resources on nouskills self help etc, and if not the government itself, ensure highly visible support and recommendation for sites that meet the criteria.

There may be other actions, and this list unlikely to be exhaustive, but I believe it sensibly indicative.

Concluding comment

The imagery of the model is the brain as the vessel of our being, an apparent dual model of brain and mind. The brain being the mechanism of mind but a mechanism we cannot, must not ignore, a mechanism intimately as much 'us' as our consciousness, just different in what it does and how it can work for us. I have elsewhere coined the term 'physical dualism' to describe the philosophy, but now feel it does not enough describe the tight relationship we need maintain between ourselves and our brains, and that this needs to be an active effort on part of our mind. Alone mind is insufficient, we must learn to better use our brains, enabling the insight, intuition and creative senses it is able to provide us. The grey convoluted mass that the brain is, the vast magic of this physical part of us, bringing forth much of our richest insight, who would ever know of its capabilities merely by looking at it!

There is no 'unconscious' at least in the sense of Freud. That is there is no 'unconscious' as part of mind, with the brain as the mechanism. There are many aspect of our psyche of which we are unconscious, such as mental sets derived from early experience that press emotions on our existence that are not strictly related to the circumstances of today. At yet a deeper level of experience, we can acquire knowledge in the sense that our brain processes events a certain way (via brain processes) with that knowledge first emerging as a 'feeling', a 'sense', or as an 'intuition', which we are able to describe and act upon without our really knowing the source, and sometimes not even being able to track a source when reflecting upon the events, yet we 'knew'.

We have Thought, Emotion, attitude all available to attention, all aspects of our living experience of our consciousness. Then we have our brains, embedded in which are pathways (brain structures) whereby we process inputs from outside via perceptions, and inputs from our reflective, creative and reasoning efforts (processing inputs from the inside). The operation of our brain without conscious effort or even awareness I call our 'instincts', frequently our instincts have noted and processed inputs below the level of awareness, below the level of our attention and consciousness.

We have our mind in the form of Thoughts, Emotions, and attitude focused through the magnifying glass of attention and we have our brains, able to accept inputs and process inputs making sense of them even when we did not know we had accepted the input never mind knowing we had processed it, with the result suddenly popping out and us knowing something but not knowing where it came from, and at times knowing it is so from the deepest aspects of our being – which is to say an insight arising from our brains and so penetrating into the circumstances and so removed from all our conscious understanding and feeling so right and so certain, as to feel as if some mystical and mighty force must have placed it in our mind: But no, merely the brain operating via our brain structures bringing forth those elements below consciousness, no deeper than any other such activity, with the rightness relating to the extensive processing and the aptness of the insight to our reason and knowledge.

Mind and consciousness must never become all that we are for it is the brain that provides us with much of the richness of what we are.

Limit the brain and we limit us; and the brain can be limited by disease, mental illness of our neurological processes, or we can limit it via our consciousness, we can believe first in our deliberate thought, we can dismiss our instincts and senses, and should we do this enough, we will indeed cease to hear them, for they easily lost in the clamour of daily activity. Without effort to offer space amid the bustle of our minds, without stilling too hasty urge, we lose touch with an essential aspect of our humanity, our instincts, for they easily lost as another feeling to be ignored as we rush onward, when in fact our being says we need pause.

The theory does no justice to the reality of experience, and nor can it. A perfect theory can not describe 'what it is like to be...' it can merely point to the variables and their relationships and direct us to gather information and by inserting the same into the model we gain insight into what it is like to be.... No theory, no science can match the richness of song, story or poem, it is here where we find the expressions of what it is like to be, and only here for only here we deal with expressions of existence, whereas in theory and science we can only and must only deal with abstractions from existence: and as much as anything else it is this that this paper makes clear we need better grasp if social science is to move forward and achieve on behalf of humanity that which it ought achieve.

The paper offers a full solution to the causes of depression and corrective and preventive action to limit the ravages of depression in any population. Beyond depression, the paper lays the practical groundwork for a revolution in social science, a new paradigm, offering social science as a tool enhancing , informing and guiding policy and so enabling people fullest, most satisfying experience of the richness we call life. **-END-**