

A Theory of Society Derived from the Principles of Systems, Psychology, Ecology, & Evolution (Part 3).

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1. Introduction

A. The purpose of part 3

In summary, Social Systems Theory comprises rules that govern the following.

- The relationships between components of society, i.e., the individuals, organisations and other groups that can be referred to as human holons. These relationships were discussed in Part 1 and comprise the exchange of satisfiers and contra-satisfiers.
- The relationship between the structure of society and its individual members or agents, and between the culture of society and its members or agents, as discussed in Part 2.
- The beliefs held by society's individual members, how they act as satisfiers or defence mechanisms for our needs, how they are socio-culturally reinforced, and how they impact upon society in general. This will be the topic of this part, Part 3.

Part 1 of this series of papers focussed largely on the principles of systems, ecology, and evolution to describe the ways in which human holons, i.e., individuals and organisations of all types, interact. That is, how they exchange satisfiers and contra-satisfiers; satisfiers being those things that increase the level of satisfaction of our needs, and contra-satisfiers those things that decrease their level of satisfaction. However, Part 1 did not account for the choices that we make in the ways that we interact. Part 3 will, therefore, discuss the psychological and social psychological aspects of our nature, particularly the beliefs, psychological defence mechanisms, and the socio-cultural reinforcement, that lead to our choices.

The needs of a human holon motivate its behaviour, but its beliefs determine what form that behaviour takes (Law T01). In other words, our needs plus our beliefs cause our behaviour. For example, if another party gives us a contra-satisfier and is believed to be our enemy, then we are more likely to reciprocate. Conflict is more likely to escalate than if we regard their contra-satisfier as a mistake.

Although needs are fundamental to everything that has a function, beliefs are an emergent property of humanity and a consequence of our ability to manipulate information and our highly social nature (Law R09).

The English philosopher of science, Roy Bhaskar's (1944 – 2014), critical realism holds that there is, in fact, only one truth. It is the reality that comprises what is us and what is not us (Collier, 1994). Physicalism holds that reality comprises what exists in space-time and nothing more (Challoner, 2023). So, reality comprises the physical universe of space-time and all matter, energy, and information within it. It comprises both what is us and what is not us. In effect, reality is the source of truth. It is information at source. So, for a statement or belief to be true it must accurately reflect reality. However, human beliefs can be true, or they can be false. In observing reality, we make mistakes and frequently distort it to satisfy our needs or avoid our contra-needs.

B. Further principles of social systems theory

Three new principles of social systems theory are introduced in Part 3. They are as follows.

Principle 15: Socio-cultural reinforcement. This is the reinforcement of a culture's values, norms, and beliefs through the interactions of its members. Values are those things that help us to decide what is right or wrong, good or bad; norms are those behaviours regarded as being good or bad; beliefs are those ideas that we hold to be true irrespective of whether that is objectively the case.

Principle 16: Satisfaction from beliefs. Our beliefs can be associated with our needs. If reality does not satisfy the latter, then we can invent, propagate, and acquire the beliefs we think likely to do so. These beliefs are not necessarily true and can be socio-culturally reinforced.

Principle 17: Psychological defence mechanisms. If reality provides unavoidable contra-satisfiers, then we can employ psychological defence mechanisms to reduce or prevent the anxiety that they would otherwise cause. These defence mechanisms avoid the truth and can be socio-culturally reinforced.

These principles will be discussed in more detail in the sections that follow.

2. Principle 15: Socio-cultural reinforcement

A. Encultured and non-encultured beliefs

A culture comprises shared values, norms, and beliefs. Every person has many beliefs. Some basic ones are hardwired into us biologically. For example, correctly or incorrectly, we believe our children to be the most deserving beneficiaries of our efforts or wealth and behave accordingly. If we were to behave otherwise, then we would almost certainly receive adverse criticism from our community. Other beliefs are an indispensable part of the culture to which we belong. For example, most cultures regard it as wrong to commit murder. Other beliefs are entirely personal. We may for example, believe it wrong to eat meat. To allow discussion of this variability and the ways in which cultures change over time, it is necessary to invent a new verb, “to enculture”. This term means to absorb something into a culture. The reverse of “to enculture” is of course “to unenculture”, i.e., to remove something from a culture. The former differs from the existing verb “to enculturate”, which describes the process of individuals learning and assimilating a culture. So, Bhaskar’s transformational model of social activity (TMSA) comprises the “enculturation” of individuals by society, and the “enculturement” of society by individuals. Something can be described as “strongly encultured” if it is at the core of a culture and is shared and propagated by all members. It is “weakly encultured” if it is at the periphery and its acceptance or otherwise is more flexible. It is “not encultured” if it is entirely open to personal discretion and does not form a part of the culture.

Human beliefs lie on a scale from strongly encultured to unencultured. For example, the belief that it is wrong to commit murder is normally strongly encultured, whilst scientific or philosophical theories are weakly encultured, form part of a sub-culture, or even entirely unencultured. Strongly encultured beliefs are established in childhood, are reinforced by our community throughout our lives, and are highly resistant to change. Weakly or unencultured beliefs develop and alter throughout our lives through the process of reflexivity.

B. Socio-cultural reinforcement

Socio-cultural reinforcement is the process by which an individual’s values, norms, or beliefs are strengthened by social interaction. There are several ways in which socio-cultural reinforcement can occur. They can be vertical, i.e., between senior and junior individuals in a hierarchy, or they can be horizontal, i.e., between peers. The main methods are as follows.

Upbringing (Vertical) is the most powerful means of socio-cultural reinforcement. Children rely on their parents and teachers for their initial worldview and, although this worldview can change in later life, it is highly resistant to doing so.

Propaganda (Vertical) is the provision of information, particularly of a biased or misleading nature, to promote the interests of an individual or group. It can include the provision of ready-made rationales to explain a given situation.

Coercion (Vertical) is an interaction in which a powerful individual or group attempts to persuade a less powerful one to comply with their wishes by force or threat. The latter can be the threat or imposition of a contra-satisfier or the threat of denial of a satisfier.

Media & Advertising (Vertical and Horizontal) are a relatively modern and very powerful means of creating socio-cultural attitudes. Normally, media and advertising items are focussed on selling a particular product or ideology, but in doing so, they often portray the product or ideology as contributing to an ideal lifestyle. This lifestyle may, in turn, involve the adoption of psychological defence mechanisms, for example regression, that are discussed later in this paper.

Social Learning (Vertical and Horizontal) involves the emulation of role models whose behaviour is perceived as bringing them benefits that we would also like to enjoy.

Socialisation (Horizontal) comprises social reward from our peers for compliance with their values, norms, or beliefs. Examples of social rewards include status, friendship, and approval. It also comprises punishment for non-compliance, such as shunning.

Emotional Contagion (Horizontal) is the unconscious mimicry of the emotional states and behavioural attitudes of others.

When a cultural value, norm or belief is learnt, the conscious mind intercepts and vets unconscious decisions and, because of the risk of social censure, can veto those that are not culturally acceptable (Challoner, 2021). In this way, the conscious mind “trains” the unconscious, and the value, norm, or belief becomes internalised.

3. Principle 16: Satisfaction from beliefs

A. Satisfying beliefs

Our natural human needs are unavoidable. They are a consequence of our evolutionary history, an essential part of us, and are what motivate us in our daily lives. In general, our behaviour is aimed at the satisfaction of these needs and the avoidance of contra-satisfiers. A lack of satisfaction or an inability to avoid contra-satisfiers leads to negative emotions that we would prefer to avoid. On the other hand, satisfaction of our needs brings positive emotions, but these are only a short-term reward. So, we are perpetually motivated to seek satisfaction (Law C11).

Our behaviour is also affected by our beliefs. Our needs demand satisfaction but our beliefs determine the way in which we seek that satisfaction or seek to avoid contra-satisfiers. So, our beliefs are often linked to unsatisfied needs in the following ways.

As direct satisfiers. For example, a belief in the afterlife reduces the fear of death.

As guides for our behaviour. Because together our needs and beliefs govern our behaviour, we will hold the belief we think most likely to result in the satisfaction of our needs. For example, if we are seeking social relatedness with a group, then we will adopt the beliefs of that group.

As indirect satisfiers. Finally, we can propagate beliefs thought best to guide the behaviour of others in a way that satisfies our needs. For example, if we are selling a product or service, we may propagate the belief that it will satisfy the customer’s need for social status.

Thus, we do not necessarily accept, form, and propagate beliefs that are true, but rather those we think most likely to satisfy our needs (Law T03). We cannot know an individual’s needs and beliefs because they are normally carefully guarded and not necessarily communicated (Law T04). So, beliefs from that source may be genuinely held, but they can also be lies, and it is necessary therefore to be discerning. We may, however, be able to deduce an individual’s beliefs and needs from the behaviour that they motivate (Law T05). Organisations are motivated in the same way. However, they are less opaque because they must communicate their beliefs and needs internally.

Our strongest needs are the basic ones of existence and procreation. So, for example, we can form, adopt, and propagate beliefs thought likely to provide us with a livelihood. The next most important need is our

relatedness to others. So, we can form, adopt, and propagate beliefs that provide us with the positive regard of others. We also have contra-needs, i.e., states that we would like to avoid but are unable to. Examples include meaninglessness and our ultimate death. Beliefs can satisfy those too, especially religious and metaphysical ones.

Finally, there is our need for growth, i.e., self-improvement, skill, understanding of the world, etc. This is our lowest priority, and we only satisfy it when our lower needs and our contra-needs are largely addressed. People can satisfy their need for growth by seeking the truth, even if this does not add to the satisfaction of more basic needs. However, as previously mentioned, this does require self-knowledge and objectivity. To know the truth, it is necessary to disconnect our personal needs from the endeavour. Failing that, we may modify the truth and adopt beliefs that are most likely to lead to satisfaction, or we may adopt a psychological defence mechanism, such as denial, to reduce the negative emotional impact of disagreeable truths.

B. Example 1 – Religious belief as a satisfier

Religious belief provides many satisfiers, for example, a community that satisfies our need for relatedness. In particular, however, it provides a direct satisfier against anxiety caused by our existential givens. Four existential givens were identified by the American psychotherapist, Irvin D. Yalom (Yalom, 1980), and religious belief can provide a satisfier for each. It does so by altering our beliefs from truths that cause us anxiety to promises that can neither be proven nor disproven but are less emotionally painful (Law T06).

Existential givens are contra-needs or states that we wish to avoid but are unable to. The four existential givens are as follows.

Death. Yalom regards death as being the most pressing of our concerns. Death is inevitable and the knowledge of it pervades the conscious and unconscious mind. This leads, at times, to great anxiety. However, most religions promote a belief in some form of existence after death that alleviates this anxiety.

Freedom (lack of guidance). In the existential sense, freedom does not mean social and political liberty. Rather it means fear arising from a lack of guidance in our lives. Most religions have an ethical framework that provides this guidance.

Isolation (separateness). Existential isolation is not the same as loneliness. The latter arises from the physical absence of other human beings with whom to interact. Existential isolation refers to the unbridgeable gap between oneself as an individual, others, and the world that we inhabit. It means that, inevitably, we are separate from others and cannot merge ourselves with them. Most religions encourage the belief that we have a very close relationship with God, can communicate with him through prayer, and that he knows our minds. Some call this oneness with God. Again, this alleviates the anxiety of isolation.

Meaninglessness. Yalom argues that we need meaning in our lives. However, meaning is not inherent in the physical universe, but rather it is something that we create for ourselves. The absence of meaning can lead to distress and even suicide. So, most religions provide a source of meaning for their followers.

Without the satisfiers provided by a religion, the knowledge of death, freedom, isolation, and meaninglessness can be a contra-satisfier that it is difficult to come to terms with. To know that these states are unavoidable is a cause of distress and anxiety. So, to alleviate this we may turn to religion. However, once we accept a religion:

- We adopt its culture.
- We do not wish to give up its more tangible satisfiers such as community and will be unwilling to do so unless, at the same time, we put effort into replacing them.
- We resist accepting the truth about our existential givens: firstly, because it would require considerable effort to revise our existing belief system or mental schemata; and secondly, because such a major effort would not necessarily reward us. Unless we seek other ways of coming to terms with our

existential givens, rejecting a religion would create new anxieties, and we have not evolved to actively seek these.

C. Symbolising satisfying beliefs

Using the simplified convention for the exchange of satisfiers and contra-satisfiers described in Part 1, satisfying beliefs can be symbolised as follows.

Beliefs as direct satisfiers. Our beliefs are a physical part of us. So, if $A+a$ means that a gives a satisfier to itself, and x is a belief of a , then $A\{x\}+a$ means that a holding the belief x provides a with a satisfier. If the belief x is objectively true, then it can be symbolised $\{x\}$. Alternatively, if it is objectively false, it can be symbolised $\{\sim x\}$. Thus, the symbolism for a true belief as a direct satisfier is $\{x\} A\{x\}+\{x\}a$, and for a false belief as a direct satisfier it is $\{\sim x\} A\{x\}+\{x\}a$. The space between $\{x\}$ and $A\{x\}+\{x\}a$ means “and” or “but”.

Beliefs as guides for behaviour. If a holds the belief x , then this will result in b providing a satisfier to a , i.e., $A\{x\}\rightarrow B+a$ where \rightarrow is a causal arrow. Again, if x is objectively true, then the symbolism becomes $\{x\} A\{x\}\rightarrow B+a$, and if it is false, the symbolism becomes $\{\sim x\} A\{x\}\rightarrow B+a$. Note that $A\{x\}\rightarrow B+a$ is itself a belief and, if we wish to describe a as holding that belief, then the symbolism is $A\{A\{x\}\rightarrow B+a\}$.

Beliefs as indirect satisfiers. The symbolism is similar to that of beliefs as guides for behaviour. If b holds the belief x then this will result in b providing a with a satisfier, i.e., $B\{x\}\rightarrow B+a$. Again, this can be expressed as a belief held by a , i.e., $A\{B\{x\}\rightarrow B+a\}$. Both this belief and the belief x can be symbolised as being objectively true or false in the same way as described above.

4. Principle 17: Socio-culturally reinforced psychological defence mechanisms

A. Psychological defence mechanisms

Psychological defence mechanisms were first identified by the psychoanalyst Sigmund Freud. They were later developed by his daughter, Anna Freud, who published her work in the 1936 book, “The Ego and the Mechanisms of Defence” (Freud, 1936). Essentially, these mechanisms protect us from anxieties brought about by contra-satisfiers, i.e., those external things that reduce the level of satisfaction of our needs. This is especially the case for those contra-satisfiers over which we feel we have no control. Thus, for example, we may deal with the anxiety of public speaking by avoiding it.

The purpose of anxiety is to motivate us to deal with its cause. However, there are times when we are powerless to do so. Defence mechanisms provide a means of escaping ongoing anxiety in the interest of our mental wellbeing (Law T07). The Freuds were, of course, psychotherapists and so their principal focus was on self-induced anxiety. However, anxieties can also be brought about by external causes and the same defence mechanisms can be used to allay them. This paper will focus on the latter. Although the Freuds’ explanation of the processes behind these defence mechanisms is no longer widely accepted, the mechanisms themselves have stood the test of time, and have been expanded upon by subsequent psychologists.

Defence mechanisms are personal rather than social, and their use varies from individual to individual. They can be broadly categorized, but in practice, they can be partially of one type and partially of another. Furthermore, an individual can use several mechanisms to address a single potential cause of anxiety.

Defence mechanisms can be socio-culturally reinforced. When a common circumstance results in contra-satisfiers for a group of people, their defence mechanisms are strengthened by social interaction. The actual contra-satisfier experienced may differ from individual to individual. What is important is that all individuals suffer a contra-satisfier in one form or another, feel powerless to prevent it, and, without some form of psychological defence, would suffer ongoing anxiety.

B. The boundary between satisfying beliefs and psychological defence mechanisms

The boundary between satisfying beliefs and psychological defence mechanisms is defined by whether we are seeking a satisfier or seeking to avoid a contra-satisfier. However, this boundary is sometimes blurred by terminology that crosses it. For example, we can use rationalisation to form a belief intended to provide a satisfier and we can rationalise to avoid the anxiety of a contra-satisfier. We can also accept the rationales of others for the same reason.

We can, of course, combine satisfying beliefs and psychological defence mechanisms into a single belief system intended not only to provide us with a satisfier but also to avoid the anxiety of a contra-satisfier. An example is the optimism bias, common in industry, whereby we enthusiastically promote the benefits of a product or service but ignore its disbenefits. This behaviour is, of course, socially reinforced by leaders and peers within the organisation (Law T08). To give another example, leaders with dark personality traits can propagate their beliefs in the organisation that they lead through social learning and/or coercion. These beliefs can cause harm to the members of their organisation, the community that it operates in, and the natural environment. Members of the organisation can both adopt the leader's beliefs and engage in psychological defence mechanisms such as rationalisation or denial. Alternatively, they can identify with, and thus, support the leader. Finally, they can avoid the leader, for example, by leaving the organisation. (Law T09).

C. Types of defence mechanism

Numerous psychological defense mechanisms have been identified. Those which are probably most subject to socio-cultural reinforcement and the ways in which they can be reinforced are given below. Although they have been identified as psychological defence mechanisms, some are a combination of both satisfying beliefs and defence mechanisms. Others can also be used to form satisfying beliefs.

Denial is purely a psychological defence mechanism and not a satisfying belief. It is a refusal to recognise objective facts or events that would cause us anxiety. We simply block them from our awareness. When this is done unconsciously, it is referred to as **repression**; when it is done consciously, it is known as **suppression**. Clearly, we do not wish others to remind us of those facts or events. So, we discourage them from doing so by using the rewards and punishments of socialisation. In a hierarchy, coercion can also be used to encourage silence. Thus, the apparent failure of all members of a group to recognise facts or events reinforces each member of the group's personal denial.

Reaction Formation is also a psychological defence mechanism and not a satisfying belief. It is one in which we go beyond denial and behave in a way that is the opposite to what we unconsciously think or feel. It can occur when we find ourselves in a culture whose values, norms, or beliefs contradict our own. It is, of course, reinforced by coercion, socialisation, media, and advertising. Our behaviour outwardly supports the values, norms, or beliefs that we disagree with, and through socialisation and social learning, encourages others to also do so.

Avoidance is a psychological defence mechanism and not a satisfying belief. It means physically avoiding circumstances that cause us anxiety. We do, of course, rationalise our reasons for this and express our rationales to others. This can, in turn, lead to them avoiding the same situation.

Projection is a psychological defence mechanism and not a satisfying belief. If we feel our attitudes, motives, or behaviours to be unacceptable and this would cause us anxiety, we attribute them to another individual or group. This is frequently reinforced by propaganda, socialisation, and emotional contagion. As a consequence, minority groups have often been scapegoated.

Displacement is a psychological defence mechanism and not a satisfying belief. It involves the redirection of a reaction against a contra-satisfier from its originator to another less powerful individual or group. In this way

we feel more empowered to deal with the contra-satisfier, and so, it causes us less anxiety. Again, this can be reinforced by propaganda and can result in the scapegoating of less powerful individuals or minority groups.

Compartmentalisation is a psychological defence mechanism and not a satisfying belief. It involves separating the components of one's life into different categories to avoid conflicting values or norms. It occurs when we face a culture in one part of our lives which conflicts with that in another, and which, without compartmentalisation, would cause us anxiety. Typically, for example, it can affect the behaviour of employees in a work culture that conflicts with their national one. Such behaviour at work can be deemed professionalism. However, the failure to criticise a work culture can socially reinforce it, even if it is more generally unacceptable.

Regression is a combination of satisfying belief and psychological defence mechanism. It involves a reversion to the behaviours of an earlier developmental stage. In effect it is a reversion to the satisfaction of more basic needs whilst avoiding the higher ones that we feel powerless to satisfy. It involves a focus on simple basic pleasures and can result in overindulgence. In the extreme, this can be referred to as decadence. Unfortunately, because of media and advertising, regression is now relatively common in Western culture. Regression can cause us to become trapped in the over-satisfaction of more basic needs to such an extent that they are never satisfied. So, we experience negative emotions and fail to move on to the satisfaction of higher needs (Law V01). It is important therefore to know when our lower needs are adequately satisfied, and when to cease pursuing their satisfaction.

Sublimation is also a combination of satisfying belief and psychological defence mechanism. In the psychotherapeutic context, sublimation means channelling urges that would contravene social norms into more constructive activities such as work or a hobby. This defence mechanism is strongly reinforced by socialisation. However, it means that we neglect major concerns that we feel unable to tackle, but rather, focus on more minor ones on that we feel we can have an effect, for example gender issues rather than climate change or biodiversity loss.

Introjection, also known as **Identification**, involves making the personality traits of another person one's own. We do this for two reasons. Firstly, identification plays a large part in social learning theory, whereby we emulate the behaviour of a role model whose behaviour is seen to bring them benefits. In this case we are adopting a satisfying belief. We also do so to avoid anxiety over some difficulty such as potential contra-satisfiers from that person, in which case it is a psychological defence mechanism. We can of course identify with someone for both reasons, i.e., to avoid a threat from them and to gain the perceived benefits of that behaviour. However, our behaviour socially reinforces the personality traits, and helps to create a culture that values them. The defence mechanism known as Identification with the Aggressor is a particular example in which we adopt the behaviour of a more powerful person in the hope of avoiding any potential hostility from them towards us. Ultimately, however, we begin to feel an emotional connection with and empathy towards that person. Thus, this defence mechanism plays a large part in our support for leaders with dark personality traits.

Rationalisation involves a conscious and seemingly rational distortion of the facts. This can be to justify a behaviour that conflicts with our values and norms. We do this to avoid the anxiety that our behaviour would otherwise cause. In this case, it is a psychological defence mechanism. However, we also rationalise to create, adopt and communicate satisfying beliefs. Rationales can come ready made via upbringing, propaganda, media or advertising. Alternatively, we can create them for ourselves. **Intellectualisation** is an example of rationalisation in which we focus on the intellectual rather than the emotional aspects of a problem in order to avoid the anxiety caused by those emotions.

In summary, an adverse situation can result in different contra-satisfiers for different people. The psychological defence mechanisms that we use to cope with the situation also vary. However, because we all suffer a contra-

satisfier of some sort and behave defensively in some way, we reinforce one another's defence mechanisms by the way that we interact socially with one another (Law T10).

D. Example 2 – Cultural denial

Our normal understanding of “denial” is of something practiced by an individual. Personal denial is a psychological defence mechanism that protects us from suffering anxiety. People who practice denial will not accept the truth despite objective evidence and this can, for example, occur when we have a cheating partner, an addiction, or a mental health problem such as narcissism. Denial of this nature is not always a bad thing. It gives us time to psychologically adapt to a distressing situation. However, it can also cause us to fail to seek help when, for example, we are faced with a health or addiction problem.

What is less well known is that denial can also be practiced by a group of people who face a common threat that would otherwise cause them to suffer anxiety. For example, to talk about the holocaust, death or climate change is traumatic, therefore we can practice denial. Such denial by a group of people is commonly known as a “conspiracy of silence” or co-denial. However, because norms and beliefs are involved, it is referred to here as “cultural denial”. The concept is explored in the excellent book “The Elephant in the Room: Silence and Denial in Everyday Life” by the American sociologist, Eviatar Zerubavel (Zerubavel, E. 2006).

Zerubavel argues that the reason cultural denial is not well known (and possibly also his book) is that cultural denial is itself the subject of cultural denial (Law V03). That is, we do not accept that cultural denial exists, do not wish to talk about it, and do not wish to hear about it, lest it cause us anxiety. There are also difficulties in identifying the existence of denial. As Zerubavel says “As one might expect, what we ignore or avoid socially is often also ignored academically, and conspiracies of silence are therefore still a somewhat under-theorised as well as under-studied phenomenon. Furthermore, they typically consist of non-occurrences, which, by definition, are rather difficult to observe. After all, it is much easier to study what people do than what they do not (not to mention the difficulty of telling the difference between simply not talking about something and specifically avoiding it.)”

Cultural denial can be extremely powerful because it is reinforced by the process of socialisation. Through this process, which can be exercised unconsciously, we learn social norms, that is, the rules of acceptable and unacceptable behaviour. If we do not follow those norms, then we are punished by our peers, for example by shunning, expressions of disgust and so on. If we do follow them then we are rewarded, by inclusion, expressions of pleasure, etc. So, if one person raises an issue which the other prefers to deny, they will experience an adverse reaction and eventually learn not to raise the matter.

Cultural denial is also reinforced by the simple fact that others are practicing it. If everyone around us appears not to recognise a problem, then we can begin to doubt the evidence before our eyes and wonder whether it is our own perception, memory or reasoning abilities that are at fault.

Under the influence of others, an individual will firstly consciously suppress the problematic fact. This then trains the unconscious mind to repress it and ultimately to fail to recognise its existence.

E. Example 3 – Climate change denial

Climate change denial exemplifies cultural denial. Four main “denials” are involved.

Denial that climate change is taking place. This has been the situation for over a century now and denial is caused by anxiety that climate change will end our standards of living and even our lives. The Selma Morning Times reported on the 15th October, 1902, that “A Swedish Professor, Svend Arrhenius, has evolved a new theory of the extinction of the human race. He holds that the combustion of coal by civilized man is gradually warming the atmosphere so that in the course of a few cycles of 10,000 years the earth will be baked in a temperature close to the boiling point. He bases his theory on the accumulation of carbonic acid in the atmosphere, which acts as a glass in concentrating and refracting the heat of the sun.” Sufficient evidence has

now accumulated for most of us to accept that climate change exists, but influential deniers remain. This denial has been extensively researched for the World Bank by the American Sociologist, Kari Marie Norgaard, and she concludes with several suggestions for tackling the problem (Norgaard, K.M., 2010).

Denial that climate change has an economic cause. This denial also still persists. It is based on the anxiety that altering the economy will lower our standards of living. The economic causes are therefore largely ignored, and, where they are not, are the topic of heated debate. To date we have used fossil fuels to power our economy. This has resulted in exponential growth. However, we now have other less environmentally harmful technologies that can do a similar job. There are also social reasons for believing that perpetual growth is unsustainable. So, this anxiety can be reduced by focussing on the positives of alternative sources of energy and planning for a more socially and environmentally friendly economy; one that involves an attitude of custodianship rather than exploitation.

Denial that many of our norms, values, and beliefs are the consequence of cultural manipulation. Culture, like the biological genome, is subject to random mutation. However, an emergent property of human beings is the ability to manipulate the values, norms, and beliefs that comprise our culture, using advertising, propaganda, etc. This is referred to as cultural manipulation. To date, this ability has been used mainly by powerful vested interests such as businesses, politicians, and religious leaders.

The denial of cultural manipulation exists because we value free will and it would cause us anxiety to believe that our values and beliefs are not necessarily our own. Although we may be aware of cultural manipulation, its denial takes the form of believing that it is only others and not ourselves who are subject to it. This, however, is incorrect.

Examples of cultural manipulation include: the belief propagated by creationist religious groups that, contrary to the evidence, evolution does not exist; the belief that evolution is purely tooth and claw competition, a view thought to have been promoted in the early and mid-20th Century to justify commercial competition, political conservatism, imperialism, and racism; and the shift towards a consumer society, largely brought about by TV, and now smartphone advertising.

Denial that many of our leaders have dark personality traits. It is an unfortunate fact that people with dark personality traits, i.e., psychopathy, narcissism or Machiavellianism, have less empathy and fewer ethical constraints. So, they are more likely to ascend to leadership positions than others. Once in such a position, they will act in their own interest rather than in the interest of society and the natural environment. They will also act in the interest of the organisation from which they derive their power, by for example, prioritising profitability above all else (Law V02). The anxiety associated with this denial is fear of retribution if leaders with dark traits are challenged. Retribution can, for example, be loss of employment, status, reputation, and, in some countries, even the loss of life. So, almost unanimously, we dismiss dark leadership as normal.

Furthermore, people with dark personality traits can be good at impression management. So, it can be difficult to recognise them and, even when we do, we run the risk of being deemed a false accuser. For example, in the recent case of the nurse and serial baby killer, Lucy Letby, senior doctors were instructed to write a letter of apology for repeatedly raising concerns about her (Halliday, J. 2023).

Only when a crisis occurs, such as the Russia/Ukraine war or the invasion of the US Capitol Building, do we seem to recognise a leader with dark personality traits. However, despite a vast amount of objective evidence, there is barely any recognition of this as a more general problem.

There is, of course, a causal relationship between these four denials. The dark personality traits of many leaders are responsible for the nature of our economy, and that, in turn, is the cause of climate change. It is notable that we appear to be slowly overcoming these denials, starting with the effect, and working back towards the root cause.

F. Example 4 – Management denial syndrome

There is another form of denial that is even stronger than cultural denial. It is a very common organizational pathology that infects management hierarchies. To understand its cause, we must take a step back. The relationship between a junior manager and a senior one is an informal contract, whereby the junior manager supports the senior one in return for delegated power and the benefits of status. There is often much competition for management positions and the senior manager usually controls who will fill them. So, if there is a problem in the organisation, then a junior manager will be reticent to speak truth to power and report it to a senior one for fear of appearing to be in breach of the informal contract. This creates anxiety that can result in personal denial. That is, whilst we may be aware of the problem, we do not think about it or discuss it and do not realize that others are in the same position. There are, of course, those who do think about the problem but whose primary concern is to navigate it in their personal interest. In the hierarchy, almost all senior managers are junior to a yet more senior one. So, if the problem is reported to them, this affects their own denial, and they can discourage further reports with veiled threats. In this way, denial can infect a whole management hierarchy. The managers may know of the problem but are unwilling to talk about it, and so, it goes unaddressed (Law V04). Furthermore, the hierarchy is unable to recognise that it suffers from this problem because denial is itself the subject of denial (Law V03). Ultimately, recognition often only occurs when there is a catastrophe.

The classic example is the Columbia Space Shuttle disaster. A brief description of events leading up to this disaster is given below. However, there are many other more mundane examples, two of which will also be discussed.

The space shuttle Columbia was launched in 2003 with seven astronauts aboard. During takeoff, a piece of insulating foam from the external fuel tank was seen to break off and strike the shuttle's wing. Foam had broken off before, and in one instance it dented the casing of one of the solid rocket boosters. However, this was the first time that foam had struck the shuttle. Concerns were raised by a relatively junior member of the NASA team and requests were passed up the line for remote inspection of the shuttle's wing while it was in space. However, the prevailing view in NASA was that the foam was not sufficiently dense to have caused any significant damage. Three potential remote observations by aircraft, ground telescope and satellite were considered but rejected by the management team. A proposal for an external inspection by the astronauts was also rejected. All would have taken time out of the crew's very tight schedule of scientific experiments, thereby harming NASA's reputation. The junior member who raised the concern, when he pressed the matter, was told by his manager not to be "Chicken Little", i.e., not to raise false concerns. A working group was established to consider the matter but complained that they did not have visual evidence on which to base their work. They were told to do their best without it and concluded that there was no safety concern. The astronauts were informed of the strike but again were told that there were no safety concerns.

As we know, when the shuttle returned to earth it broke up during re-entry with the loss of all seven astronauts. Even then, the denial persisted. Managers claimed that there must have been some other cause. Only when the external accident investigation team fired a similar piece of foam at a mock-up wing, and it punched a large hole was the denial overcome. Many in the management team then recognised their error and there were expressions of "mea culpa". Others, however, went to ground. It is uncertain whether the lives of the crew could have been saved had the damage been investigated. However, it is clear that management denial prevented any attempt to do so.

More detail is given in the excellent documentary on BBC Iplayer, entitled "The Space Shuttle that Fell to Earth" at <https://www.bbc.co.uk/iplayer/episodes/m001tts2/the-space-shuttle-that-fell-to-earth>.

Recently, the author has dealt with two UK public service organisations, both of which have a communication problem with their customers that impacts seriously on their ability to provide a satisfactory service. In one case there is a lack of feedback on reports from the public about safety concerns. This, of course, discourages

them from making such reports in the future, and so, safety issues are probably going unaddressed. In the other example there is a lack of feedback on the progress of maintenance tasks not only to customers but also internally. As a result, costly mistakes are made, tasks go unaddressed, and the administrative costs involved in correcting this are high. Both organisations suffer the same denial syndrome. Although they both have complaints departments, these appear to see their role as one of defending management from criticism. They use various techniques among which are gaslighting, irrational arguments, and word games, i.e., implying one thing whilst actually saying another. It can be very time-consuming and frustrating to obtain the truth, and in so doing one can become labelled as the problem. So strong is the denial that the last-resort is often self-harm by, for example, simply not replying to the customer or asking them to contact an external regulator. Both organisations employ “improvement managers”. However, whilst they may be aware of the problem and agree with the customer, they are also part of the management hierarchy, have a living to earn, and face the same difficulties in speaking truth to power.

These examples should not be taken as implying that management hierarchies in the private sector are immune to the problem. Many do in fact suffer from it, although the topic of denial may be different, for example, a bullying, misogynistic, anti-social, or anti-environmental culture.

So, what is the solution to this syndrome? As we have seen from Columbia, a catastrophe will bring recognition. However, we should, of course, aim to avoid catastrophes. Bypassing the hierarchy, i.e., whistleblowing, is one solution, although it is notable that many organisations are now putting whistleblowing policies in place to control this. Leaving the organisation is another, although this will merely worsen the situation. A form of natural selection will take place in which those who are more susceptible to the syndrome remain, whilst those less susceptible leave. The only real solution is awareness of the problem, which the author hopes this discussion will encourage; better management training, including recognition of the syndrome; greater honesty with ourselves, even if this means suffering some anxiety; and greater honesty with others, especially those with power over us. There is a degree of personal risk in the latter and the way that a problem is flagged up will depend on the circumstances. However, it would clearly help to understand the benefits and disbenefits of acknowledgement vs. denial, and to emphasise the benefits of the former and the disbenefits of the latter.

G. Symbolising socio-culturally reinforced defence mechanisms

The process of cultural denial, for example, can be symbolised as follows:

$\{x\}$	x is a true belief; but
$\{x\} A\{x\}-\{x\}a$	if a believes x this is a contra-satisfier and causes him anxiety; so
$\{x\} A\{\sim x\}$	a denies x .
$\{x\} A\{x\}-\{x\}b$	If a informs b of x this is a contra-satisfier for b ; then
$B-a$	b will respond with a contra-satisfier for a ; so
$\{x\} A\{\sim x\}$	a denies x .

5. Remedies

A. Introduction

The behaviour described above has evolved in human beings as an aid to personal survival and the propagation of our genome. So, we all practice it, and no adverse criticism is intended, therefore. However, there is advantage in knowing the truth rather than adopting beliefs that satisfy our needs, even if this causes some anxiety. Firstly, reality has no agency, knows nothing of our needs, and will deliver its satisfiers and contra-satisfiers in an arbitrary way. Human beings have also evolved to negotiate these random satisfiers and contra-satisfiers. If we do not know the truth, then we can be caught unprepared. Secondly, beliefs and unsatisfied

needs are generative mechanisms that together motivate our behaviour. If a belief is untrue, it can lead to mistakes in behaviour that may harm ourselves, others, society or our ecosystem.

Not all of us are in a position to pursue the truth. Sometimes circumstances dictate that we must hold satisfying beliefs or engage in psychological defence mechanisms to satisfy our basic needs. Some readers may find this paper challenging, therefore. However, for those in the fortunate position to be able to pursue the truth this section provides some guidance.

B. Awareness of the state of our needs

It is important to understand and be aware of one's bodily needs, state of mind, and emotions. This involves training one's own mind in those skills and making them a part of oneself.

The satisfaction of our needs brings positive emotions. These are states of mind that we prefer. So, to identify our needs we should review what has brought us these positive emotions in the past. On the other hand, a lack of satisfaction of our needs or an inability to avoid our contra-needs creates negative emotions. These are states of mind that we wish to avoid. So, if we are experiencing negative emotions, then this implies that some need or needs are unsatisfied or are threatened by a contra-satisfier.

Note, however, that the satisfaction of our needs only brings positive emotions in the short-term. Pleasure seeking can become monotonous. We can become trapped in the over-satisfaction of more basic needs, such as those for existence and relatedness, to such an extent that they are never satisfied. So, we experience negative emotions and fail to move on to the satisfaction of higher needs. This should be avoided. It is important, therefore, to know when lower needs are sufficiently satisfied and when to cease pursuing satisfiers.

C. Disassociation of beliefs from needs

As the Buddha pointed out over 2500 years ago, to know the truth we must disassociate it from our needs. The one exception is our higher need for growth, because this is what motivates us to seek the truth. Without disassociation from other needs, we may adopt or form false beliefs intended to satisfy those needs, or may engage in psychological defence mechanisms such as the denial of an objective truth. Disassociation requires considerable objectivity, awareness of our own motives, and an ability to "stand outside of ourselves". Furthermore, in social systems theory, the problem of "second order cybernetics" or "observation of the observer" arises. That is, we are discussing ourselves and, without great care, that discussion can be subject to the same distortion of the truth that we are discussing.

The practical solution to this problem lies in Margaret Archer's meta-reflexivity, as described in Part 2. That is, internal conversations regarding conclusions that we have previously arrived at. This includes questioning whether those conclusions are a means of satisfying an unsatisfied need or of reducing the emotional impact of a contra-satisfier. Initially, this requires concentration and self-training. However, once self-training is completed any techniques that we have used can be dispensed with, and the process becomes automatic.

D. Observation is the best source of information

Human senses have evolved to better enable us to survive and procreate. So, one would expect the information gained through them to be a reasonable representation of reality. However, we can also construct beliefs that contradict reality. So, information gained from others is not necessarily true. There are a multitude of reasons why theories may be wholly or partially false: simple error, assumptions learned from society, a wish to gain status and attention, a wish to deliberately mislead, and so on. Building theories upon theories without verifying them by observation can lead not only to the propagation of errors and falsehoods, but also to the amplification of them. It is for this reason that scientists carry out practical experiments to verify their theories. The same should apply in our daily lives.

E. Understanding how the brain generates potential solutions to problems

In the 19th Century, the German physicist, Hermann Helmholtz, identified three stages in the creative process: saturation, incubation, and illumination. The French mathematician, Henri Poincarre, later added a fourth stage: verification (Wallas, 1926, & Sadler-Smith E., 2015). This creative process includes the formation of beliefs and is described in Part 1. However, to assist the reader it is repeated here.

Saturation means consciously researching and learning as much as we can about the issue under consideration. Consciousness allows us to rehearse the skills and knowledge gained, thereby storing it in long term memory and reinforcing it.

Incubation means allowing the unconscious mind to process that information with a view to seeking some output. In the case of decision making, for example, the emotional evaluation of our options is carried out unconsciously. Our conscious and unconscious minds employ the same resources. However, consciousness regulates those used by the unconscious mind and focuses them on the topic in hand. When we relax consciousness, e.g., taking a short break from our desk or PC or by sleeping, the unconscious mind operates more freely. This allows it to access knowledge and skills stored in long term memory more freely, compare it for similarities more readily, and make associations more easily. Thus, it is necessary for us to reduce our levels of consciousness to allow the unconscious to function effectively.

Illumination occurs when the unconscious mind delivers the result of its ruminations to the conscious mind. This often occurs in the form of an inspiration, e.g., a potential solution to a problem, and can be accompanied by a surge of positive emotion. It is the “aha!” or “Eureka!” moment. These inspirations can be original because of the quantity of information that they draw on. However, inspirations can be unreliable for several reasons. For example: we may simply have the facts wrong; there may be mistakes or cognitive biases in the unconscious process; or there may be unconscious beliefs and attitudes that we have picked up from advertising, our peers, etc. So, some additional saturation and incubation may be necessary.

Verification, therefore, is the final stage in which we consciously check that the inspiration is valid and ethically acceptable. We should consciously criticise our decisions, especially apparently spontaneous ones. Judge them against our personal ethic and values. If necessary, veto them and think again. This is done by awakening consciousness and using logic, reason, the known facts, and our ethical schema. However, the incubation process is opaque to the conscious mind. We can only deduce what it may have been, and so, must often rationalise it.

Once we understand this process, we can consciously employ it to great advantage in our day-to-day efforts. This is why it is often wise not to make decisions precipitously, but rather to “sleep on them”, or think about them for a while.

We should also practice awareness of our own emotions and those of others with whom we interact. This is because emotional contagion or emotional carry-over from previous decisions can affect our current ones.

F. Personal Ethics

We all carry culture within us. So, it is desirable to develop a clear personal ethic and set of values. This may need to evolve over time as circumstances alter, but that is normal. Internal conversations, i.e., consciously rehearsing and reviewing our ethics and values, can strengthen them. To maintain our independence of mind in the face of a plethora of false beliefs, it is necessary to avoid unconsciously acquiring beliefs and attitudes that we would prefer not to have. A strongly held ethic makes it more difficult for such unconscious beliefs and attitudes to gain a foothold.

The author suggests that, as a part of our ethic, we should avoid the imposition of contra-satisfiers, verbal or otherwise, on others for our own benefit. Rather, we should develop compassion and empathy. We should

also avoid knowingly propagating false information and beliefs. Again, internal conversations are a way of training our unconscious mind in this.

G. Detective Skills

In Part 2, Roy Bhaskar's RRRE process was described as a means of identifying the causes of a social circumstance or event. Andrew Collier described this process as one requiring detective skills (Collier, A. 1994.). The process comprises:

- Resolution: analysis of the process into its causal components;
- Redescription: redescribing the causal components in terms of a background theory.
- Retrodiction: associating the causes of these components backwards in time to provide an explanation or explanations.
- Elimination of possible causal components, where possible, from evidence about their antecedents. (Collier, 1994. p122)

The process involved in a criminal prosecution can be used as an aid to elimination. To convict a criminal, the prosecution must convince the jury that the defendant had the motive, means, and opportunity to commit the crime. The motive is the reason to commit the crime, the means is the ability and necessary tools to do so, and the opportunity is the time and circumstances that make the crime possible. If any of the three are absent, then the defendant is not guilty.

The same is true of any act, criminal or otherwise, and so, theories about social causes and effects can be tested in the same way. For example, does a government have the motive, means, and opportunity to enact environmental legislation? It certainly has the means, and if the legislative programme permits, it has the opportunity. If environmental legislation is not enacted then it is the motive that is questionable and where attention needs to be focused.

H. Acceptance or otherwise of propagated beliefs

Human beings have evolved to interact with the natural world and to develop our beliefs empirically through those interactions. However, we have also evolved to be highly social and to communicate our beliefs to one another. As our population has grown, and our level of organisation has increased, many of us have come to interact relatively little with nature. Increasingly, our interactions are becoming social ones and, particularly since the advent of mass media and the internet, we are exposed to a plethora of beliefs, some of which may be true but many of which may not be. To know the truth we should be discerning therefore. This includes:

- Acquainting ourselves with the verifiable facts around an issue before making decisions associated with it.
- Questioning the motives of charismatic leaders and role models.
- Avoiding following authoritarian leaders or being managed by authoritarian managers. They will insist that we adopt their point of view if we wish to remain in the group that they lead. Inclusive leaders and managers, on the other hand, respect, and value independence of mind.
- Avoiding following populist leaders. They will often place the blame for any difficult circumstances we find ourselves in on an "outgroup", rather than giving the true reasons.
- Avoiding ideologies. If we need to join a group to socialize, then we should join one whose members have a wide range of views rather than a particular ideology. This can be checked by adding "ism" to words in a group's name.

I. Recognition that authority has no monopoly of the truth

In life, we encounter individuals who have high social status because of their work in a particular field. We have a natural tendency to accept their theories as being true. This is a logical fallacy known as “appeal to authority” which suggests that high status individuals have a monopoly of the truth. However, we should not automatically accept theories simply because they are propounded by someone of high status. Status can be carefully cultivated as a goal. Furthermore, a strong bond can develop between an individual’s status and the theory put forward by them. So, the theory becomes resistant to change, even in the face of contradictory evidence. Those who benefit by supporting the high-status individual are similarly bound to the theory.

J. Poly-perspectivism and the principle of non-contradiction

No-one has the mental capacity to fully understand all aspects of a problem. Each of us is only capable of a partial understanding. This concept is known as perspectivism. It is possible, however, to expand and improve our understanding by interacting with others who have a different perspective. This does not, of course, necessarily mean accepting their perspective. Rather, it can reveal aspects of a problem that we had not previously thought of.

According to Aristotle’s principle of non-contradiction, no part of reality contradicts any other. So, beliefs that are consistent with one another are those that are most likely to be true. The more beliefs there are that support one another, the greater this likelihood. However, when beliefs are inconsistent and there are contradictions between them, this indicates that there has been an inadvertent error, a deliberate error, or a misunderstanding in one or more of them, and that this has resulted in misbeliefs or falsehoods (Law R12).

K. Polymathy

A polymath is someone whose knowledge spans a wide range of subjects. This enables them to see similarities between concepts in different fields of knowledge, even though they may be expressed in different language. This, in turn, enables them to transfer innovations and discoveries from one field to another. Furthermore, it enables them to identify inconsistencies between theories in different fields. An article in *The Conversation*, online magazine describes research by Robert and Michele Root-Bernstein of the University of Michigan (Root-Bernstein, 2022). They found that Nobel Prize winners are unusually likely to be creative polymaths. The article also gives examples of two such prizewinners.

When we work in specialist silos, we can construct theories that contradict those in other silos. Unfortunately, those contradictions can go unnoticed. So, a good method for discovering the truth is to aim for breadth of knowledge rather than depth. Try to understand the fundamental principles of several disciplines. These principles can then be combined to create theories. If the theories are inconsistent with one another or what we observe to be true, then some of the fundamental principles must be incorrect.

L. Recognition that models and other simulations of reality are always flawed

Because human cognition has evolved, it can be expected to be a reasonable representation of reality. However, its limitations mean that it must also be a simplification. We formalise our understanding using various models, for example, language, mathematics, diagrams, computer simulations, etc. Inevitably, these models are also simplifications. Models can be used, to a limited degree, to predict events. However, the prevailing view is that increasing their complexity by, for example, increasing the number of variables, does not necessarily increase the accuracy of their prediction. It is more effective to identify the most significant variables and keep the model relatively simple.

M. Negative & positive cultural manipulation

Cultural manipulation involves the deliberate creation of values, norms and beliefs in a population through advertising, propaganda, etc. When cultural manipulation is harmful to individuals, society, or the environment, it can be called negative. To avoid negative cultural manipulation we should avoid watching unsolicited advertising. For example, watch advertisement free channels or mute the TV when they are on. Cover the advertisements on the back of seats of buses and aircraft. If we need something, we can search for it on the internet or consult a shopkeeper. It is particularly important to avoid watching the same advert repetitively. In the UK, it is illegal for an advert to repeat the same message more than three times as this subliminally reinforces it. So how do advertisers get around this? By frequently repeating their advert.

We should also lobby governments for greater controls over advertising. It should be factual, unintrusive, not personally targeted, not excessively repetitive, and not imply that the product has false benefits.

Cultural manipulation can, however, be used in a positive way to establish values and norms that are consistent with the long-term wellbeing of humanity and the ecosystem in which we live. It is not necessary to specify these values in detail. Rather, we should choose sensible fundamental ones and allow society to work out the details by the usual evolutionary process of trial and error.

The more co-operative we are, the less we are prone to negative cultural manipulation by selfish short term vested interests, and the more successful a society is. We should therefore make negative cultural manipulation socially and legally unacceptable. We should also use positive cultural manipulation to instil values and norms conducive to our long-term survival. However, a better understanding of the processes involved is first needed.

N. Communication

Finally, the way that we communicate the truth is important. It is better to express complex ideas in simple language, rather than simple ideas in complex language. The former increases the likelihood that the idea will be understood. The latter is often mere pretentiousness, with the aim of gaining unwarranted status. Unfortunately, the latter can also hide simple concepts behind a cloak of mystique. Consider, for example, the words of one eminent professor commenting on the work of an eminent sociologist:

“Under the regime of self-referential systems, “self-regulation” changes sense from automatic control to autonomous self-constitution, and the polarity between open and closed systems is sublated by supplementary relation binding openness to the environment to the closure of system operations.”

These words can be translated into plain English, as follows:

“A self-referential system contains and uses a description of itself. It is, therefore, self-aware. The theory of self-referential systems states that they control their own processes, rather than working automatically. They also recognise a difference between relationships within themselves and relationships with their environment.”

I am sure that all self-aware human beings regard this statement as obvious once it is stripped of its jargon.

Appendix A - Laws

These laws are a continuation of those in parts 1 and 2 and their numbering reflects this.

C. General Laws of Interactions

Law C11: Perpetual Motivation. A lack of satisfaction or an inability to avoid contra-satisfiers leads to negative emotions that we would prefer to avoid. On the other hand, satisfaction of our needs brings positive emotions, but these are only a short-term reward. So, we are perpetually motivated to seek satisfaction.

R. Emergence and stratification

Law R12: Aristotle's principle of non-contradiction. No part of reality contradicts any other. So, beliefs that are consistent with one another are those that are most likely to be true. The more beliefs there are that support one another, the greater this likelihood. However, when beliefs are inconsistent and there are contradictions between them, this indicates that there has been an inadvertent error, a deliberate error, or a misunderstanding in one or more of them, and that this has resulted in misbeliefs or falsehoods.

T. Reflexivity and beliefs

Law T03: Satisfying beliefs. We do not necessarily accept, form, and propagate beliefs that are true, but rather those we think most likely to satisfy our needs.

Law T04: Guarding of needs. We cannot know an individual's needs and beliefs because they are normally carefully guarded and not necessarily communicated.

Law T05: Deduction of needs. We may be able to deduce an individual's beliefs and needs from the behaviour that they motivate.

Law T06: Religion can provide direct satisfiers against anxiety caused by our existential givens, i.e.: death, freedom or lack of guidance; isolation or separateness; and meaninglessness. It does so by altering our beliefs from truths that cause us anxiety to promises that can neither be proven nor disproven but are less emotionally painful.

Law T07: Psychological defence mechanisms. Contra-satisfiers cause anxiety, and the purpose of anxiety is to motivate us to deal with its cause. However, there are times when we are powerless to do so. So, we can adopt psychological defence mechanisms as a means of escaping ongoing anxiety in the interest of our mental wellbeing.

Law T08: Optimism bias. Optimism bias is common in industry. We enthusiastically promote the benefits of a product or service but ignore its disbenefits. This behaviour is, of course, socially reinforced by leaders and peers within the organisation.

Law T09: Reaction to leaders with dark personalities. Leaders with dark personality traits, i.e., psychopathy, narcissism or Machiavellianism, can propagate their beliefs in the social holon that they lead through social learning and/or coercion. These beliefs can cause harm to the members of the holon, the community that it operates in, and the natural environment. Members of the holon typically react by adopting psychological defence mechanisms such as rationalisation or denial. Alternatively, they can identify with and thus support the leader. Finally, they can avoid the leader, for example, by leaving the holon.

Law T10: Reinforcement of psychological defence mechanisms. An adverse situation can result in different contra-satisfiers for different people. The psychological defence mechanisms that we use to cope with the situation also vary. However, because we all suffer a contra-satisfier of some sort and behave defensively in

some way, we reinforce one another's defence mechanisms by the way that we interact socially with one another.

V. Pathologies

Law V01: Over-satisfaction. Regression can cause us to become trapped in the over-satisfaction of more basic needs to such an extent that they are never satisfied. So, we experience negative emotions and fail to move on to the satisfaction of higher needs.

Law V02: Dark Leadership. People with dark personality traits, i.e., psychopathy, narcissism or Machiavellianism, have less empathy and fewer ethical constraints. So, they are more likely to ascend to leadership positions than others. Once in such a position, they will act in their own interest rather than in the interest of society and the natural environment. They will also act in the interest of the organisation from which they derive their power by, for example, prioritising profitability above all else.

Law V03: Denial is itself the subject of denial.

Law V04: Management denial syndrome. The relationship between a junior manager and a senior one is an informal contract, whereby the junior manager supports the senior one in return for delegated power and the benefits of status. There is often much competition for management positions and the senior manager usually controls who will fill them. So, if there is a problem in the organisation, then a junior manager will be reticent to speak truth to power and report it to a senior one. This is for fear of appearing to be in breach of the informal contract. This creates anxiety that can result in personal denial. That is, whilst we may be aware of the problem, we do not think about it or discuss it and do not realize that others are in the same position. In the hierarchy, almost all senior managers are junior to a yet more senior one. So, if the problem is reported to them, this affects their own denial, and they can discourage further reports with veiled threats. In this way, denial can infect a whole management hierarchy. The managers may know of the problem but are unwilling to talk about it, and so, it goes unaddressed.

Appendix B – Glossary

Avoidance is a psychological defence mechanism that involves physically avoiding circumstances that cause us anxiety.

Coercion is an interaction in which a powerful individual or group attempts to persuade a less powerful one to comply with their wishes by force or threat.

Compartmentalisation is a psychological defence mechanism. It involves separating the components of one's life into different categories to avoid conflicting values or norms. It occurs when we face a culture in one part of our lives which conflicts with that in another, and which, without compartmentalisation, would cause us anxiety.

Contra-needs. States that we would prefer to avoid.

Cultural denial. Denial practiced by a group of people who face a common threat that would otherwise cause them to suffer anxiety.

Cultural manipulation. The deliberate alteration of a culture's values, norms, and beliefs through advertising, propaganda, etc.

Denial is a psychological defence mechanism. It is a refusal to recognise objective facts or events that would cause us anxiety.

Displacement is a psychological defence mechanism involving the redirection of a reaction against a contra-satisfier from its originator to another less powerful individual or group. In this way, we feel more empowered to deal with the contra-satisfier, and so, it causes us less anxiety.

Emotional Contagion. The unconscious mimicry of the emotional states and behavioural attitudes of others.

Enculturate. The process of individuals learning and assimilating a culture.

Enculture. A term coined by the author and meaning to absorb something into a culture.

Existential givens are contra-needs or states that we wish to avoid but are unable to.

Identification involves making the personality traits of another person one's own. It is a satisfying belief when we emulate the behaviour of a role model whose behaviour is seen to bring them benefits. It is a psychological defence mechanism when we do so to avoid anxiety over some difficulty such as potential contra-satisfiers from that person.

Identification with the Aggressor is a particular example of identification in which we adopt the behaviour of a more powerful person in the hope of avoiding any potential hostility from them towards us.

Illumination. A cognitive event that occurs when the unconscious mind delivers the result of its ruminations to the conscious mind.

Incubation means allowing the unconscious mind to process information with a view to seeking some output.

Intellectualisation is an example of rationalisation in which we focus on the intellectual rather than the emotional aspects of a problem in order to avoid the anxiety caused by those emotions.

Introjection. The same as identification.

Perspectivism is a recognition that no-one has the mental capacity to fully understand all aspects of a problem. Each of us is only capable of a partial understanding.

Polymath. Someone whose knowledge spans a wide range of subjects.

Poly-perspectivism is the embracing of the beliefs of others with a view to revealing aspects of a problem that we had not previously thought of.

Projection is a psychological defence mechanism. If we feel our attitudes, motives, or behaviours to be unacceptable and this would cause us anxiety, then we attribute them to another individual or group.

Propaganda. The provision of information, particularly of a biased or misleading nature, to promote the interests of an individual or group. It can include the provision of ready-made rationales to explain a given situation.

Psychological defence mechanisms are cognitive processes that protect us from anxieties brought about by contra-satisfiers. This is especially the case for those contra-satisfiers over which we feel we have no control.

Rationalisation involves a conscious and seemingly rational distortion of the facts. It is a psychological defence mechanism when used to justify behaviour that conflicts with our values and norms. However, we also rationalise to create, adopt and communicate satisfying beliefs.

Reaction Formation is a psychological defence mechanism in which we go beyond denial and behave in a way that is the opposite to what we unconsciously think or feel. It can occur when we find ourselves in a culture whose values, norms, or beliefs contradict our own.

Regression is a combination of satisfying belief and psychological defence mechanism. It involves a reversion to the behaviours of an earlier developmental stage. In effect it is a reversion to the satisfaction of more basic needs whilst avoiding the higher ones that we feel powerless to satisfy.

Repression is unconscious denial.

Satisfying beliefs. Beliefs that are not necessarily true but are thought to be those most likely to satisfy our needs.

Saturation means consciously researching and learning as much as we can about an issue under consideration.

Second order cybernetics. The application of cybernetics, i.e., the science of communication and control systems, to itself.

Social Learning. The emulation of role models whose behaviour is perceived as bringing them benefits that we would also like to enjoy.

Socio-cultural. An adjective describing anything that comprises a combination of social and cultural factors.

Socio-cultural reinforcement. The process by which an individual's values, norms, or beliefs are strengthened by social interaction.

Sublimation is a combination of satisfying belief and psychological defence mechanism. In the psychotherapeutic context, sublimation means channelling urges that would contravene social norms into more constructive activities such as work or a hobby.

Suppression is conscious denial.

Verification. The act of consciously checking that an inspiration is valid and ethically acceptable.

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